



Jaewoo Park
Hanwha Techwin Security Vietnam Co Ltd
Lot 0-2 Que Vo Industrial Zone extende
Bac Ninh VIETNAM

Date: 2018/02/01
Subscriber: None
PartySite: 1846102
File No: E158873
Project No: 4788251015
PD No: 18M04227
Type: R
PO Number: KANG, JEISOON

Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

Issue

| <u>Date</u> | <u>Vol</u> | <u>Sec</u> | <u>Pages</u> | <u>Revised Date</u> |
|-------------|------------|------------|--------------------------|---------------------|
| | X1 | | Index Page(s) | |
| 2018/01/31 | X1 | A201 | Add New Proc/Report Sect | |

If there are illegible images in this package, legible images may be found online via MyHome@UL under My UL Reports/CDA.

Inspections at your plant will be conducted under the supervision of

NGUYEN PHAM TUAN ANH,

UL INSPECTION CENTER VIETNAM,

16TH FLOOR, ROOM 1605

MAPLETREE BUSINESS CENTRE, 1060 NGUYEN VAN LINH ROAD

TAN PHONG WARD, DISTRICT 7, HO CHI MINH CITY, VIETNAM

TEL: +84 862 564422 M:: +84 933 206088

EMAIL: NGUYENPHAMTUAN.ANH@UL.COM

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

Please review this material and report any inaccuracies to UL's Customer Service Professionals. Contact information for all of UL's global offices can be found at <http://ul.com/aboutul/locations>.

If you'd like to receive updated materials FASTER, UL offers electronic access and/or delivery of this material. For more details, contact UL's Customer Service Professionals as shown above.

This material is provided on behalf of UL LLC (UL) or any authorized licensee of UL.

SEO File

UL INSPECTION CENTER 864

| | | | | |
|---------|-------|--------|------|------------|
| File | | Volume | Page | Date: |
| E158873 | Index | X1 | 1 | 2018-01-31 |

Index

| Product Type | Model/Type Reference | Report Reference # | Status |
|-------------------------|--|--------------------|-----------|
| Digital Video Recorder | SVR-430 | E158873-A2-UL | |
| Video Presenter | UF-80, UF-80DX, UF-80ST | E158873-A4-UL | |
| Video Presenter | SDP-900DXAN, SDP-950DXAN, SDP-950STAN | E158873-A6-UL | |
| Video Presenter | SDP-850, SDP-850DX | E158873-A9-UL | |
| Video Presenter | SDP-6500DXA | E158873-A12-UL | |
| Video Presenter | UF-130DX | E158873-A14-UL | |
| Video Presenter | UF-130ST | E158873-A15-UL | |
| Network Video Recorder | SNR-6400, SNR-3200, SRN-3250, SRN-6450 | E158873-A16-UL | |
| Video Presenter | SDP-860 | E158873-A18-UL | |
| Digital Video Recorder. | SVR-1670 | E158873-A19-UL | |
| UTP Power Supply Unit | SPU-400 | E158873-A20-UL | Withdrawn |
| Digital Video Recorder. | SRD-1630D, SRD-1630, SRD-1610D, SRD-1610, SRD-830D, SRD-830, SRD-1670D, SRD-1670DC, SRD-1670, SRD-1671, SRD-870D, SRD-870DC, SRD-870, SRD-871, SRD-1650D, SRD-1650DC, SRD-1650, SRD-1651, SRD-850D, SRD-850DC, SRD-850, SRD-851, SRD-1630DCP, SRD-1630DCN, SRD-1610DCP, SRD-1610DCN, SRD-830DCP, SRD-830DCN, SRD-#####\$&@ | E158873-A24-UL | |
| Digital Presenter | SDP-760 | E158873-A44-UL | |
| Network Camera | SNP-5300H*, SNP-6201H* (* is N or P: N = NTSC, P=PAL) | E158873-A45-UL | |
| Network Camera | SND-7011*, SND-5011*, SND-5061*, SND-7061*, SNV-5010*, SNZ-5200* (* is N or P: N = NTSC, P=PAL) | E158873-A46-UL | |
| Network Camera | SNP-5300*, SNP-6201* (* is N or P: N = NTSC, P=PAL) | E158873-A47-UL | |
| Digital Color Camera | SCP-3371H*, SCP-2371H*, SCP-2271H*, SCP-2373H*, SCP-2273H* (* is N or P: N = NTSC, P=PAL) | E158873-A48-UL | |
| Digital Color Camera | SCP-3371*, SCP-2371*, SCP-2271*, SCP-2373*, SCP-2273* (* is N or P: N = NTSC, P=PAL) | E158873-A49-UL | |
| Network Camera | SND-7082*, SND-7082F*, SNV-7082* (* is N or P: N = NTSC, P=PAL) | E158873-A50-UL | |
| Network Camera | SNB-7001*, SNB-5001*, SNB-3002* (* is N or P: N = NTSC, P=PAL) | E158873-A51-UL | |
| Network Camera | SNO-7082R* (* is N or P: N = NTSC, P=PAL) | E158873-A52-UL | |
| Network Camera | SNB-7002* (* is N or P: N = NTSC, P=PAL) | E158873-A53-UL | |
| DIGITAL COLOR CAMERA | SCV-2010F*, SCD-1020R*, SCD-2080R*, SCD-2020R*, SCD-2010*, SCD-2010B*, SCD-2010F*, SCB-3020*, SCB-3021*, SCB-2010*, SCO-1020R* (* is N or P: N=NTSC, P=PAL) | E158873-A54-UL | |
| Network Camera | SNB-6004*, SNB-6003*, SNB-5004*, SNB-5003*, SNB-7004*, SNB-6005* (* is N or P: N = NTSC, P=PAL) | E158873-A55-UL | |

| File | | Volume | Page | Date: |
|---------|-------|--------|------|------------|
| E158873 | Index | X1 | 2 | 2018-01-31 |

| | | | |
|------------------------|---|----------------|--|
| Network Camera | SND-6084*, SND-6083*, SND-5084*, SND-5083*, SND-7084* (* is N or P: N = NTSC, P=PAL) | E158873-A56-UL | |
| DIGITAL COLOR CAMERA | SCD-2022*, SCD-2022R*, SCD-2042R* (* is N or P: N = NTSC, P=PAL) | E158873-A58-UL | |
| Digital Color Camera | SCB-2004*, SCB-2005* (* is N or P: N = NTSC, P=PAL); | E158873-A59-UL | |
| Digital Color Camera | SCD-2082*, SCV-2082R*, SCV-3083*, SCD-3083* (* is N or P: N = NTSC, P=PAL) | E158873-A60-UL | |
| Network Camera | SND-6084R*, SND-7084R*, SND-5084R* (* is N or P: N = NTSC, P=PAL) | E158873-A61-UL | |
| NETWORK CAMERA | SNO-6084R*, SNO-7084R* (* is N or P: N = NTSC, P=PAL) | E158873-A62-UL | |
| Network Camera | SNV-6084R*, SNV-6084*, SNV-5084*, SNV-7084*, SNV-7084R*, SNV-5084R*, SNV-6084T* (* is N or P: N = NTSC, P=PAL) | E158873-A63-UL | |
| Digital Color Camera | SCO-2081R* (* is N or P: N = NTSC, P=PAL) | E158873-A64-UL | |
| DIGITAL COLOR CAMERA | SCB-2004*D, SCB-2005*D (* is N or P: N = NTSC, P=PAL) | E158873-A65-UL | |
| DIGITAL VIDEO RECORDER | SRD-1673D*, SRD-1654D*, SRD-854D*, SRD-852D*, SRD-1673*, SRD-1653*, SRD-873*, SRD-1640*, SRD-840* (* is N or P, N=NTSC / P=PAL) | E158873-A66-UL | |
| Network Camera | SNP-6200RH*, SCP-2370RH* (* is N or P: N=NTSC,P=PAL) | E158873-A67-UL | |
| Network Camera | SNV-6012M* (* is N or P: N = NTSC, P=PAL) | E158873-A68-UL | |
| Network Camera | SNF-7010*, SNF-7010V*, SNF-7010VM* (* is N or P: N = NTSC, P=PAL) | E158873-A69-UL | |
| Network Camera | SNO-6011R* (* is N or P: N = NTSC, P=PAL) | E158873-A72-UL | |
| Network Camera | SND-6011R* (* is N or P: N = NTSC, P=PAL) | E158873-A73-UL | |
| Digital Video Recorder | SRD-1680D*, SRD-880D* (* is N:NTSC / P:PAL) | E158873-A74-UL | |
| DIGITAL COLOR CAMERA | SCZ-2373*, SCZ-2273* (* is N or P: N = NTSC, P=PAL) | E158873-A75-UL | |
| NETWORK CAMERA | SCO-6081R* (* is N or P: N = NTSC, P=PAL) | E158873-A76-UL | |
| DIGITAL COLOR CAMERA | SCV-6081R* and SCD-6081R* (* is N or P: N = NTSC, P=PAL) | E158873-A77-UL | |
| NETWORK VIDEO RECORDER | SRN-4000 | E158873-A78-UL | |
| DIGITAL COLOR CAMERA | SCD-6021* (* is N or P: N = NTSC, P=PAL) | E158873-A81-UL | |
| NETWORK CAMERA | SNV-6013* (* is N or P: N = NTSC, P=PAL) | E158873-A83-UL | |
| NETWORK CAMERA | SNB-6010*, SNB-6010A*, SNB-6011*, SNB-6010B*, SNB-6011B* (* is N or P: N = NTSC, P=PAL) | E158873-A85-UL | |
| NETWORK CAMERA | SNP-6320H*, SNP-5430H* (* is N or P: N = NTSC, P=PAL) | E158873-A86-UL | |
| NETWORK CAMERA | SNP-6320*, SNP-5430* (* is N or P: N = NTSC, P=PAL) | E158873-A87-UL | |
| Network Video Recorder | SRN-472S, XRN-810S* (* is N or P: N = NTSC, P=PAL) | E158873-A88-UL | |
| Digital Video Recorder | SRD-1676D*, SRD-1656D*, SRD-876D* (* is N or P, N=NTSC/ P=PAL) | E158873-A89-UL | |
| DIGITAL COLOR | SCB-5000* (* is N or P: N = NTSC, P=PAL) | E158873-A90-UL | |

| File | | Volume | Page | Date: |
|---------|-------|--------|------|------------|
| E158873 | Index | X1 | 3 | 2018-01-31 |

| | | | |
|------------------------|--|-----------------|--|
| CAMERA | | | |
| DIGITAL COLOR CAMERA | SCB-5000*D (* is N or P: N = NTSC, P=PAL) | E158873-A91-UL | |
| DIGITAL COLOR CAMERA | SCD-5080* (* is N or P: N = NTSC, P=PAL) | E158873-A92-UL | |
| DIGITAL COLOR CAMERA | SCB-5003*, SCB-5005*, HCB-6001* (* is N or P: N = NTSC, P=PAL) | E158873-A94-UL | |
| DIGITAL COLOR CAMERA | SCV-5082* (* is N or P: N = NTSC, P=PAL) | E158873-A95-UL | |
| DIGITAL COLOR CAMERA | SCD-5083*, SCD-5083R*, SCD-5082*, SCD-5083B*, SCD-5081R* (* is N or P: N = NTSC, P=PAL) | E158873-A96-UL | |
| DIGITAL COLOR CAMERA | SCV-5083* (* is N or P: N = NTSC, P=PAL) SCV-5083R* (* is N or P: N = NTSC, P=PAL) SCV-5081R* (* is N or P: N = NTSC, P=PAL) | E158873-A97-UL | |
| NETWORK CAMERA | SNF-8010VM*, SNF-8010* (* is N or P: N = NTSC, P=PAL) | E158873-A98-UL | |
| DIGITAL COLOR CAMERA | SCD-5030*, SCD-5020* (* is N or P: N = NTSC, P=PAL) | E158873-A99-UL | |
| NETWORK CAMERA | SNO-5084R* (* is N or P: N = NTSC, P=PAL) | E158873-A100-UL | |
| DIGITAL COLOR CAMERA | SCO-5083R*, SCO-5081R* (* is N or P: N = NTSC, P=PAL) | E158873-A101-UL | |
| NETWORK CAMERA | SNP-6321*, SNP-L6233* (* is N or P: N = NTSC, P=PAL) | E158873-A102-UL | |
| NETWORK CAMERA | SNP-6321H*, SNP-L6233H* (* is N or P: N = NTSC, P=PAL) | E158873-A103-UL | |
| DIGITAL COLOR CAMERA | SCV-5085* (* is N or P: N = NTSC, P=PAL) | E158873-A104-UL | |
| NETWORK CAMERA | SNB-8000* (* is N or P: N = NTSC, P=PAL) | E158873-A105-UL | |
| NETWORK CAMERA | SNV-8080* (* is N or P: N = NTSC, P=PAL) | E158873-A106-UL | |
| NETWORK CAMERA | SNZ-6320 | E158873-A107-UL | |
| NETWORK CAMERA | SNP-6320RH*, SNP-L6233RH* (* is N or P: N=NTSC,P=PAL) | E158873-A108-UL | |
| NETWORK CAMERA | SNP-5321H*, SNP-L5233H* (* is N or P: N = NTSC, P=PAL) | E158873-A109-UL | |
| NETWORK CAMERA | SNP-5321*, SNP-L5233* (* N: NTSC / P:PAL) | E158873-A110-UL | |
| NETWORK CAMERA | SND-L6013R*, SND-L6013*, SND-L6012*, SND-L5013* (* is N or P: N:NTSC/ P:PAL) | E158873-A111-UL | |
| NETWORK CAMERA | SNO-L6083R*, SNO-L5083R* (* is N or P: N = NTSC, P=PAL) | E158873-A113-UL | |
| Network Video Recorder | SRN-1673S*(* is N or P) | E158873-A115-UL | |
| NETWORK CAMERA | SNO-L6013R* (* is N or P: N = NTSC, P=PAL) | E158873-A118-UL | |
| NETWORK CAMERA | SND-L6083R*, SND-L5083R* (* is N or P: N = NTSC, P=PAL) | E158873-A119-UL | |
| Network Video Recorder | SRN-873S* (* is N or P: N = NTSC, P=PAL) | E158873-A120-UL | |
| NETWORK CAMERA | SNV-L6083R*, SNV-L5083R* (* is N or P: N = NTSC, P=PAL) | E158873-A121-UL | |

| File | | Volume | Page | Date: |
|---------|-------|--------|------|------------|
| E158873 | Index | X1 | 4 | 2018-01-31 |

| | | | |
|------------------------------|---|-----------------|--|
| NETWORK CAMERA | SNB-9000* (* is N or P: N = NTSC, P=PAL) | E158873-A122-UL | |
| Optical PTZ Accessary | SBP-301HF, SBP-302HF | E158873-A125-UL | |
| Optical PTZ Accessary | SBP-300HF | E158873-A126-UL | |
| NETWORK CAMERA | SNV-8081R* (* is N or P: N = NTSC, P=PAL) | E158873-A127-UL | |
| NETWORK CAMERA | SNO-8081R* (* is N or P: N = NTSC, P=PAL) | E158873-A128-UL | |
| NETWORK CAMERA | SNV-6085R* (* is N or P: N = NTSC, P=PAL) SNV-6085* (* is N or P: N = NTSC, P=PAL) | E158873-A129-UL | |
| DIGITAL COLOR CAMERA | SCB-6003* (* is N or P: N = NTSC, P=PAL) | E158873-A130-UL | |
| DIGITAL COLOR CAMERA | SCO-6023R* (* is N or P: N = NTSC, P=PAL) | E158873-A132-UL | |
| DIGITAL COLOR CAMERA | SCV-6083R* (* is N or P: N = NTSC, P=PAL) | E158873-A133-UL | |
| DIGITAL COLOR CAMERA | SCV-6023R* (* is N or P: N = NTSC, P=PAL) | E158873-A135-UL | |
| DIGITAL COLOR CAMERA | SCD-6023R*, SCD-6013* (* is N or P: N = NTSC, P=PAL) | E158873-A136-UL | |
| DIGITAL COLOR CAMERA | SCD-6083R* (* is N or P: N = NTSC, P=PAL) | E158873-A137-UL | |
| DIGITAL COLOR CAMERA | SCO-6083R* (* is N or P: N = NTSC, P=PAL) | E158873-A138-UL | |
| NETWORK CAMERA | SNV-L6014RM*, SNV-L6013R* (* is N or P: N = NTSC, P=PAL) | E158873-A139-UL | |
| DIGITAL COLOR CAMERA | PNO-9080R* (* is N or P: N = NTSC, P=PAL) | E158873-A140-UL | |
| NETWORK CAMERA | PNV-9080R* (* is N or P: N = NTSC, P=PAL) | E158873-A141-UL | |
| NETWORK CAMERA | PND-9080R* (* is N or P: N = NTSC, P=PAL) | E158873-A142-UL | |
| Digital Video Recorder | SRD-1685*, SRD-894*, HRD-842* (* is N or P, N=NTSC/ P=PAL) | E158873-A143-UL | |
| Digital Video Recorder | SRD-1694*, HRD-1642* (* is N or P, N=NTSC/ P=PAL) | E158873-A144-UL | |
| Network Video Recorder (NVR) | XRN-2011*, XRN-2010*, XRN-3010*, XRN-1610* (* is N or P: N=NTSC, P=PAL) | E158873-A146-UL | |
| NETWORK CAMERA | QNO-7030R*, QNO-7020R*, QNO-7010R*, QNO-6030R*, QNO-6020R*, QNO-6010R*, QNO-6070R*, QNO-7080R*, QNO-6071R* (* is N or P: N = NTSC, P=PAL) | E158873-A147-UL | |
| NETWORK CAMERA | QND-7030R*, QND-7020R*, QND-7010R*, QND-6030R*, QND-6020R*, QND-6010R*, QND-6070R*, QND-7080R* (* is N or P: N = NTSC, P=PAL) | E158873-A148-UL | |
| NETWORK CAMERA | QNV-7030R*, QNV-7020R*, QNV-7010R*, QNV-6030R*, QNV-6020R*, QNV-6010R*, QNV-6070R*, QNV-7080R* (* is N or P: N = NTSC, P=PAL) | E158873-A149-UL | |
| Network Video Recorder | XRN-1610S* (* is N or P: N=NTSC, P=PAL) | E158873-A150-UL | |
| NETWORK | PNF-9010RV*, PNF-9010R*, PNF-9010RVM* (* is | E158873-A151-UL | |

| File | | Volume | Page | Date: |
|---------|-------|--------|------|------------|
| E158873 | Index | X1 | 5 | 2018-01-31 |

| | | | |
|------------------------------|---|-----------------|--|
| CAMERA | N or P: N = NTSC, P=PAL) | | |
| NETWORK CAMERA | PNM-9020V* (* is N or P: N = NTSC, P=PAL) | E158873-A152-UL | |
| Network Video Recorder | PRN-4011* (* is N or P: N=NTSC, P=PAL) | E158873-A153-UL | |
| DIGITAL COLOR CAMERA | HCP-6320*, HCP-6320A*, HCP-6230* (* is N or P: N = NTSC, P=PAL) | E158873-A154-UL | |
| DIGITAL COLOR CAMERA | HCP-6320H*, HCP-6320HA*, HCP-6230H* (* is N or P: N = NTSC, P=PAL) | E158873-A155-UL | |
| NETWORK CAMERA | PNP-9200RH*, XNP-6370RH*, XNP-6330RH* (* is N or P: N=NT, P=PAL) | E158873-A156-UL | |
| NETWORK CAMERA | XNB-8000*, XNB-6000* (* is N or P: N = NTSC, P=PAL) | E158873-A157-UL | |
| NETWORK CAMERA | XNO-8080R*, XNO-6080R*, XNO-6120R* (* is N or P: N = NTSC, P=PAL) | E158873-A158-UL | |
| NETWORK CAMERA | XNV-8040R*, XNV-8030R*, XNV-8020R*, XNV-6020*, XNV-6010*, XNV-6020R* (* is N or P: N = NTSC, P=PAL) | E158873-A159-UL | |
| NETWORK CAMERA | XND-8040R*, XND-8030R*, XND-8020R*, XND-6020*, XND-6010*, XND-6020R* (* is N or P: N = NTSC, P=PAL) | E158873-A160-UL | |
| NETWORK CAMERA | XNV-8080R* (* is N or P: N = NTSC, P=PAL) XNV-6080R* (* is N or P: N = NTSC, P=PAL) XNV-6080* (* is N or P: N = NTSC, P=PAL) XNV-6120R* (* is N or P: N = NTSC, P=PAL) XNV-6120* (* is N or P: N = NTSC, P=PAL) | E158873-A161-UL | |
| NETWORK CAMERA | XND-8080RV*, XND-8080R*, XND-6080RV*, XND-6080R*, XND-6080V*, XND-6080* (* is N or P: N = NTSC, P=PAL) | E158873-A162-UL | |
| AHD Multi Directional Camera | HCM-9020VQ* (* is N or P: N = NTSC, P=PAL) | E158873-A163-UL | |
| NETWORK CAMERA | XNO-8020R*, XNO-8030R*, XNO-8040R*, XNO-6010R*, XNO-6020R* (* is N or P: N = NTSC, P=PAL) | E158873-A164-UL | |
| NETWORK CAMERA | XNV-6011* (* is N or P: N = NTSC, P=PAL) | E158873-A165-UL | |
| DIGITAL COLOR CAMERA | HCD-6080R*, HCD-6070R* (* is N or P: N = NTSC, P=PAL) | E158873-A167-UL | |
| DIGITAL COLOR CAMERA | HCV-6080R*, HCV-6070R* (* is N or P: N = NTSC, P=PAL) | E158873-A168-UL | |
| NETWORK CAMERA | XNP-6120H* (* is N or P: N = NTSC, P=PAL) | E158873-A169-UL | |
| NETWORK CAMERA | XND-8020F*, XND-6011F* (* is N or P: N = NTSC, P=PAL) | E158873-A170-UL | |
| NETWORK CAMERA | PNM-9080VQ* (* is N or P: N = NTSC, P = PAL) | E158873-A172-UL | |
| Network Storage | SRB-160S | E158873-A173-UL | |
| NETWORK CAMERA | TNB-6030* (* is N or P: N = NTSC, P = PAL) | E158873-A174-UL | |
| NETWORK CAMERA | PNM-9081VQ* (* is N or P: N = NTSC, P = PAL) | E158873-A176-UL | |
| NETWORK CAMERA | XNO-6085R* (* is N or P: N = NTSC, P=PAL) | E158873-A177-UL | |
| NETWORK CAMERA | XNB-6005* (* is N or P: N = NTSC, P=PAL) | E158873-A178-UL | |

| File | | Volume | Page | Date: |
|---------|-------|--------|------|------------|
| E158873 | Index | X1 | 6 | 2018-01-31 |

| | | | |
|------------------------|---|-----------------|--|
| NETWORK VIDEO RECORDER | SNR-D5401N | E158873-A179-UL | |
| NETWORK CAMERA | XND-6085*, XND-6085V* (* is N or P: N = NTSC, P=PAL) | E158873-A180-UL | |
| NETWORK CAMERA | XNV-6085* (* is N or P: N = NTSC, P=PAL) | E158873-A181-UL | |
| NETWORK CAMERA | XNP-6040H* (* is N or P: N = NTSC, P=PAL) | E158873-A182-UL | |
| NETWORK VIDEO DECODER | SPD-150* (* is N or P: N = NTSC, P=PAL) | E158873-A184-UL | |
| DIGITAL COLOR CAMERA | HCB-6000*, HCB-7000* (* is N or P: N = NTSC, P=PAL) | E158873-A185-UL | |
| DIGITAL COLOR CAMERA | HCZ-6320* (* is N or P: N = NTSC, P=PAL) | E158873-A186-UL | |
| NETWORK CAMERA | XNF-8010RVM*, XNF-8010RV*, XNF-8010R* (* is N or P: N = NTSC, P=PAL) | E158873-A187-UL | |
| DIGITAL COLOR CAMERA | HCO-6070R*, HCO-6080R* (* is N or P: N = NTSC, P=PAL) | E158873-A188-UL | |
| NETWORK CAMERA | XNB-6001* (* is N or P: N = NTSC, P=PAL) | E158873-A189-UL | |
| DIGITAL COLOR CAMERA | HCO-7070R* (* is N or P: N = NTSC, P=PAL) | E158873-A190-UL | |
| LENS MODULE | SLA-T2480*, SLA-T2480V*, SLA-T4680*, SLA-T4680V* (* is N or P: N = NTSC, P=PAL) | E158873-A191-UL | |
| DIGITAL COLOR CAMERA | HCD-7070R* (* is N or P: N = NTSC, P=PAL) | E158873-A192-UL | |
| DIGITAL COLOR CAMERA | HCV-7070R* (* is N or P: N = NTSC, P=PAL) | E158873-A193-UL | |
| NETWORK VIDEO RECORDER | TRM-1610S | E158873-A194-UL | |
| LENS MODULE | SLA-T1080F* (* is N or P: N = NTSC, P=PAL) | E158873-A195-UL | |
| ANALOG CAMERA | HCV-7010R*, HCV-7020R*, HCV-7030R* (* is N or P: N = NTSC, P=PAL) | E158873-A197-UL | |
| DIGITAL COLOR CAMERA | HCD-7010R*, HCD-7020R*, HCD-7030R* (* is N or P: N = NTSC, P=PAL) | E158873-A198-UL | |
| DIGITAL COLOR CAMERA | HCO-7010R*, HCO-7020R*, HCO-7030R* (* is N or P: N = NTSC, P=PAL) | E158873-A199-UL | |
| NETWORK CAMERA | XNP-6320, QNP-6230 | E158873-A200-UL | |
| NETWORK CAMERA | XNP-6320H, XNP-6320HS, QNP-6230H | E158873-A201-UL | |

UL TEST REPORT AND PROCEDURE

| | |
|------------------------------------|---|
| Standard: | UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements) |
| Certification Type: | Listing |
| CCN: | NWQG, NWGQ7 (Information Technology Equipment Including Electrical Business Equipment) |
| Product: | NETWORK CAMERA |
| Model: | XNP-6320H, XNP-6320HS, QNP-6230H |
| Rating: | 24 Vac, 50/60 Hz, 2.9 A or PoE (42.5 Vdc - 57 Vdc) 0.9 A |
| Applicant Name and Address: | HANWHA TECHWIN CO LTD 1204 CHANGWON-DAERO SEONGSAN-GU CHANGWON-SI GYEONGSANGNAM-DO 51542 KOREA |

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Sungil Kim

Reviewed by: Inyoung Hwang

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
 - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
 - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
 - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

NETWORK CAMERA intended for indoor use.
Heater is operated at 24 Vac only.

Model Differences

Basic model is XNP-6320H.

- Model XNP-6320HS is identical to basic model XNP-6320H except for enclosure material and model designation.
- Model QNP-6230H is identical to basic model XNP-6320H except for software and model designation.

(XNP-6320H: Plastic enclosure, Zoom ratio: 32, XNP-6320HS: Metal enclosure, Zoom ratio: 32, QNP-6230H: Plastic enclosure, Zoom ratio: 23)

Technical Considerations

- Equipment mobility : stationary
- Connection to the mains : No direct connection
- Operating condition : continuous
- Access location : operator accessible
- Over voltage category (OVC) : OVC I
- Mains supply tolerance (%) or absolute mains supply values : No direct connection
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class III (supplied by SELV)
- Considered current rating of protective device as part of the building installation (A) : N/A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Up to 2 000
- Altitude of test laboratory (m) : Less than 2 000
- Mass of equipment (kg) : XNP-6320H: 3.30 kg, XNP-6320HS: 5.45 kg
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma)

permitted by the manufacturer's specification of: 55 °C

- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual

Additional Information

Original (4788251015)

- Maximum normal load: Continuous operation.

Additional Standards

The product fulfills the requirements of: N/A

Markings and instructions

| Clause Title | Marking or Instruction Details |
|---|---|
| Power rating - Ratings | Ratings (voltage, frequency/dc, current) |
| Power rating - Company identification | Listee's or Recognized company's name, Trade Name, Trademark or File Number |
| Power rating - Model | Model Number |
| Fuses - Rating | Rated current and voltage and type located on or adjacent to fuse or fuseholder. |
| Replaceable batteries | "CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions." |
| Installation Manual - Network Environment | The following statement or similar shall be included in the User Manual: "Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102. As such, associated Ethernet wiring shall be limited to inside the building." |
| Installation Manual - UL Listed PoE Source | The following statement or similar shall be included in the User Manual: "The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802-3af shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1." |
| Installation Manual - Selection of Power Supply | The Users Manual should provide simple instructions for the correct selection of a suitable Listed Class 2 Power Units, including a statement such as "This product is intended to be supplied by Power Unit marked "Class 2" or "LPS" and rated 24 Vac(50 or 60 Hz), min. 2.9 A or PoE(42.5V - 57 V), min 0.9 A." |

Special Instructions to UL Representative

N/A

Production-Line Testing Requirements**Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.**

| Model | Component | Removable Parts | Test probe location | V rms | V dc | Test Time, s |
|-------|-----------|--------------------|---------------------|----------|------|-----------------|
| N/A | | | | | | |

Earthing Continuity Test Exemptions - This test is not required for the following models:

All models

Electric Strength Test Exemptions - This test is not required for the following models:

All models

Electric Strength Test Component Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test:**Sample and Test Specifics for Follow-Up Tests at UL**

| Model | Component | Material | Test | Sample(s) | Test Specifics |
|-------|-----------|----------|------|-----------|-------------------|
| N/A | | | | | |

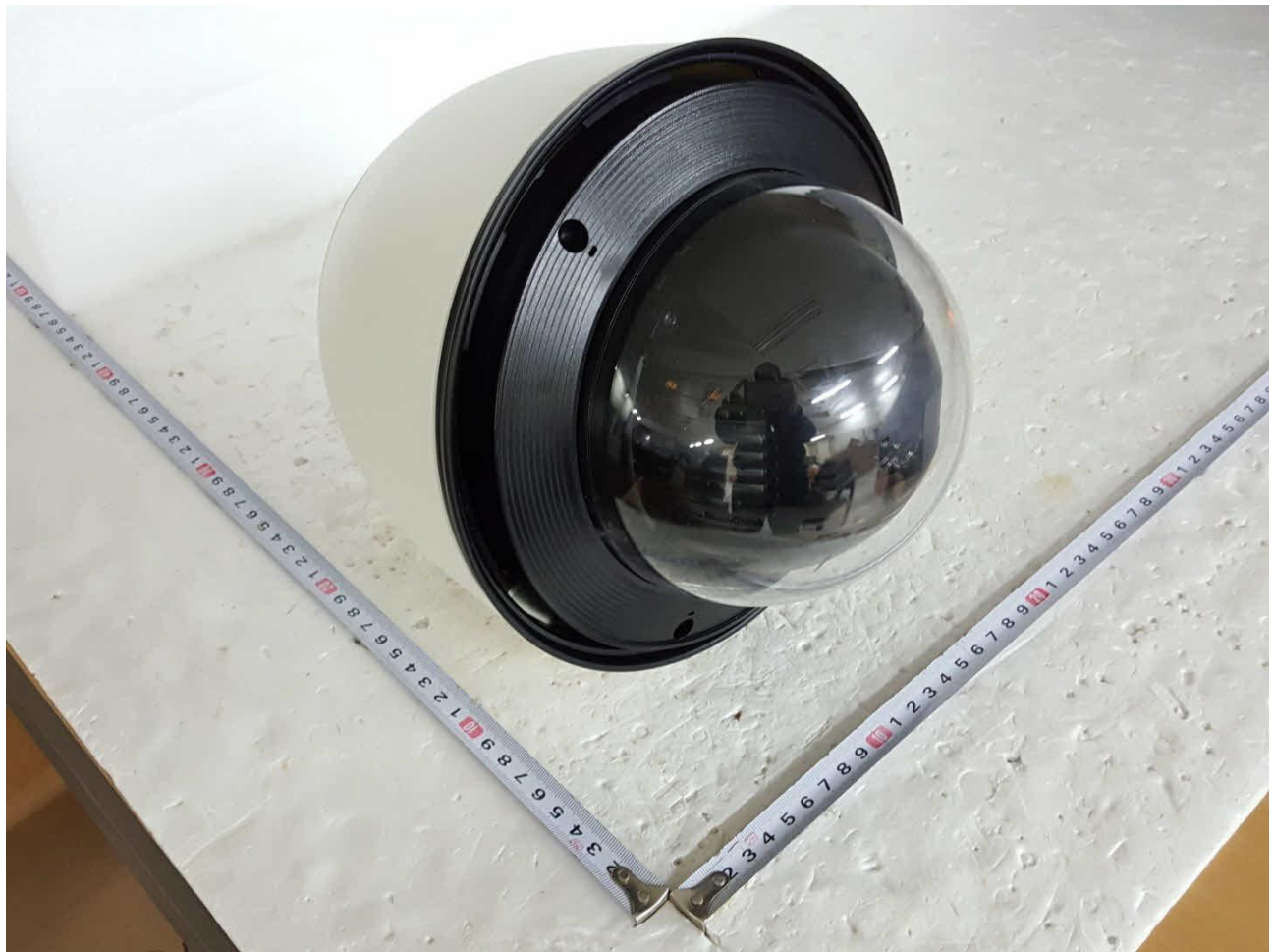
| 1.5.1 | TABLE: list of critical components | | | | | Pass |
|--|------------------------------------|-----------------|---|----------------------------|------------------------------------|---------------|
| Object/part or Description | Manufacturer/ trademark | type/model | technical data | Product Category CCN(s) | Required Marks of Conformity | Supplement ID |
| Power Supply (Optional) | Interchangeable | Interchangeable | Rated output: 24Vac, 50/60 Hz, min. 2.9 A, marked "LPS" or "Class 2". | QQGQ or EPBU | UL | |
| Transparent Dome Cover (Plastic) | SABIC INNOVATIVE PLASTICS B V | ML7687 | Min. 1.5 mm thickness, V-2, 80 deg.C, See enclosure for dimension. | QMFZ2 | UL (E45329) | |
| Enclosure (Metal) - for Model XNP-6320HS | Interchangeable | Interchangeable | Aluminium, Min. 1.0 mm thickness, See enclosure for dimension. | - | - | |
| Enclosure (Plastic, Middle, Ivory) - for Model XNP-6320H, QNP-6230H only | SABIC INNOVATIVE PLASTICS B V | 925U(GG) | Min. 1.5 mm thickness, V-0, 115 deg.C, See enclosure for dimension | QMFZ2 | UL (E45329) | |
| Enclosure (Plastic, Bottom, Ivory) - for Model XNP-6320H, QNP-6230H only | SABIC INNOVATIVE PLASTICS B V | 925U(GG) | Min. 1.5 mm thickness, V-0, 115 deg.C, See enclosure for dimension. | QMFZ2 | UL (E45329) | |
| Enclosure (Plastic, Middle, Black) - for Model XNP-6320H, QNP-6230H only | SABIC INNOVATIVE PLASTICS B V | 925U(GG) | Min. 1.5 mm thickness, V-0, 115 deg.C, See enclosure for dimension. | QMFZ2 | UL (E45329) | |
| Internal Plastic Part Materials | LOTTE ADVANCED MATERIALS CO LTD | LS-3(dd)2(+) | Min. 0.8 mm thickness, V-2, 80 deg.C. | QMFZ2/8 | UL (E115797) | |
| Fuse (F1) | SMART ELECTRONICS INC | SPT250TE | T3.15 A, 250 V | JDYX2/8 | UL (E238986) | |
| (Alternate) | COOPER BUSSMANN LLC | SS-5 | T3.15 A, 250 V | JDYX2/8 | UL (E19180) | |
| (Alternate) | LITTELFUSE WICKMANN WERKE | 392 | T3.15 A, 250 V | JDYX2/8 | UL (E67006) | |
| Fuse (F2, F3) | SMART ELECTRONICS INC | SPT250TE | T2.5 A, 250 V | JDYX2/8 | UL (E238986) | |
| (Alternate) | COOPER BUSSMANN LLC | SS-5 | T2.5 A, 250 V | JDYX2/8 | UL (E19180) | |

| | | | | | | |
|---|---|----------------------|--|----------------|--------------|--|
| Coin battery (BAT1) | FDK CORPORATION | ML614R | Lithium (Coin), Rechargeable, 3 Vdc, Maximum Charging Current 300 mA | BBCV2 | UL (MH13421) | |
| Transformer (T1) | DONG GUAN TOP NATION ELECTRONIC LIMITED | 1400423 | 130 deg.C, See enclosure for more detail. | - | - | |
| (Alternate) | CLOVER HI-TECH CO LTD | 1400423 | 130 deg.C, See enclosure for more detail. | - | - | |
| Line Filter (LF1, LF2) | TNC CO LTD | CV430060SHA | 6.0 mH, 130 deg.C, See enclosure for more detail. | - | - | |
| Line Filter (LF3) | DONG GUAN TOP NATION ELECTRONIC LIMITED | 1420603 | 14.0 mH, 130 deg.C, See enclosure for more detail. | - | - | |
| (Alternate) | CLOVER HI-TECH CO LTD | 1420603 | 14.0 mH, 130 deg.C, See enclosure for more detail. | - | - | |
| Stepping Motor | DONGGUAN SHINANO MOTOR CO LTD | STH-36C1056 | For Tilt, Rated 4.6 Vdc, 0.4 A | - | - | |
| Stepping Motor | DONGGUAN SHINANO MOTOR CO LTD | STH-36C1078 | For pan. Rated 12.0 Vdc, 0.6 A | - | - | |
| DC Fan | DONGGUAN PROTECHNIC ELECTRIC CO LTD | MBA5112XB-O15 | DC12 V 0.21 A | GPWV2 | UL (E187236) | |
| Heater | SMG CO LTD | HK 04R212R4P 24V 38W | Rated AC 24 V, 38 W, DC 12 V, 5 W. | - | - | |
| Connectors and Receptacles (Secondary circuits) | Interchangeable | Interchangeable | - | ECBT2 or RTRT2 | UL | |
| Connectors and Receptacles (Secondary circuits) (alternate) | Interchangeable | Interchangeable | Copper alloy pins housed in bodies of plastic rated Min. V-2 | QMFZ2 | UL | |
| Internal Wiring (Secondary) | Interchangeable | Interchangeable | FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; Min. 30 V, 80 deg.C | AVLV2 | UL | |

| | | | | | | |
|-------|-----------------|-----------------|---|----------------|-----------------|--|
| Cable | Interchangeable | Interchangeable | FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; Min. 30 V, 80 deg. C | AVLV2 | UL | |
| FPWB | SI FLEX CO LTD | T1 | Min. V-0 | ZPKX2 | UL (E218849) | |
| PWB | Interchangeable | Interchangeable | Min. V-1, 105 deg.C. | ZPMV2 | UL | |
| Label | Interchangeable | Interchangeable | Min.70 deg.C, if max. surface temperature not specified. | PGDQ2 or PGJ12 | UL | |

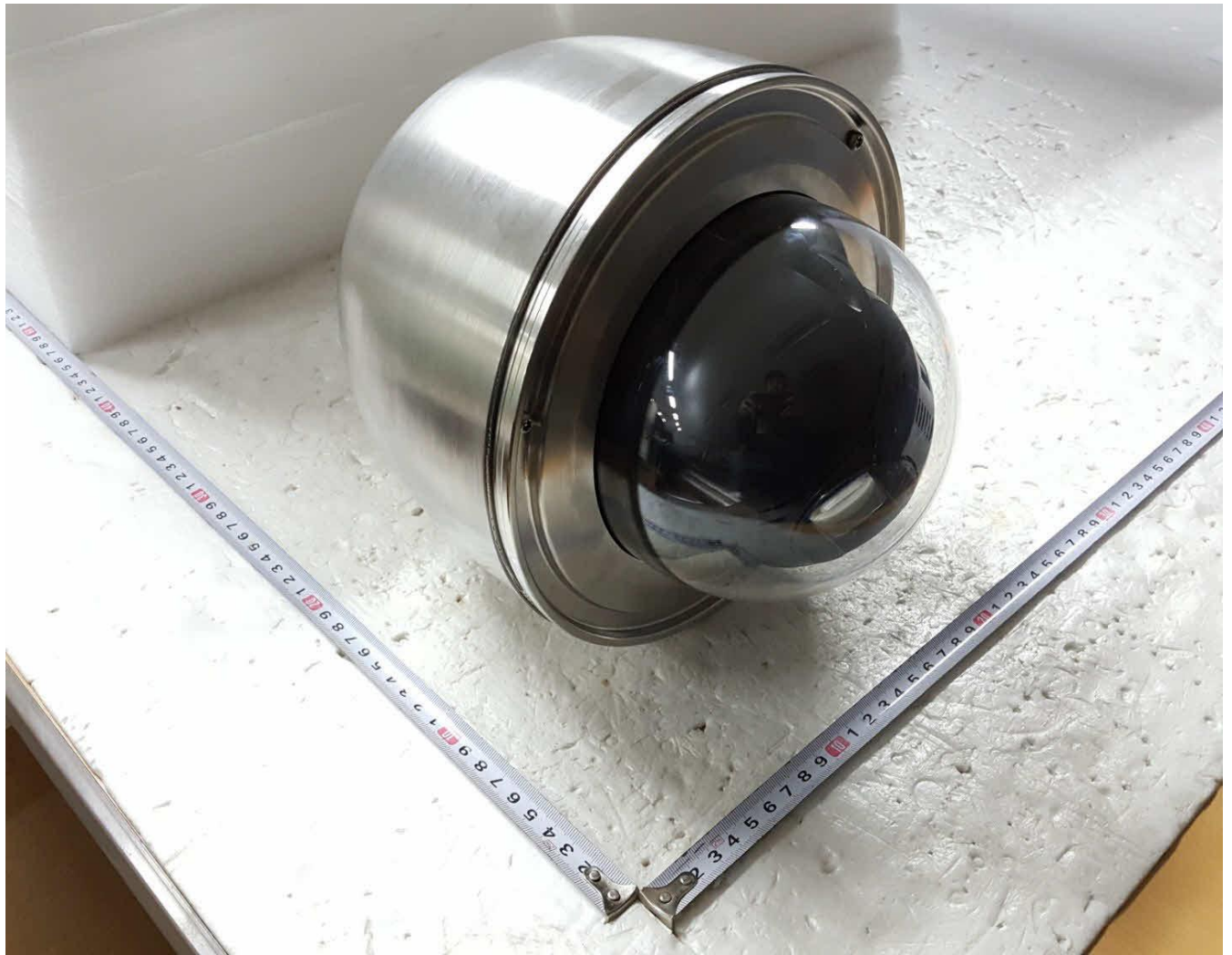
Enclosures

| <u>Type</u> | <u>Supplement Id</u> | <u>Description</u> |
|---------------|----------------------|---|
| Photographs | 3-01 | Overall View -1 (model XNP-6320H) |
| Photographs | 3-02 | Overall View -2 (model XNP-6320H) |
| Photographs | 3-03 | Internal View (model XNP-6320H) |
| Photographs | 3-04 | Overall View -1 (model XNP-6320HS) |
| Photographs | 3-05 | Overall View -2 (model XNP-6320HS) |
| Photographs | 3-06 | Internal View (model XNP-6320HS) |
| Photographs | 3-07 | Camera Assy (External) -1 |
| Photographs | 3-08 | Camera Assy (External) -2 |
| Photographs | 3-09 | Camera Assy (Internal) -1 |
| Photographs | 3-10 | Camera Assy (Internal) -2 |
| Photographs | 3-11 | Interface Board TOP |
| Photographs | 3-12 | Interface Board Bottom |
| Photographs | 3-13 | Main Board Top |
| Photographs | 3-14 | Main Board Bottom |
| Photographs | 3-15 | Power Board Top |
| Photographs | 3-16 | Power Board Bottom |
| Manuals | 6-01 | Manual |
| Miscellaneous | 7-01 | Transformer (T1) Spec by DONG GUAN TOP NATION ELECTRONIC LIMITED |
| Miscellaneous | 7-02 | Transformer (T1) spec by CLOVER HI-TECH CO LTD |
| Miscellaneous | 7-03 | Line Filter (LF1, LF2) spec by TNC CO LTD |
| Miscellaneous | 7-04 | Line Filter (LF3) spec by DONG GUAN TOP NATION ELECTRONIC LIMITED |
| Miscellaneous | 7-05 | Line Filter (LF3) spec by CLOVER HI-TECH CO LTD |
| Miscellaneous | 7-06 | Stepping motor spec (model STH-36C1056) |
| Miscellaneous | 7-07 | Stepping motor spec (model STH-36C1078) |
| Miscellaneous | 7-08 | Battery circuit diagram |
| Miscellaneous | 7-09 | Enclosure dimension |
| Miscellaneous | 7-10 | Label |



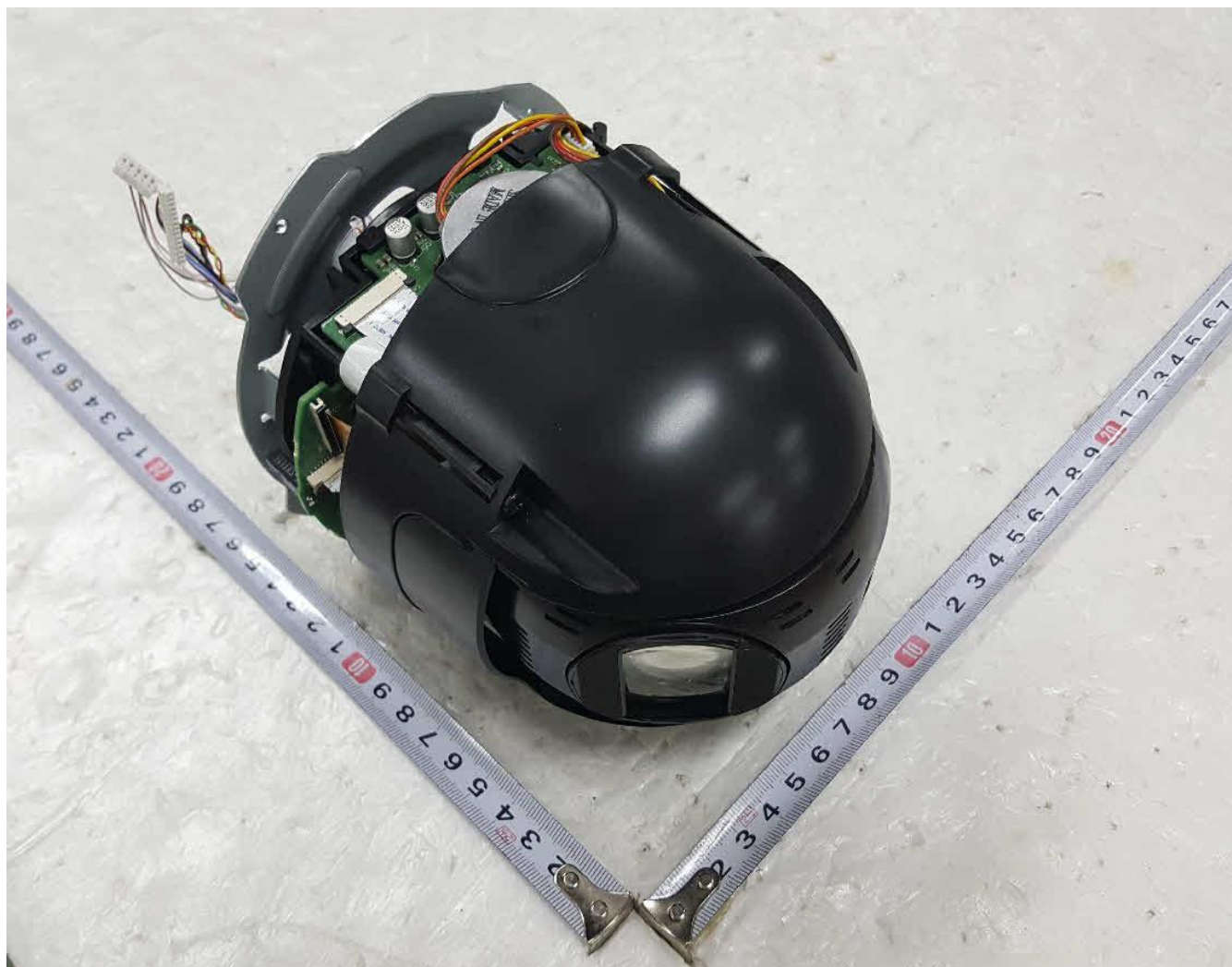








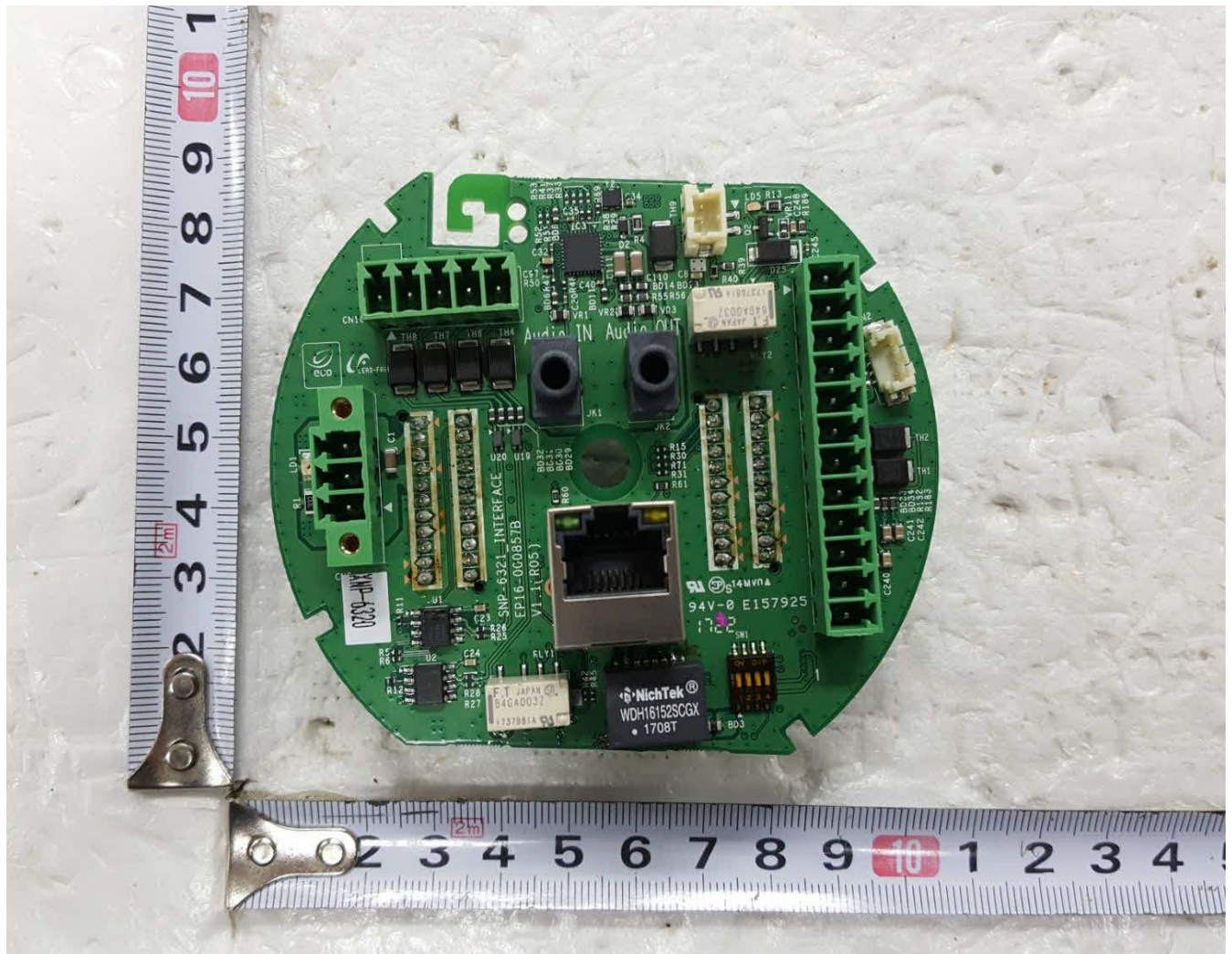


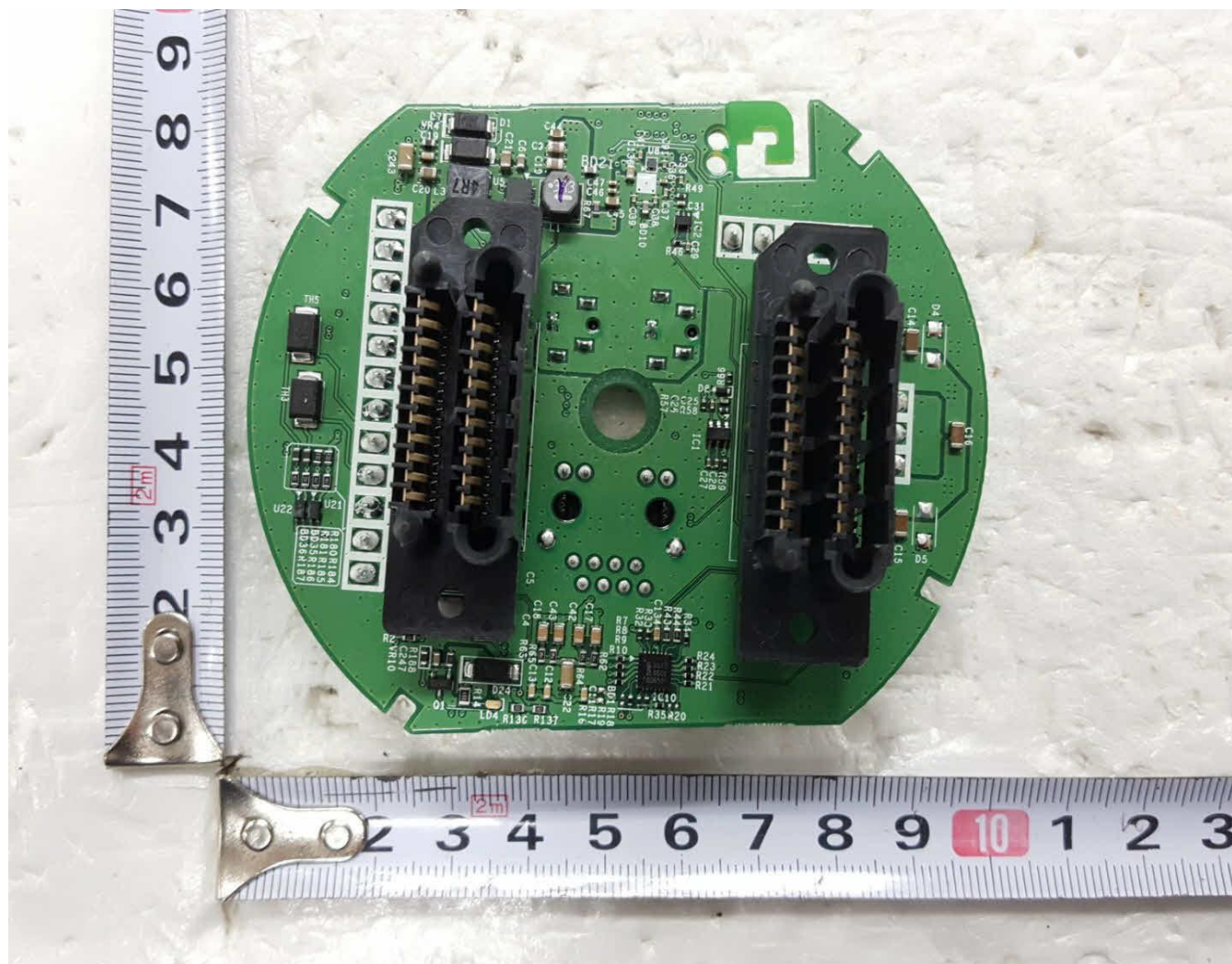


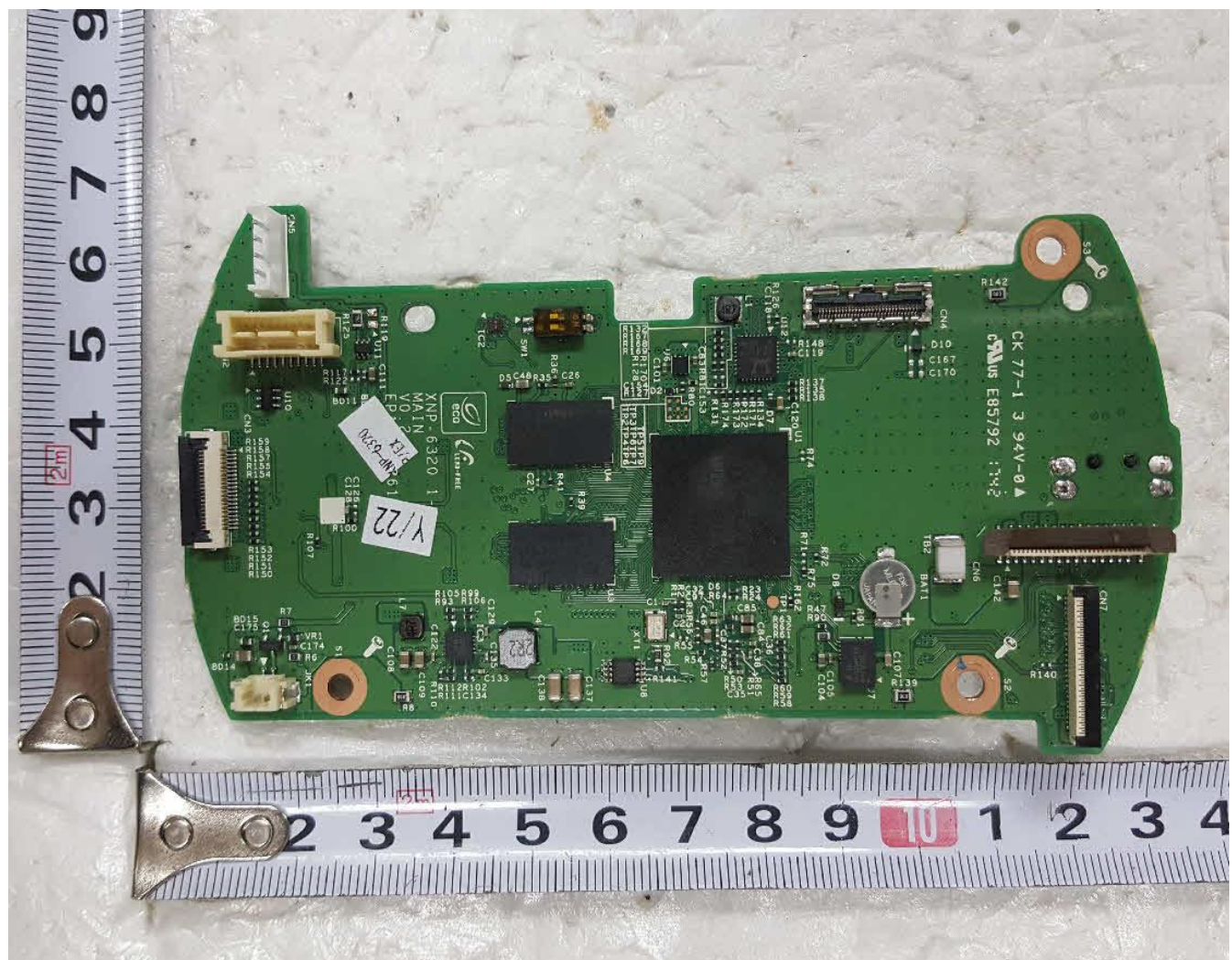


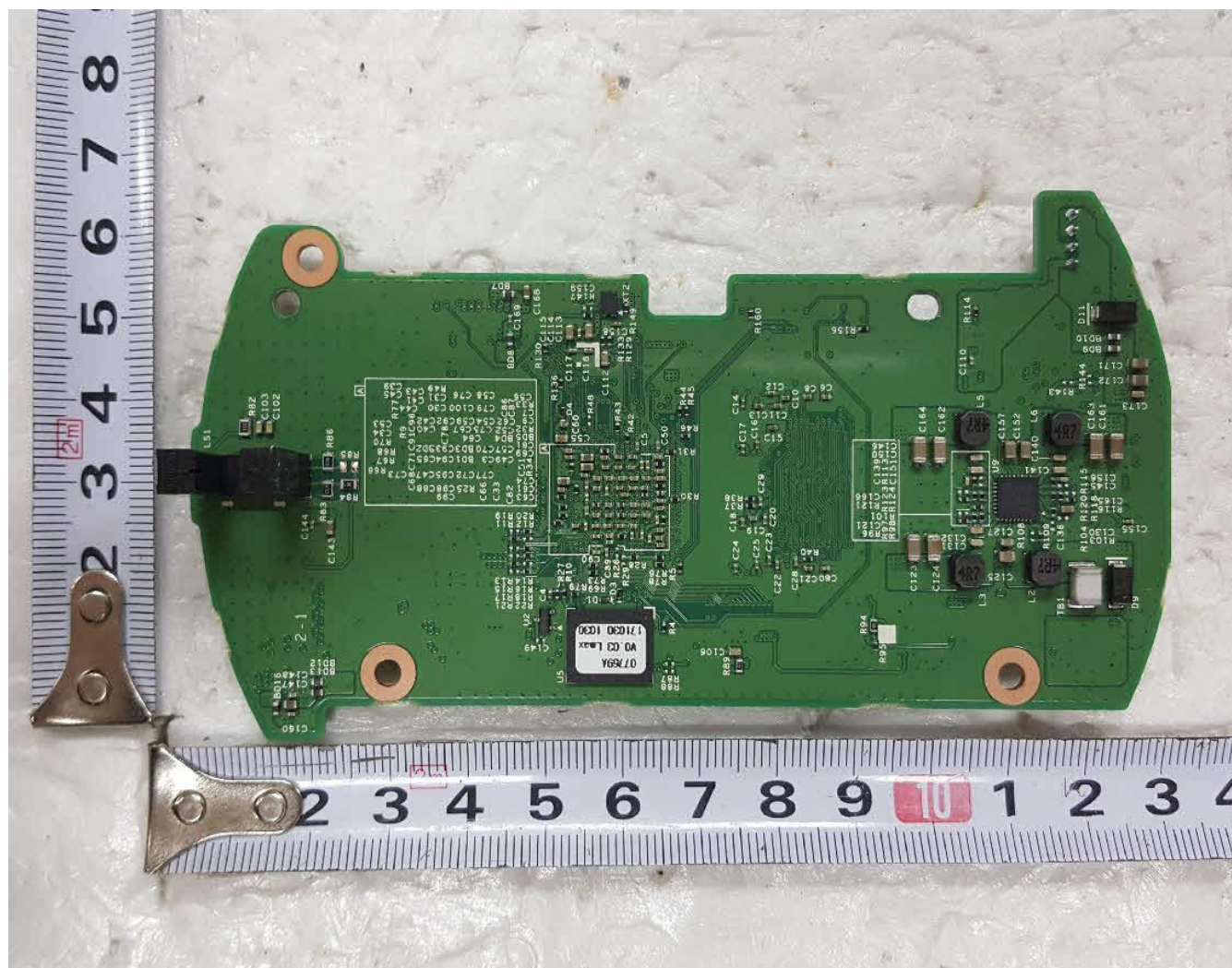


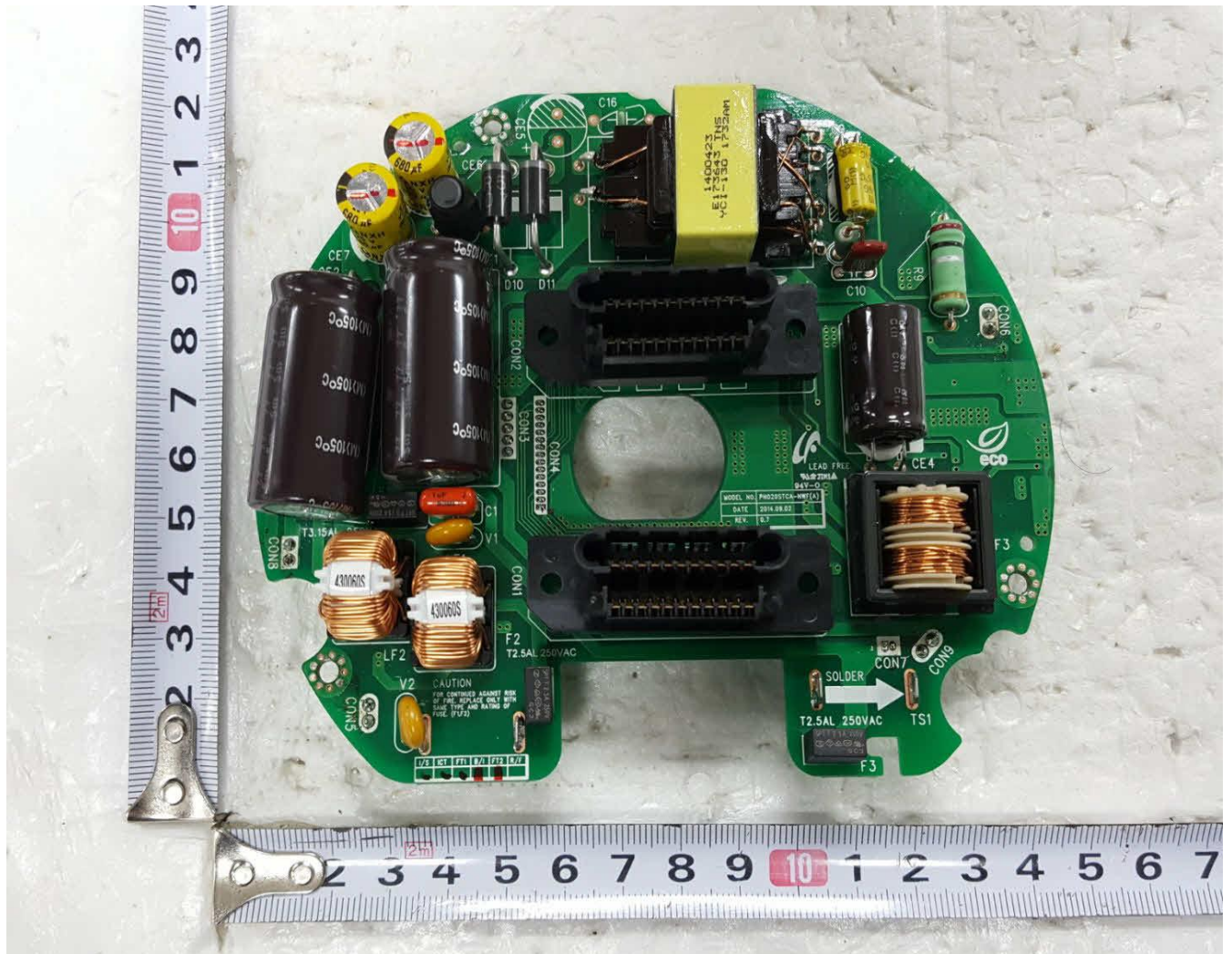


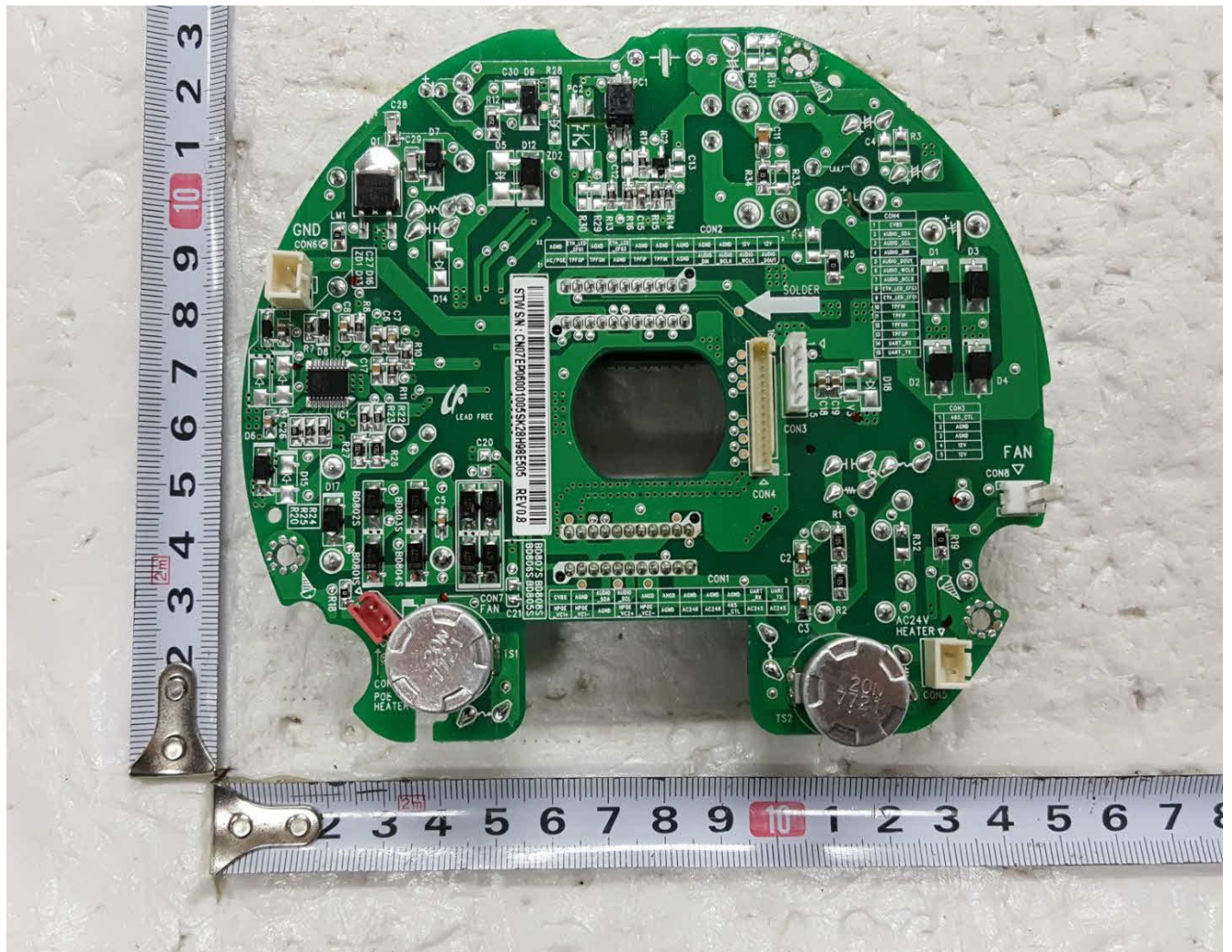












overview

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth.
(Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This product is intended to be supplied by Power Unit marked "Class 2" or "LPS" and rated 24 Vac(50 or 60 Hz), min. 1.6 A or PoE(42.5V ~ 57V), min 0.7 A. (XNP-6320)
16. This product is intended to be supplied by Power Unit marked "Class 2" or "LPS" and rated 24 Vac(50 or 60 Hz), min. 2.9 A or PoE(42.5V ~ 57V), min 0.9 A. (XNP-6320H/6320HS)
17. Do not install the camera vertically on a wall. This will cause Tilt step-out.
18. If you use excessive force when installing the product, the camera may be damaged and malfunction. If you forcibly install the product using non-compliant tools, the product may be damaged.
19. Do not install the product in a place where chemical substances or oil mist exists or may be generated. As edible oils such as soybean oil may damage or warp the product, do not install the product in the kitchen or near the kitchen table.
This may cause damage to the product.



20. When installing the product, be careful not to allow the surface of the product to be stained with chemical substance.
Some chemical solvents such as cleaner or adhesives may cause serious damage to the product's surface.
21. If you install/disassemble the product in a manner that has not been recommended, the production functions/ performance may not be guaranteed.
Install the product by referring to "Installation & connection" in the user manual.
22. Installing or using the product in water can cause serious damage to the product.

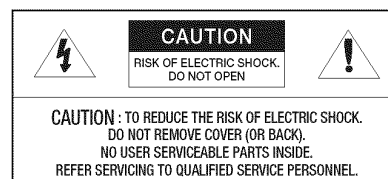
WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

overview

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

Disconnection Device

Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

Risk of explosion if battery is replaced by an incorrect type.
Dispose of used batteries according to the instructions.

These servicing instructions are for use by qualified service personnel only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

The CVBS out terminal of the product is provided for easier installation, and is not recommended for monitoring purposes.

Please use the input power with just one camera and other devices must not be connected.

The ITE is to be connected only to PoE networks without routing to the outside plant.

The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802-3af shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1.

Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102. As such, associated Ethernet wiring shall be limited to inside the building.

Please read the following recommended safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.
- Please wear protective gloves when installing/removing the camera.
The high temperature of the product surface may cause a burn.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

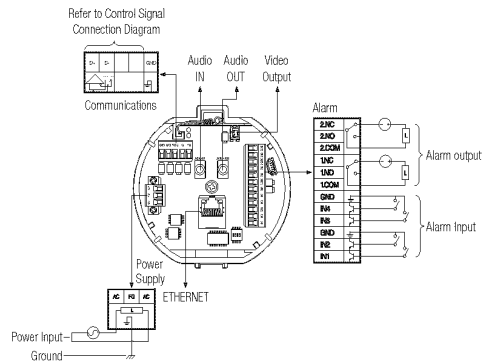
- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

installation & connection

■ Camera Wiring Interface Board

For the camera wiring, please refer to the picture below.

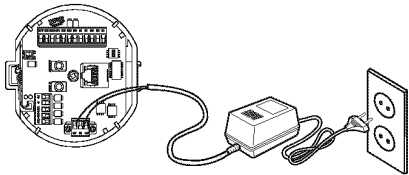


- Select Normal Open in the setup menu.
 - The sensor input is activated during a short for contact type, or when it is at "Low" level for the active type.
- Select Normal Close from the Setup menu.
 - The sensor input is activated when open for the contact type or when in high impedance state (open collector) for the active type.
- The maximum capacity of the alarm output terminal is 30V DC/2A, 125V AC/0.5A and 250V AC/0.25A.
- When connecting alarm input and output cables, be sure to connect one cable to each terminal respectively.
- To connect products over the camera's capacity, please use an additional relay device.
- If power and GND cables are connected inappropriately to the NC/NO or COM port, a fire or breakdown of equipment may occur.

CONNECTING WITH OTHER DEVICE

Preparing Adapter and Cable

- Connect the camera to the power adaptor. Then, plug the power cord of the adaptor to the wall outlet.



Check out the rated voltage and current before making connections.

| Rated Power | Allowable Input Voltage |
|-------------|-------------------------|
| AC 24V | AC22V~26V |
| PoE+ | 42.5Vdc~57Vdc |

- If applied with both PoE+ and AC 24V power supplies, the device is powered from the first engaged supply.
 - It is preferred to use single power supply of either one of PoE+ and AC 24V.
- If connected to a switch device that provides PoE+ power, you don't need to apply a power source of AC 24V supply.
- Make sure the PoE device suffices PoE+ (IEEE 802.3af) specifications.
 - If your device is connected to the switch with the standard of PoE (IEEE 802.3af), then go to the switch setup menu to "deactivate PoE".
 - For further information on switch device, refer to the manufacturer's manual.
 - It is recommended to use a cable that complies with the PoE+ spec.
- If you use a PoE+ as a power, the boot time may vary depending on a switch model (by channel) or a maker (as PoE+ connection time is included).
- The heater doesn't work with the PoE+ power supply (XNP-6320H/6320HS).



SPECIFICATIONS

| | |
|---------------------|---|
| DESCRIPTION | POWER TRANS |
| SPECIFICATION | 50uH / EE2515W(YP2,PL-7,TP4,DMR40,KP4) |
| MAKER SPECIFICATION | EE2515W/ YS19360122 |
| CODE NO | 1400423 |
| MODEL NO | PN020STCA |
| SPECIAL ARTICLES | UL INSULATION SYSTEM (CLASS "B" / YCI-130) |

| DESIGN | CHECK | APPROVAL |
|--------------------|---------------|---------------|
| H.S HONG | S.J KIM | M.D KIM |
| 2012. 12. 04. | 2012. 12. 04. | 2012. 12. 04. |
| A TERM OF VALIDITY | YEAR | |

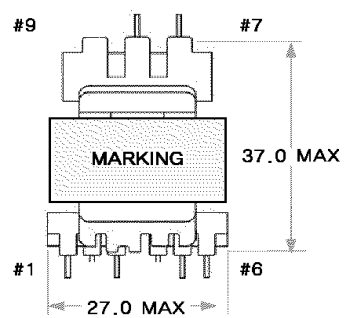
| | | | |
|---------------------|---|-----|-----------------|
| REQUEST CUSTOMER | YAO SHENG ELECTRONIC CO.,LTD | TEL | (02)22693789 |
| | | FAX | (02)22696759 |
| ADDRESS | 10F., NO.95, ZHONGCHENG RD., TUCHENG CITY, TAIPEI COUNTY 236, TAIWAN R.O.C | | |
| REQUEST CUSTOMER | DONG GUAN TOP NATION ELECTRONIC LIMITED | TEL | 86-769-86632772 |
| | | FAX | 86-769-86315197 |
| ADDRESS | NO.3 INDUSTRIAL AREA,JUZHOU SHIJIE TOWN DONGGUAN GUANGDONG CHINA | | |
| REQUEST CUSTOMER | TOP NATION(SU ZHOU) ELECTRONIC LIMITED | TEL | 86-512-63271988 |
| | | FAX | 86-512-63271990 |
| ADDRESS | WUJIANG FENHU ECONOMIC DEVELOPMENT ZONE JIANGSU PROVINCE CHINA | | |

CUSTOMER : POWERNET TECHNOLOGIES.

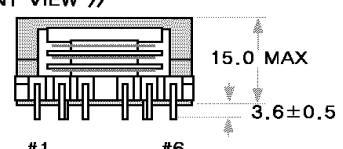
| SPECIFICATIONS | | SHEET NO. | 4 OF 46 |
|----------------|-------------|------------|---------------|
| | | DATE | 2012. 09. 14. |
| PART NAME | POWER TRANS | MODEL NAME | PN020STCA |
| PART NO. | 1400423 | TYPE | EE2515W |

6. APPEARANCE & DIMENSION

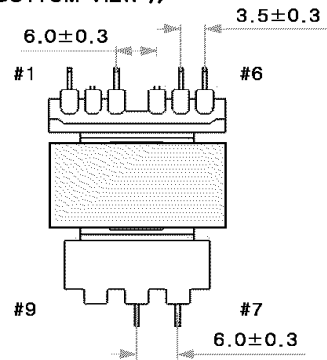
« TOP VIEW »



« FRONT VIEW »



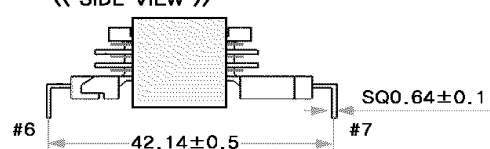
« BOTTOM VIEW »




※ MARKING(BLACK) : 1400423
E173643 TNS
YCI-130 1208EK

| | | | | | | | | |
|---------|--|-----------|--|------------------|-----|--------|-----|-----|
| 1400423 | PART No. | | | | | | | |
| E173643 | MAKER (TRADE NAME) {YAO SHENG ELECTRONIC CO.,LTD.(UL No)} | | | | | | | |
| TN | DONG GUAN TOP NATION | | | CHINA FACTORY ID | | | | |
| TNS | TOP NATION(SU ZHOU) | | | | | | | |
| YCI-130 | YAO SHENG ELECTRONIC 'CLASS B' SYSTEM | | | | | | | |
| 12 | Lot No | Year | 2012 : 12 2013 : 13... | | | | | |
| 08 | | Week | First Week : 01 Second Week : 02... | | | | | |
| E | DAY | MON | TUE | WED | THU | FRI | SAT | SUN |
| | | A | B | C | D | E | F | G |
| Y | MANUFACTURER OF CORE | | | | | | | |
| | Y | YOUNGHWHA | | | S | SAMWHA | | |
| | T | TDG | | | M | DMEGC | | |
| | Z | KAIYUAN | | | | | | |

« SIDE VIEW »



| | | | |
|---|----------|------------|----------|
|  DONG GUAN TOP NATION ELECTRONIC LIMITED NO.3 INDUSTRIAL AREA,JUZHOU SHIJIE TOWN DONGGUAN CHINA TEL:86-769-86632772 FAX:86-769-86315197 | DESIGN | CHECK | APPROVAL |
| | H.S HONG | S.J KIM | M.D KIM |
| | FILE NO. | YS19360122 | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | | SHEET NO. | | 5 OF 46 | |
|---|--------|-------------|---|---------------|-------|--------------------|---------|
| | | | | DATE | | 2012. 09. 14. | |
| PART NAME | | POWER TRANS | | MODEL NAME | | PN020STCA | |
| PART NO. | | 1400423 | | TYPE | | EE2515W | |
| 7. SCHEMATIC DIAGRAM | | | | | | | |
| | | | | | | | |
| | | | | WINDING | | BOTTOM VIEW C.W | |
| | | | | BOBBIN INSERT | | BOTTOM | |
| | | | | REMOVE PIN | | #9 | |
| | | | | N.C PIN | | - | |
| | | | | CUT PIN | | #2, #4 | |
| | | | | TUBE PIN | | - | |
| 8. WINDING SPECIFICATION | | | | | | | |
| WINDING ORDER | SYMBOL | TERMINAL NO | | WIRE | TURNS | WINDING METHOD | REMARKS |
| W1 | NP1 | 3 | 2 | 2UEW 0.50φ | 4 | A SECTION SOLENOID | |
| W2 | NP2 | 5 | 4 | 2UEW 0.30φ | 2 | A SECTION SOLENOID | |
| W3 | NS1 | 8 | 7 | 2UEW 0.50φ | 4 | B SECTION SOLENOID | |
| W4 | NP3 | 2 | 1 | 2UEW 0.50φ | 4 | C SECTION SOLENOID | |
| W5 | NP4 | 4 | 6 | 2UEW 0.30φ | 2 | C SECTION SOLENOID | |
| | | | | | | | |
| ◇ REGARDING ABOVE TABLE STANDARD, THICKNESS OF WIRE MUST BE OVER SPECIFICATION RANGE. | | | | | | | |
| DONG GUAN TOP NATION ELECTRONIC LIMITED NO.3 INDUSTRIAL AREA.JUZHOU SHIJIE TOWN DONGGUAN CHINA TEL:86-769-86632772 FAX:86-769-86315197 | | | | DESIGN | | CHECK | |
| | | | | H.S HONG | | S.J KIM | |
| | | | | M.D KIM | | | |
| | | | | FILE NO. | | YS19360122 | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | SHEET NO. | 8 OF 46 |
|----------------|-------------|------------|---------------|
| | | DATE | 2012. 09. 14. |
| PART NAME | POWER TRANS | MODEL NAME | PN020STCA |
| PART NO. | 1400423 | TYPE | EE2515W |


11. INTERNAL CONSTRUCTION

< BOTTOM > < TOP >


• Winding :
 • Ps tape :

| | | | |
|---|----------|------------|----------|
| DONG GUAN TOP NATION ELECTRONIC LIMITED NO.3 INDUSTRIAL AREA.JUZHOU SHIJIE TOWN DONGGUAN CHINA TEL:86-769-86632772 FAX:86-769-86315197 | DESIGN | CHECK | APPROVAL |
| | H.S HONG | S.J KIM | M.D KIM |
| | FILE NO. | YS19360122 | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | SHEET NO. | 9 OF 46 | |
|---|-----------------------|-----------------------------------|-----------------------------|------------------|---|
| | | | DATE | 2012. 09. 14. | |
| PART NAME | POWER TRANS | | MODEL NAME | PN020STCA | |
| PART NO. | 1400423 | | TYPE | EE2515W | |
| 12. ELECTRICAL CHARACTERISTIC | | | | | |
| No | CLOSURE | TERMINAL | ELECTRICAL CHARACTERISTICS | TOLERANCE | CONDITION |
| 1 | INDUCTANCE | 3 - 1 | 50.0 μ H | $\pm 10\%$ | HP-4284A LCR-METER at 100 KHz 1.0 Vrms (25°C) |
| | | 5 - 6 | 12.0 μ H | $\pm 25\%$ | |
| | | 8 - 7 | 12.0 μ H | $\pm 25\%$ | |
| 2 | LEAKAGE INDUCTANCE | 3 - 1 | 2.00 μ H | MAX | |
| 3 | DC RESISTANCE | 3 - 1 | 0.070 Ω | MAX | CH-502A at 25°C |
| | | 5 - 6 | 0.100 Ω | MAX | |
| | | 8 - 7 | 0.030 Ω | MAX | |
| 4 | DC CURRENT OVERLAP | 3 - 1 | 40.0 μ H | MIN | ZENTECH-1320 at 100KHz, 1V with (3.5A) DC |
| 5 | WITHSTANDING VOLTAGE | P COIL TO S COIL | AC 1.0 KV r.m.s , 2SEC | | CUT OFF CURRENT 5 mA (DU-332) |
| | | P COIL TO CORE | AC 1.0 KV r.m.s , 2SEC | | |
| | | S COIL TO CORE | AC 0.5 KV r.m.s , 2SEC | | |
| 6 | INSULATION RESISTANCE | COIL TO COIL, ANY COIL TO CORE | 100 M ohm MIN at DC 500V | | CH-19053 |
| 7 | LAYER SHORT | AC 0.5KV, 60Hz | | NO BREAK DOWN | DWX-05 IMPULSE TESTER |
| * TEST CONDITION : TEMPERATURE 20°C \pm 5°C, HUMIDITY 65% \pm 20% | | | | | |
|  DONG GUAN TOP NATION ELECTRONIC LIMITED NO.3 INDUSTRIAL AREA,JUZHOU SHIJIE TOWN DONGGUAN CHINA TEL:86-769-86632772 FAX:86-769-86315197 | | | DESIGN | CHECK | APPROVAL |
| | | | H.S HONG | S.J KIM | M.D KIM |
| | | | FILE NO. | YS19360122 | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | SHEET NO. | 15 OF 46 | |
|---|------------------|---|--|---------------|------------|
| | | | DATE | 2012. 09. 14. | |
| PART NAME | POWER TRANS | | MODEL NAME | PN020STCA | |
| PART NO. | 1400423 | | TYPE | EE2515W | |
| 20. MATERIAL LIST | | | | | |
| No | Component | Name of Material | Manufacturer Component | Class | UL file No |
| 1 | Core | EE2515WC YP2 | Young hwa ferrite co.,ltd | | |
| | | EE2515WC PL-7 | Sam wha electronics co., ltd. | | |
| | | EE2515 TP4 | TDG Holding co.,ltd | | |
| | | EE2515 DMR40 | Hengdian Group DMEGC Magnetism co., ltd. | | |
| | | EE2515 KP4 | Mianyang KAIYUAN magnetism material co., ltd. | | |
| 2 | Bobbin | 94V-0 (PM9820) PHENOL RESIN EE2515W "V TYPE" (6+3 PIN) | Sumitomo bakelite co.,ltd | B | E41429 |
| 3 | Wire | 2UEW 0.30 ϕ 2UEW 0.50 ϕ | Heng ya electric (dongguan) ltd. | B | E197768 |
| | | | Jung Shing wire co.,ltd. | B | E174837 |
| | | | Shanghai Asia pacific electric co., ltd. | B | E214423 |
| | | | Heng ya electric kun shan ltd. | B | E245514 |
| 4 | Core fixing tape | polyester film tape 0.025x12.5mm(yellow) | Jingjiang yahua pressure sensitive glue co., ltd(CT) | B | E165111 |
| 5 | Adhesive | UNIBOND-812 BK(HF) | Green star co.,ltd | | |
| | | ES928P-2 | Chemtech co.,ltd. | | |
| | | SW-860(HF) | Sungwoo chemical co., ltd. | | |
| 6 | Varnish | DVB-2085(*) | Noroo paint & coatings co ltd. | B | E93947 |
| | | ES925-43D# | Chemtech co.,ltd. | B | E258329 |
| 7 | Solder | LEAD FREE | Solnet metal industry co.,ltd Shenmao technology inc. | | |
| 8 | Flux | YF-990 | Xin yuan co.,ltd. | | |
| 9 | Marking | INK (BLACK) LABEL(Transparency) | Kk enterprise co.,ltd. | | |
|  DONG GUAN TOP NATION ELECTRONIC LIMITED NO.3 INDUSTRIAL AREA,JUZHOU SHIJIE TOWN DONGGUAN CHINA TEL:86-769-86632772 FAX:86-769-86315197 | | | DESIGN | CHECK | APPROVAL |
| | | | H.S HONG | S.J KIM | M.D KIM |
| | | | FILE NO. | YS19360122 | |

CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS

SHEET NO.

22 OF 46

DATE

2012. 12. 04.

PART NAME

POWER TRANS

MODEL NAME

PN020STCA

PART NO.

1400423

TYPE

EE2515W

22. EE CORES DIMENSIONS [EE2515W]

※ CORE INTENSITY STANDARD

-. TEST CONDITION : AikOH - 1322

-. FIXED SPEED : 20mm / MIN

TYPE

DIMENSIONS IN MM

EFFECTIVE
PARAMETERS

INTENSITY
STANDARD
(kgf MIN)

Remarks

EE2515WC

25.05
±0.50

6.95
±0.15

14.00
±0.30

17.90
±0.40

7.25
±0.25

3.95
±0.15

38.10

96.70

3687.70

3

3

Young
hwa

EE2515WC

25.05
±0.50

7.00
±0.15

14.00
±0.30

17.90
±0.40

7.25
±0.25

4.00
±0.15

36.80

92.52

3404.80

3

3

Sam
Wha

EE2515

25.05
±0.75

6.95
±0.15

14.00
±0.30

17.50
MIN

7.25
±0.25

3.95
±0.15

37.05

91.25

3380.70

3

3

TDG

EE2515

25.05
±0.75

6.95
±0.15

14.00
±0.30

17.90
±0.40

7.25
±0.25

3.95
±0.15

36.60

91.80

3359.88

3

3

DMEGC

EE2515

25.05
±0.50

6.95
±0.15

14.00
±0.30

17.90
±0.40

7.25
±0.25

3.95
±0.15

38.10

96.70

3687.70

3

3

KAIYUAN

1

A

24.93

B

7.02

C

13.85

D

17.80

E

7.24

F

4.01

2

A

24.93

B

7.03

C

13.86

D

17.82

E

7.25

F

4.08

3

A

24.95

B

7.05

C

13.84

D

17.81

E

7.23

F

4.06

4

A

24.96

B

7.04

C

13.84

D

17.80

E

7.23

F

4.02

5

A

24.95

B

7.06

C

13.84

D


17.82

E

7.24

F

4.03

 DONG GUAN TOP NATION ELECTRONIC LIMITED

NO.3 INDUSTRIAL AREA,JUZHOU SHIJIE TOWN DONGGUAN CHINA

TEL:86-769-86632772 FAX:86-769-86315197

DESIGN

CHECK

APPROVAL

H.S HONG

S.J KIM

M.D KIM

FILE NO.

YS19360122

CUSTOMER : POWERNET TECHNOLOGIES.

SPECIFICATIONS

SHEET NO.

28 OF 46

DATE _____

2012. 12. 04.

PART NAME

POWER TRANS

MODEL NAME

PN020STCA

PART NO.

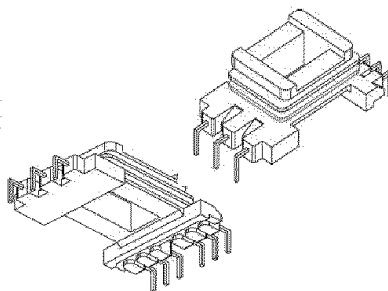
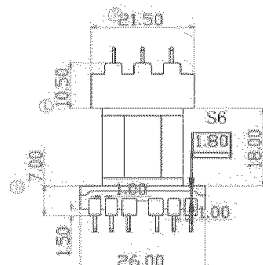
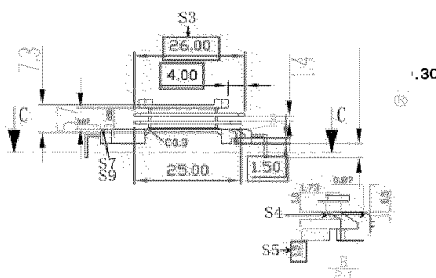
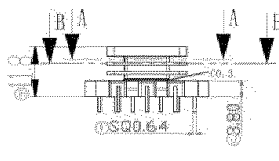
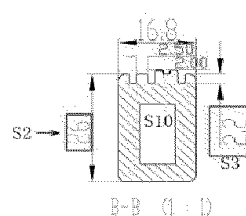
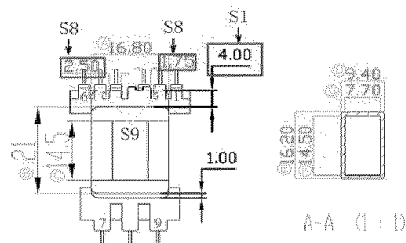
1400423

TYPE

EE2515W

28. BOBBIN

(UNIT : mm)



〈JIARUI〉

| | O | P | Q | R |
|------|------------|------------|------------|------------|
| spec | 42.14 | 6.00 | 3.50 | 4.50 |
| | ± 0.50 | ± 0.20 | ± 0.20 | ± 0.30 |
| 1 | 42.14 | 6.01 | 3.51 | 4.51 |
| 2 | 42.15 | 6.01 | 3.52 | 4.52 |
| 3 | 42.13 | 6.03 | 3.52 | 4.50 |
| 4 | 42.15 | 6.02 | 3.53 | 4.52 |
| 5 | 42.14 | 6.03 | 3.52 | 4.54 |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| spec | 16.80 | 21.00 | 14.50 | 9.40 | 16.20 | 14.50 | 7.70 | 11.80 | 0.64 | 3.80 | 21.50 | 10.50 | 7.00 | 6.00 |
| | ±0.30 | ±0.30 | ±0.20 | ±0.20 | ±0.30 | ±0.20 | ±0.20 | ±0.20 | ±0.03 | ±0.10 | ±0.30 | ±0.20 | ±0.20 | ±0.20 |
| 1 | 16.81 | 21.02 | 14.51 | 9.41 | 16.22 | 14.50 | 7.71 | 11.80 | 0.64 | 3.81 | 21.50 | 10.51 | 7.02 | 6.03 |
| 2 | 16.82 | 21.03 | 14.52 | 9.42 | 16.23 | 14.52 | 7.72 | 11.82 | 0.63 | 3.82 | 21.55 | 10.53 | 7.01 | 6.04 |
| 3 | 16.82 | 21.03 | 14.52 | 9.41 | 16.21 | 14.52 | 7.71 | 11.81 | 0.63 | 3.83 | 21.54 | 10.52 | 7.03 | 6.06 |
| 4 | 16.80 | 21.04 | 14.51 | 9.42 | 16.21 | 14.51 | 7.73 | 11.81 | 0.65 | 3.83 | 21.52 | 10.54 | 7.02 | 6.03 |
| 5 | 16.83 | 21.05 | 14.49 | 9.43 | 16.19 | 14.53 | 7.73 | 11.82 | 0.63 | 3.82 | 21.50 | 10.53 | 7.03 | 6.04 |



DONG GUAN TOP NATION ELECTRONIC LIMITED

NO.3 INDUSTRIAL AREA,JUZHOU SHIJIE TOWN DONGGUAN CHINA

TEL:86-769-86632772 FAX:86-769-86315197

DESIGN

CHECK

APPROVAL

H.S HONG

S.J. KIM

M.D KIM

FILE NO.

YS19360122



NO. _____

SPECIFICATIONS

| | |
|---------------------|---|
| DESCRIPTION | TRANS-POWER S/W |
| SPECIFICATION | EE2515W(PL-7, HE4, PC40) / 50uH |
| MAKER SPECIFICATION | |
| PART NO. | 1400423 |
| TYPE NO. | |
| MODEL NO. | PN020STCA |
| SPECIAL ARTICLES | UL INSULATION SYSTEM (CLASS B / SC-04B YCI-130 SYSTEM) |

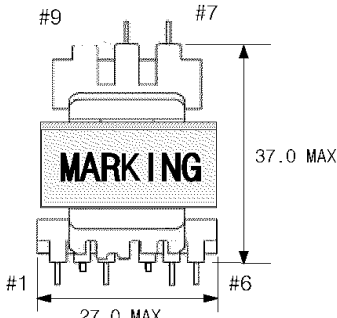
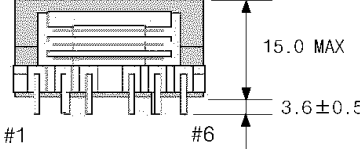
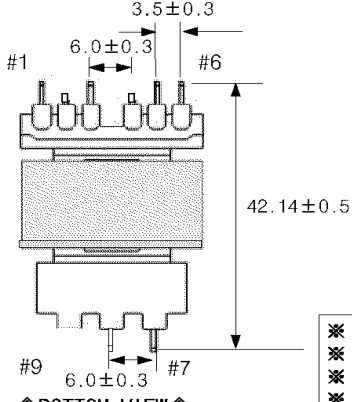
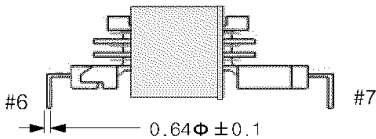
| | | |
|--------------------|----------------|----------------|
| DESIGN | CHECK | APPROVAL |
| S.J PARK | G.T KIM | S.J YOO |
| 2012. 11. 26. | 2012. 11. 26. | 2012. 11. 26. |
| A TERM OF VALIDITY | YEAR | |

Indemnification

Clover Hi-Tech will indemnify, hold harmless, and at POWERNET's request, defend POWERNET and POWERNET's directors, officers, employees, agents and independent contractors from and against any loss, cost, liability or expense (including court costs and reasonable fees of attorneys and other professionals) arising out of or resulting from any third party claim that any Products and/or Components provided by Clover Hi-Tech infringes patent, copyright, trade secret right or other intellectual property right. If Clover Hi-Tech receives notice of an alleged patent, copyright, trade secret or other intellectual property right infringement or if POWERNET's use of the Products and/or the Components provided by Clover Hi-Tech shall be prevented by permanent injunction for reasons of patent, copyright or trade secret infringement, Clover Hi-Tech may, at its sole option and expense, procure for POWERNET the right to continued use of the Products and/or the Components as provided hereunder, or modify the allegedly infringing item such that it is no longer infringing, or replace the allegedly infringing item.

| | | | |
|------------------|--|-----|-------------|
| REQUEST CUSTOMER | CLOVER Hi-Tech CO., LTD. | TEL | 02)453-0488 |
| ADDRESS | HEAD QUARTER : CLOVER BLDG., 131, Samjeon-Dong, Songpa-Gu, Seoul, Korea. FACTORY 1: 322, Sindu-Ri, Gongdo-Eup, Ansung-City, Gyeonggi-Do, Korea. FACTORY 2: 62, Shenzhen Road, Mansanzhen, Wending-City, Shan Dong, China. FACTORY 3: Chang Fa Management Area, Fu Shan Liad Bu Town, Dong Guan-City, Guang Dong P.R.China. FACTORY 4: Wuyishan Road no1 Gaoxin town Zaozhuang city.shandong P.R.,China | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | DATE | 2012.11.26 | | | | | | | | | | | | | | | | | | | | |
|--|-----------------|--|------------|------------|-----------|---------|----------|--------|------------|----------|--------|------------|----------|--------|------------|-----------------|----------|------------------|-----------------|-------------------|----------|--------------------|--|
| PART NAME | TRANS-POWER S/W | PART NO | 1400423 | | | | | | | | | | | | | | | | | | | | |
| <div>6. DIMENSION (UNIT:mm)</div> <div></div> <div>◆TOP VIEW◆</div> <div></div> <div>◆FRON VIEW◆</div> <div></div> <div>◆BOTTOM VIEW◆</div> | | <div>*MARKING(BLACK)*</div> <div>1400423 -- PART NO.</div> <div>SC-04B SC-AABBCODE -- LOT NO.</div> <div>MAKER(TRADENAME)</div> <div>INSULATION SYSTEM</div> <div>DESIGN NO(CLASS-B)</div> <div>LOT NO</div> <table><tr><th>YEAR(AA)</th><th>MONTH(BB)</th><th>DAY(CC)</th></tr><tr><td>2011Y→11</td><td>JAN→01</td><td>1st DAY→01</td></tr><tr><td>2012Y→12</td><td>FEB→02</td><td>2nd DAY→02</td></tr><tr><td>2013Y→13</td><td>DEC→12</td><td>31thDAY→31</td></tr></table> <div>PRODUCT CODE(D)</div> <div>MANUFACTURER OF CORE(E)</div> <table><tr><td>A:KOREA PRODUCT</td><td>S:SAMWHA</td></tr><tr><td>C:CHINA(WENDENG)</td><td>K:DONGYANGGUANG</td></tr><tr><td>D:CHINA(DONGGUAN)</td><td>N:JISHUN</td></tr><tr><td>E:CHINA(ZAOZHUANG)</td><td></td></tr></table> | | YEAR(AA) | MONTH(BB) | DAY(CC) | 2011Y→11 | JAN→01 | 1st DAY→01 | 2012Y→12 | FEB→02 | 2nd DAY→02 | 2013Y→13 | DEC→12 | 31thDAY→31 | A:KOREA PRODUCT | S:SAMWHA | C:CHINA(WENDENG) | K:DONGYANGGUANG | D:CHINA(DONGGUAN) | N:JISHUN | E:CHINA(ZAOZHUANG) | |
| | | YEAR(AA) | MONTH(BB) | DAY(CC) | | | | | | | | | | | | | | | | | | | |
| | | 2011Y→11 | JAN→01 | 1st DAY→01 | | | | | | | | | | | | | | | | | | | |
| | | 2012Y→12 | FEB→02 | 2nd DAY→02 | | | | | | | | | | | | | | | | | | | |
| | | 2013Y→13 | DEC→12 | 31thDAY→31 | | | | | | | | | | | | | | | | | | | |
| A:KOREA PRODUCT | S:SAMWHA | | | | | | | | | | | | | | | | | | | | | | |
| C:CHINA(WENDENG) | K:DONGYANGGUANG | | | | | | | | | | | | | | | | | | | | | | |
| D:CHINA(DONGGUAN) | N:JISHUN | | | | | | | | | | | | | | | | | | | | | | |
| E:CHINA(ZAOZHUANG) | | | | | | | | | | | | | | | | | | | | | | | |
| <div></div> <div>◆SIDE VIEW◆</div> | | | | | | | | | | | | | | | | | | | | | | | |
| <div>※ CENTER AIR GAP : TOP GAP</div> <div>※ REMOVE PIN : #9</div> <div>※ CENTER BOND : SW-860H or ES-928P-2</div> <div>※ CUTTING AFTER SOLDERING : #2,#4</div> | | | | | | | | | | | | | | | | | | | | | | | |
| DESIGN | | CHECK | APPROVAL | | | | | | | | | | | | | | | | | | | | |
| CHECK | | CHECK | CHECK | | | | | | | | | | | | | | | | | | | | |
| DATE | | DATE | DATE | | | | | | | | | | | | | | | | | | | | |
| DEPT | | DEPT | DEPT | | | | | | | | | | | | | | | | | | | | |
| CLOVER Hi-Tech CO., LTD. | | | | | | | | | | | | | | | | | | | | | | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | | DATE | 2012.11.26 | | | | | | | | | | | | | | | | | | |
|---|-----------------|--------------|--------|--|------------------------|---------------------------|-------------|-----|---------------|-------------|--|----------|---|--|---------|---|--|------------|----|--|-------------|--------|--|
| PART NAME | TRANS-POWER S/W | | | PART NO | 1400423 | | | | | | | | | | | | | | | | | | |
| 7. SCHEMATIC DIAGRAM | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th>WINDING</th> <th>BOTTOM VIEW</th> <th>C.W</th> </tr> </thead> <tbody> <tr> <td>BOBBIN INSERT</td> <td colspan="2">BOTTOM SIDE</td> </tr> <tr> <td>TUBE PIN</td> <td colspan="2">X</td> </tr> <tr> <td>N.C PIN</td> <td colspan="2">X</td> </tr> <tr> <td>REMOVE PIN</td> <td colspan="2">#9</td> </tr> <tr> <td>CUTTING PIN</td> <td colspan="2">#2, #4</td> </tr> </tbody> </table> | | WINDING | BOTTOM VIEW | C.W | BOBBIN INSERT | BOTTOM SIDE | | TUBE PIN | X | | N.C PIN | X | | REMOVE PIN | #9 | | CUTTING PIN | #2, #4 | |
| WINDING | BOTTOM VIEW | C.W | | | | | | | | | | | | | | | | | | | | | |
| BOBBIN INSERT | BOTTOM SIDE | | | | | | | | | | | | | | | | | | | | | | |
| TUBE PIN | X | | | | | | | | | | | | | | | | | | | | | | |
| N.C PIN | X | | | | | | | | | | | | | | | | | | | | | | |
| REMOVE PIN | #9 | | | | | | | | | | | | | | | | | | | | | | |
| CUTTING PIN | #2, #4 | | | | | | | | | | | | | | | | | | | | | | |
| 8. WINDING SPECIFICATION | | | | | | | | | | | | | | | | | | | | | | | |
| NO | NAME | TERMINAL NO. | | WINDING | | | | | | | | | | | | | | | | | | | |
| | | START | FINISH | WIRE | TURNS | WINDING METHOD | SECTION | | | | | | | | | | | | | | | | |
| 1 | NP1 | 3 | 2 | 2UEW 0.50 ϕ | 4 | SOLENOID | A | | | | | | | | | | | | | | | | |
| 2 | NP2 | 5 | 4 | 2UEW 0.30 ϕ | 2 | SOLENOID | | | | | | | | | | | | | | | | | |
| 3 | NS1 | 8 | 7 | 2UEW 0.50 ϕ | 4 | SOLENOID | B | | | | | | | | | | | | | | | | |
| 4 | NP3 | 2 | 1 | 2UEW 0.50 ϕ | 4 | SOLENOID | C | | | | | | | | | | | | | | | | |
| 5 | NP4 | 4 | 6 | 2UEW 0.30 ϕ | 2 | SOLENOID | | | | | | | | | | | | | | | | | |
| WIRE SPECIFICATION | | | | CONDUCTOR | | | | | | | | | | | | | | | | | | | |
| | | | | WIRE | DIAMETER[mm] | TOLERANCE OF DIAMETER[mm] | | | | | | | | | | | | | | | | | |
| | | | | 2UEW | 0.30 | ± 0.003 | | | | | | | | | | | | | | | | | |
| | | | | 2UEW | 0.50 | ± 0.003 | | | | | | | | | | | | | | | | | |
| * REGARDING ABOVE TABLE STANDARD, THICKNESS OF WIRE MUST BE OVER SPECIFICATION. | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| CLOVER Hi-Tech CO., LTD. | | | | DESIGN | CHECK | APPROVAL | PAGE | | | | | | | | | | | | | | | | |
| | | | | 朴秀品 12.11.26 技術部 | 金基泰 12.11.26 技術部 | 劉成寧 12.11.26 技術部 | 6/27 | | | | | | | | | | | | | | | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | DATE | 2012.11.26 |
|---|-----------------|--|--|
| PART NAME | TRANS-POWER S/W | PART NO | 1400423 |
| 14. CONSTRUCTION | | | |
| <div style="text-align: center;"> <p>BOTTOM A B C TOP</p> <p style="margin-top: 10px;"> - WINDING : - PS TAPE : </p> </div> | | | |
| CLOVER Hi-Tech CO., LTD. | | DESIGN | CHECK |
| | | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> 朴秀品 12.11.26 技術部 </div> | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> 金基泰 12.11.26 技術部 </div> |
| | | APPROVAL | PAGE |
| | | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> 劉成學 12.11.26 技術部 </div> | 10/27 |

CUSTOMER : POWERNET TECHNOLOGIES.

CUSTOMER : FUJIKURA TECHNOLOGIES

SPECIFICATIONS

DATE

2012.11.26

PART NAME

TRANS-POWER S/W

PART NO

1400423

15. ELECTRICAL CHARACTERISTIC

| NO | ITEM | TERMINAL | SPECIFICATION | | REMARKS |
|----|-----------------------|----------------------------------|---------------------|-------|---|
| 1 | INDUCTANCE | 3 - 1 | 50 uH | ± 10% | LCR METER HP-4284A at 100KHz,1V. |
| | | 5 - 6 | 12.0 uH | ± 25% | |
| | | 8 - 7 | 12.0 uH | ± 25% | |
| | LEAKAGE INDUCTANCE | 3 - 1 (SECONDARY ALL SHORTED) | 2.0 uH | MAX. | |
| 2 | DC RESISTANCE | 3 - 1 | 0.07 Ω | MAX. | MILLI OHM METER VP-2941A |
| | | 5 - 6 | 0.10 Ω | | |
| | | 8 - 7 | 0.03 Ω | | |
| 3 | DC CURRENT OVERLAP | 3 - 1 | 40 uH | MIN. | at 100 kHz, 1V. with 3.5Adc |
| 4 | WITHSTANDING VOLTAGE | P COIL - S COIL | AC 1.0kVrms, 2SEC. | | PUNCTURE TESTER TOS-8850 CUT OFF CURRENT (5mA) |
| | | P COIL - CORE | AC 1.0kVrms, 2SEC. | | |
| | | S COIL - CORE | AC 0.5kVrms, 2SEC. | | |
| 5 | INSULATION RESISTANCE | COIL - CORE COIL - COIL | DC 500V, 100MΩ MIN. | | PUNCTURE TESTER TOS-8850 |
| 6 | LAYER SHORT | AC 1.5KV, 60Hz | | | NO BREAK DOWN |

* TEST CONDITION : TEMPERATURE 20℃±5℃, HUMIDITY 65%±20%

CLOVER Hi-Tech CO., LTD.

| DESIGN | CHECK | APPROVAL | PAGE |
|---|---|---|---------|
| <div>朴秀品</div> <div>12.11.26</div> <div>技術部</div> | <div>金基泰</div> <div>12.11.26</div> <div>技術部</div> | <div>劉成宰</div> <div>12.11.26</div> <div>技術部</div> | 11 / 27 |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | | DATE | 2012.11.26 |
|--------------------------|------------------------|--|--|------------------------|------------------------|
| PART NAME | | TRANS-POWER S/W | | PART NO | 1400423 |
| 16. LIST OF MATERIAL | | | | | |
| NO | COMPONENT | NAME OF MATERIAL | MANUFACTURER OF MATERIAL | UL FILE NO | |
| 1 | CORE | PL-7 EE2515W HE4 EE2515W PC40 EE2515W | SAMWHA ELECTORNICS CO., LTD. RUYUAN DONGYANGGUANG MAGNETICS MATERIALS CO., LTD. SHANGHAI JISHUN MAGNETIC MATERIAL CO.,LTD. | | |
| 2 | BOBBIN | PHENOLIC 94V-0 EE2515W V" TYPE 9PIN(6+3) | SUMITOMO BAKELITE CO.,LTD.(PM-9820) | E41429 | |
| 3 | WIRE | 2UEW 0.30Ø 0.50Ø | DONGYANG ELECTRONICS IND CO.,LTD.(UEW MW75) CNI CABLE CO.,LTD.(UEW MW75) | E102761 E210918 | |
| 4 | CORE FIXING TAPE | POLYESTER FILM TAPE 0.025T×12.5W(Y) | METAL LINE CO.,LTD.(Cat.No. 800(a)) JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD.(Cat.No. PZ) | E162848 E165111 | |
| 5 | ADHESIVE | EPOXY RESIN ES-928P-2 SW-860HF | CHEM TECH CO.,LTD. SUNGWOO CHEMICAL CO.,LTD. | | |
| 6 | SOLDER | BAR, WIRE | ALPHA METALS CO.,LTD. | | |
| | FLUX | EF-9301 JS-7000S-2 | ALPHA METALS CO.,LTD. KOKI KOREA CO.,LTD. | | |
| 7 | VARNISH | DVB-2085(*) | NOROO PAINT & COATINGS CO.,LTD. | E93947 | |
| 8 | MARKING | INK(Black) | HITACHI CHEMICAL CO.,LTD. | | |
| CLOVER Hi-Tech CO., LTD. | | | DESIGN | CHECK | APPROVAL |
| | | | 朴秀品 12.11.26 技術部 | 金基泰 12.11.26 技術部 | 劉成學 12.11.26 技術部 |
| | | | PAGE | | |
| | | | 16/27 | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| | | | |
|----------------|-----------------|---------|------------|
| SPECIFICATIONS | | DATE | 2012.11.26 |
| PART NAME | TRANS-POWER S/W | PART NO | 1400423 |

※ CORE DIMENSION ※

The diagram illustrates the core dimensions. The top view shows a rectangular core with an outer dimension A (height) and B (width), and an inner dimension F (width). The side view shows a rectangular core with a height D, a width C, and a thickness E.

| TYPE | DIMENSION(mm) | | | | | | EFFECTIVE PARAMETER | | | REMARKS |
|---------|---------------|---------------|----------------|----------------|---------------|---------------|---------------------|----------------------|----------------------|-------------------|
| | A | B | C | D | E | F | Le(mm) | Ae(mm ²) | Ve(cm ³) | |
| EE2515W | 25.05 ±0.5 | 7.00 ±0.15 | 14.00 ±0.30 | 17.90 ±0.40 | 7.25 ±0.25 | 4.00 ±0.15 | 36.8 | 92.52 | 3404.8 | SAMMHA |
| EE2515W | 25.05 ±0.5 | 7.00 ±0.15 | 14.00 ±0.30 | 17.90 ±0.40 | 7.25 ±0.25 | 4.00 ±0.15 | 36.83 | 92.36 | 3402.4 | DONGYANG GUANG |
| EE2515W | 25.05 ±0.5 | 7.00 ±0.15 | 14.00 ±0.30 | 17.90 ±0.40 | 7.25 ±0.25 | 4.00 ±0.15 | 36.83 | 92.36 | 3402.4 | JISHUN |

| | | | | |
|--------------------------|---|---|---|---------|
| CLOVER Hi-Tech CO., LTD. | DESIGN | CHECK | APPROVAL | PAGE |
| | <div>朴秀品</div> <div>12.11.26</div> <div>技術部</div> | <div>金基泰</div> <div>12.11.26</div> <div>技術部</div> | <div>劉成宰</div> <div>12.11.26</div> <div>技術部</div> | 17 / 27 |

CUSTOMER : POWERNET TECHNOLOGIES.

[illegible]

| | |
|----|-----------|
| NO | TC-1007-1 |
|----|-----------|

SPECIFICATIONS

TO MESSRS : 파워넷

CUSTOMERS MODEL :

CUSTOMERS PART NO :

ITEM : LINE FILTER

TNC SPEC NO. : CV430060SHA

| APPROVED | REFERENCE |
|----------|-----------|
| | |

DATE : 2012. 10. 18

TNC (株)TNC

#304-29 Asan Valley, DunPo-Myeon, Asan-Si, Chung Cheong

Nam-Do, KOREA 336-871

TEL : 82-41-530-9600

FAX : 82-41-530-9697

NOTICE : After received this approval sheet and finished it's approval,
please return back one copy. In case of you don't any reply until
initial order date, this approval sheet is to be standard approval
and initial order date is to be approved date for concerning item.

| SPECIFICATIONS | ITEM | | LINE FILTER | | | Rev |
|----------------|-------------|--|-------------|--|--|-----|
| | TNC SPEC NO | | CV430060SHA | | | 0 |

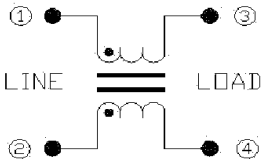
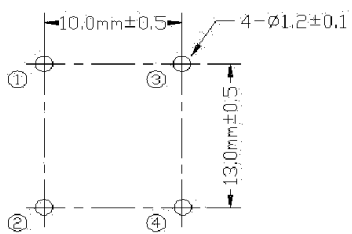
2. ELECTRICAL CHARACTERISTIC

| NO | ITEM | TERMINAL | SPECIFICATION | | | REMARKS |
|----|-----------------------|------------------|---------------------|-------|-------------|--|
| 1 | RATED VOLTAGE | LINE TO LINE | AC 250V | | | |
| 2 | RATED CURRENT | START-FINISH | 3.0A | | | |
| 3 | INDUCTANCE | START-FINISH | 16KHz | 6.0mH | + 50%, -30% | HP-4194A 1V (25℃±2℃) |
| 4 | TEMPERATURE RISE | AT RATED CURRENT | 55℃ MAX | | | |
| 5 | DC RESISTANCE | START-FINISH | 92.0 mΩ MAX | | | HIOKI 3540 (25℃±2℃) |
| 6 | WITHSTANDING VOLTAGE | LINE TO LINE | AC 1,500V 1 MINUTE. | | | TOS-5101 CUT OFF CURRENT (0.5mA) |
| 7 | INSULATION RESISTANCE | LINE TO COVER | DC 500V, 300MΩ MIN. | | | TOS-8850 |

3. OPERATING TEMPERATURE RANGE
-25℃ TO +120℃ INCLUDING TEMPERATURE RISE.

4. KEEP TEMPERATURE RANGE
-10℃ ~ +60℃.

5. CIRCUIT DIAGRAM

Minimum PCB Piercing HOLE

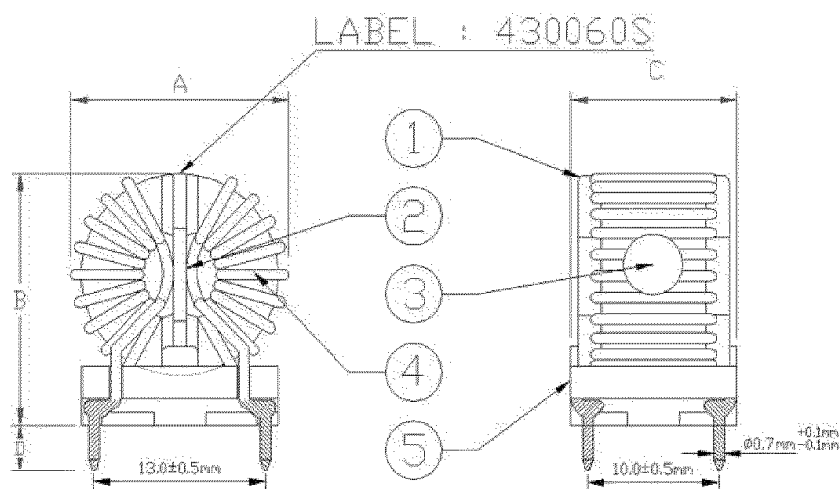
| | | | | |
|------------------------|---|--|--|------|
| TNC TNC CO.,LTD | DESIGN | CHECK | APPROVAL | PAGE |
| | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> CHOL.J.K 12.09.20 R&D </div> | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> CHO.B.O 12.09.20 R&D </div> | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> HWANG.S.H 12.09.20 R&D </div> | 3/13 |

| | | | |
|----------------|-------------|-------------|-----|
| SPECIFICATIONS | ITEM | LINE FILTER | Rev |
| | TNC SPEC NO | CV430060SHA | 0 |

6. WINDING SPECIFICATION

| NO | TERMINAL | | WIRE | TURNS | WINDING METHOD | UNBALANCE SPECIFICATION |
|----|----------|--------|-----------|---------|----------------|-------------------------------------|
| | START | FINISH | | | | |
| L1 | 1 | 3 | UEW 0.55Φ | 28 ±2Ts | HANDMADE | BETWEEN L1 AND L2 (0.4mH MAX) |
| L2 | 2 | 4 | | | | |

7. SHAPE AND DIMENSION



| DIMENSION | A | B | C | D |
|-----------|------------|------------|------------|-------------|
| | 18.0mm MAX | 18.0mm MAX | 14.5mm MAX | 4.0 ± 1.0mm |

TNC TNC CO.,LTD

| DESIGN | CHECK | APPROVAL | PAGE |
|---|---|---|------|
| <div>CHOLJ.K</div> <div>12.09.20</div> <div>R&D</div> | <div>CHO.B.O</div> <div>12.09.20</div> <div>R&D</div> | <div>HWANG.S.H</div> <div>12.09.20</div> <div>R&D</div> | 4/13 |

| SPECIFICATIONS | | ITEM | LINE FILTER | Rev |
|----------------|--|-------------|-------------|-----|
| | | TNC SPEC NO | CV430060SHA | 0 |

8. MATERIAL LIST

| No. | NAME | SPECIFICATION | | MANUFACTURER | COLOR | UL No. |
|------------------|---|---|--------|---|--------|---------|
| 1 / / 2 | Core Cover / Core Separator | NYLON A 50H1(r3)(f2) | | RHODIA ENGINEERING PLASTICS | BLACK | E44716 |
| | | PBT LUPOX GP-2156F | | LG Chemical Ltd | WHITE | E67171 |
| | | PBT 1500GN-(k) | | SAM YANG Corporation | WHITE | E121254 |
| 3 | Ferrite Core | MA100 R-14-8-7 HM5A T 1407 SM100 OR 14X7-8H | | JFE Ferrite Corp TODA ISU Ceramics Co.,Ltd SAMHWA ELECTRONICS | BLACK | |
| 4 | Enamel Wire | UEW 0.55Φ / 28±2Ts | UEW(B) | Dongyang Electronics Ind Co.,Ltd | YELLOW | E102761 |
| | | | UEW | Hwa Il Electronics Co.,Ltd | YELLOW | E140246 |
| 5 | Coil Base | Phenolic (PF2736) UL 94 V-0 Class | | MOMENTIVE Specialty Chemical Gmbh | BLACK | E61040 |
| | | Phenolic (T375HF) UL 94 V-0 Class | | CHANG CHUN Plastics Co.,Ltd | BLACK | E59481 |

9. MARKING

| MODEL | LABEL | COLOR |
|-------------|---------|---------------------------|
| CV430060SHA | 430060S | Black letters on White |

| | | | | |
|------------------------|--|---|---|------|
| TNC TNC CO.,LTD | DESIGN | CHECK | APPROVAL | PAGE |
| | <div>CHOI J.K 12.09.20 R&D</div> | <div>CHO B.O 12.09.20 R&D</div> | <div>HWANG S.H 12.09.20 R&D</div> | 5/13 |

| SPECIFICATIONS | ITEM | LINE FILTER | Rev |
|----------------|-------------|-------------|-----|
| | TNC SPEC NO | CV430060SHA | 0 |

15. FERRITE CORE SPECIFICATION

- Characteristics

| Symbol | Unit | MA100 R-14/8/7 | HM5A T 1407 | SM100 OR 14X7-8H |
|------------|----------------------|----------------|-------------|------------------|
| μ_i | - | 10,000±30% | 10,000±30% | 10,000±25% |
| Bms | mT | 415 | 410 | 410 |
| Hcms | A/m | 3.0 | 3.0 | 3.0 |
| Brms | mT | 76 | 80 | 90 |
| Tc | ℃ | >115 | >115 | >120 |
| TANδ /μiac | *10 ⁻⁶ | <1.9 | <6.0 | <3.0 |
| αμr | *10 ⁻⁶ /℃ | -0.5~2.0 | -0.15~1.0 | -0.5~2.0 |
| ρ | Ω.m | 0.1 | 0.13 | 0.2 |
| d | g/cm ³ | 5.0 | 4.9 | 4.95 |

- Dimension

A: 14.0 ±0.35 B: 8.0 ±0.30 C: 7.0 ±0.3

| | | | | |
|------------------------|--|---|---|------|
| TNC TNC CO.,LTD | DESIGN | CHECK | APPROVAL | PAGE |
| | <div>CHOI J.K</div> <div>12.09.20</div> <div>R&D</div> | <div>CHO B.O</div> <div>12.09.20</div> <div>R&D</div> | <div>HWANG S.H</div> <div>12.09.20</div> <div>R&D</div> | 9/13 |



PN개발-승-12255

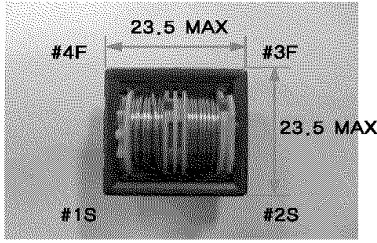
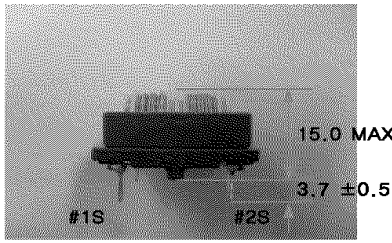
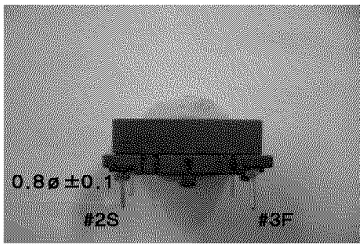
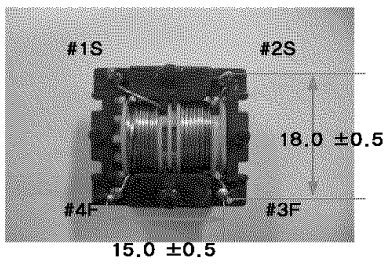
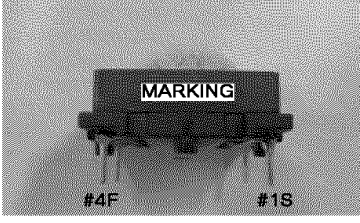
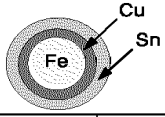

- 원도 품평일배판: 2012.12.27
 - 원도 승인배판: 2013.01.02
 → 재 배판 사유: Hafe 4276 (0.45mm → 0.43mm)
 - 2차 품평일배판: 2013.01.15
 → 변경배판 (0.43mm → 0.45mm)
 - 2차 품평일배판: 2013.01.17
 → 4차 배판 = 17030.10.426
 0.75mm → 0.76mm

SPECIFICATIONS

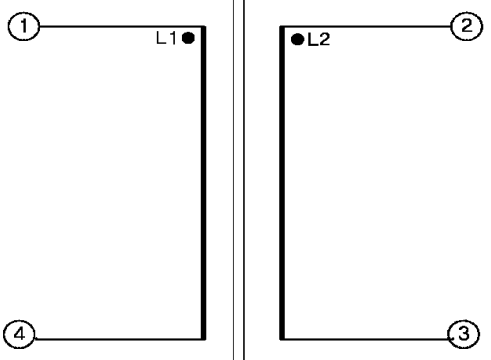
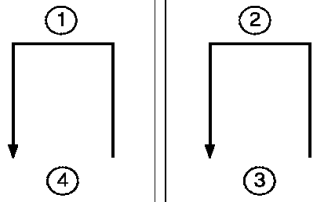

| | | |
|--|--|---|
| | LINE FILTER | |
| SPECIFICATION | 14.0mH EE2020 (TL13) | |
| MAKER SPECIFICATION | SQE2020 / YS19320028 | |
| CODE NO | 1420603-A03 | |
| MODEL NO | L32,46SF_DPN | |
| SPECIAL ARTICLES | | |
| <div>APPROVAL Powernet Doc <i>Pohyok</i></div> DESIGN | <div>MODEL: 김성준 인 CHECK / 1/17 (주) 파워넷 연구소</div> | <div>11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 No. 2013. 01. 18 APPROVAL 김성준 인 (주) 파워넷 연구소</div> |
| H.S HONG | S.J KIM | M.D KIM |
| 2013. 01. 16. | 2013. 01. 16. | 2013. 01. 16. |
| A TERM OF VALIDITY | YEAR | |

| | | | |
|------------------|--|-----|-----------------|
| REQUEST CUSTOMER | YAO SHENG ELECTRONIC CO.,LTD | TEL | (02)22693789 |
| | | FAX | (02)22696759 |
| ADDRESS | 10F., NO.95, ZHONGCHENG RD., TUCHENG CITY, TAIPEI COUNTY 236, TAIWAN R.O.C | | |
| REQUEST CUSTOMER | DONG GUAN TOP NATION ELECTRONIC LIMITED | TEL | 86-769-86632772 |
| | | FAX | 86-769-86315197 |
| ADDRESS | NO.3 INDUSTRIAL AREA, JUZHOU SHIJIE TOWN DONGGUAN GUANGDONG CHINA | | |
| REQUEST CUSTOMER | TOP NATION(SU ZHOU) ELECTRONIC LIMITED | TEL | 86-512-63271988 |
| | | FAX | 86-512-63271990 |
| ADDRESS | WUJIANG FENHU ECONOMIC DEVELOPMENT ZONE JIANGSU PROVINCE CHINA | | |


CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | | SHEET NO. | | 4 OF 30 | |
|--|--|----------------------|-----|--|-----|--|-----|
| | | | | DATE | | 2013. 01. 15. | |
| PART NAME | | LINE FILTER | | MODEL NAME | | L32.46SF_DPN | |
| PART NO. | | 1420603 | | TYPE | | SQE2020 | |
| 6. APPEARANCE & DIMENSION << TOP VIEW >>  | | | | * MARKING(BLACK) : 1420603 TNS1301CT | | | |
| 1420603 | | PART No. | | | | | |
| TN | | DONG GUAN TOP NATION | | CHINA FACTORY ID | | | |
| TNS | | TOP NATION(SU ZHOU) | | | | | |
| 13 | | Year | | 2013 : 13 2014 : 14... | | | |
| 01 | | Lot No | | Week | | First Week : 01 Second Week : 02... | |
| C | | DAY | MON | TUE | WED | THU | FRI |
| | | | A | B | C | D | E |
| | | | F | G | | | |
| T | | MANUFACTURER OF CORE | | | | | |
| | | T | TDG | | | | |
| | | | | | | | |
| << FRONT VIEW >>  | | | | << SIDE VIEW >>  | | | |
| << BOTTOM VIEW >>  | | | |  | | | |
| | | | | * PIN 도금 사양  | | | |
|  DONG GUAN TOP NATION ELECTRONIC LIMITED NO. 3 INDUSTRIAL AREA, JUZHOU SHIJIE TOWN DONGGUAN GUANGDONG CHINA TEL:86-769-86632772 FAX:86-769-86315197 | | DESIGN | | CHECK | | APPROVAL | |
| | | H.S HONG | | S.J KIM | | M.D KIM | |
| | | FILE NO. | | YS19320028 | | | |


CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | | SHEET NO. | | 5 OF 30 | |
|---|--------|-------------|--------------|--|---------------------------|----------------|---------|
| | | | | DATE | | 2013. 01. 15. | |
| PART NAME | | LINE FILTER | | MODEL NAME | | L32,46SF_DPN | |
| PART NO. | | 1420603 | | TYPE | | SQE2020 | |
| 7. SCHEMATIC DIAGRAM | | | | | | | |
|  | | | |  | | | |
| WINDING | | BOTTOM VIEW | | C.C.W | | | |
| BOBBIN INSERT | | SIDE INSERT | | | | | |
| REMOVE PIN | | - | | | | | |
| N.C PIN | | - | | | | | |
| CUT PIN | | - | | | | | |
| TUBE PIN | | - | | | | | |
| 8. WINDING SPECIFICATION | | | | | | | |
| WINDING ORDER | SYMBOL | TERMINAL NO | | WIRE | TURNS | WINDING METHOD | REMARKS |
| W1 | L1 | 1 | 4 | 2UEW 0.45φ | 47±1 | SOLENOID | |
| W2 | L2 | 2 | 3 | 2UEW 0.45φ | 47±1 | SOLENOID | |
| WIRE SPECIFICATION | | CONDUCTOR | | | | | |
| | | WIRE | DIAMETER(mm) | | TOLERANCE OF DIAMETER(mm) | | |
| | | 2UEW | 0.45 | | ±0.003 | | |
| ◇ REGARDING ABOVE TABLE STANDARD, THICKNESS OF WIRE MUST BE OVER SPECIFICATION RANGE. | | | | | | | |
|  DONG GUAN TOP NATION ELECTRONIC LIMITED NO. 3 INDUSTRIAL AREA, JUZHOU SHIJIE TOWN DONGGUAN GUANGDONG CHINA TEL:86-769-86632772 FAX:86-769-86315197 | | | | DESIGN | CHECK | APPROVAL | |
| | | | | H.S HONG | S.J KIM | M.D KIM | |
| | | | | FILE NO. | YS19320028 | | |

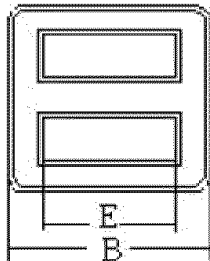
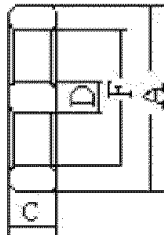

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | SHEET NO. | 7 OF 30 | |
|---|-----------------------|-----------------------------------|-----------------------------------|---------------|--|
| | | | DATE | 2013. 01. 15. | |
| PART NAME | LINE FILTER | | MODEL NAME | L32.46SF_DPN | |
| PART NO. | 1420603 | | TYPE | SQE2020 | |
| 15. ELECTRICAL CHARACTERISTIC | | | | | |
| No | CLOSURE | TERMINAL | ELECTRICAL CHARACTERISTICS | TOLERANCE | CONDITION |
| 1 | INDUCTANCE | 1 - 4 | 14.0 mH | ±35% | HP-4284A LCR-METER at 100 KHz 1.0 Vrms (25℃) |
| | | 2 - 3 | | | |
| 2 | DIFFERENCE INDUCTANCE | L1 - L2 | 0.75 mH | MAX | |
| 3 | DC RESISTANCE | 1 - 4 | 0.240 Ω | MAX | CH-502A at 25℃ |
| | | 2 - 3 | | | |
| 5 | WITHSTANDING VOLTAGE | COIL TO COIL | AC <u>0.5</u> KV r.m.s , 1 MINUTE | | CUT OFF CURRENT 5 mA (DU-332) |
| | | COIL TO CORE | AC <u>0.5</u> KV r.m.s , 1 MINUTE | | |
| 6 | INSULATION RESISTANCE | COIL TO COIL, ANY COIL TO CORE | 100 M ohm MIN at DC 500V | | CH-19053 |
| 7 | LAYER SHORT | AC 1.5KV, 60Hz | | NO BREAK DOWN | DWX-05 IMPULSE TESTER |
| * TEST CONDITION : TEMPERATURE 20℃±5℃, HUMIDITY 65%±20% | | | | | |
|  DONG GUAN TOP NATION ELECTRONIC LIMITED NO. 3 INDUSTRIAL AREA, JUZHOU SHIJIE TOWN DONGGUAN GUANGDONG CHINA TEL:86-769-86632772 FAX:86-769-86315197 | | | DESIGN | CHECK | APPROVAL |
| | | | H.S HONG | S.J KIM | M.D KIM |
| | | | FILE NO. | YS19320028 | |

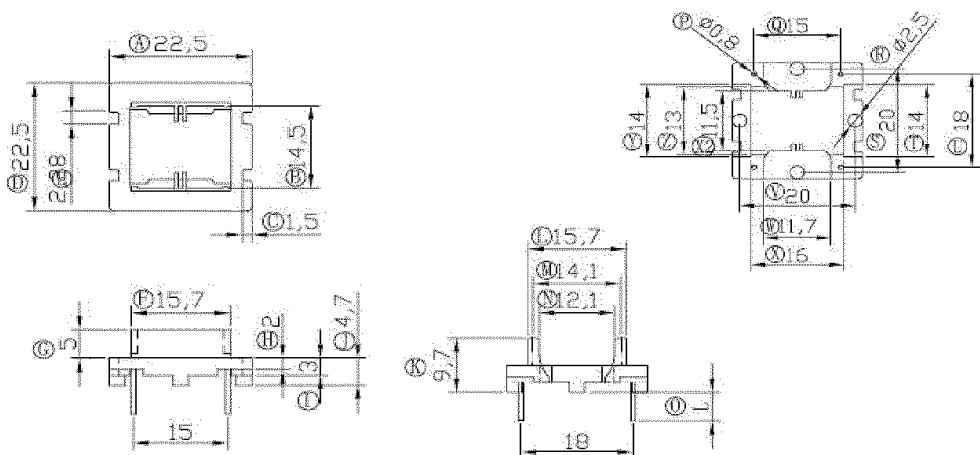

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | SHEET NO. | 10 OF 30 | | |
|---|-------------|--|--|-------------|-------------------------------|
| | | DATE | 2013. 01. 15. | | |
| PART NAME | LINE FILTER | MODEL NAME | L32,46SF_DPN | | |
| PART NO. | 1420603 | TYPE | SQE2020 | | |
| 17. CONSTRUCTION | | | | | |
| | | | | | |
| 18. MATERIAL LIST | | | | | |
| No | Component | Name of Material | Manufacturer Component | Class | UL file No |
| 1 | Core | SQE2020 TL13 | TDG Holding co.,Ltd | | |
| 2 | Bobbin | 94V-0 (PF2736(a)(b)) PHENOL RESIN SQE2020 "H" (4P) | Momentive specialty chemicals gmbh co.,Ltd | B | E61040 |
| 3 | Gear | 94V-0 P.E.T (FR530) SQE2020(2F) | E I dupont de nemours & co., inc | F | E41938 |
| 4 | Wire | 2UEW 0.45φ | Jung Shing wire co.,Ltd. Shanghai Asia pacific electric co., Ltd. Heng ya electric kun shan Ltd. | B B B | E174837 E214423 E245514 |
| 5 | Varnish | DVB-2085(*) ES925-43D# | Noroo paint & coatings co Ltd. Chemtech co.,Ltd. | B B | E93947 E258329 |
| 6 | Solder | LEAD FREE | Solnet metal industry co.,Ltd Shenmao technology inc. | | |
| 7 | Flux | YF-990 | Xin yuan co.,Ltd. | | |
| 8 | Marking | INK(black) LABEL(transparency) | Kk enterprise co.,Ltd. | | |
|  DONG GUAN TOP NATION ELECTRONIC LIMITED NO. 3 INDUSTRIAL AREA, JUZHOU SHIJIE TOWN DONGGUAN GUANGDONG CHINA TEL:86-769-86632772 FAX:86-769-86315197 | | | | | |
| | | DESIGN | CHECK | APPROVAL | |
| | | H.S HONG | S.J KIM | M.D KIM | |
| | | FILE NO. | YS19320028 | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | | | | | SHEET NO. | | 15 OF 30 | | | |
|---|------------------|----------------|---------------|---------------|--------------|--------------|----------------------|----------------------|----------------------|---------|----------|--|
| | | | | | | | DATE | | 2013. 01. 15. | | | |
| PART NAME | | | LINE FILTER | | | | MODEL NAME | | L32.46SF_DPN | | | |
| PART NO. | | | 1420603 | | | | TYPE | | SQE2020 | | | |
| 18. UU CORES DIMENSIONS (UNIT : mm) | | | | | | | | | | | | |
|   | | | | | | | | | | | | |
| TYPE | DIMENSIONS IN MM | | | | | | EFFECTIVE PARAMETERS | | | Remarks | | |
| | A | B | C | D | E | F | le(mm) | Ae(mm ²) | Ve(mm ³) | | | |
| UU1014S | 20.10 ±0.40 | 20.10 ±0.40 | 5.40 ±0.20 | 4.00 ±0.20 | 15.90 MIN | 15.90 MIN | 50.77 | 22.05 | 1119.5 | TDG | | |
| | A | | B | | C | | D | | E | | F | |
| 1 | 20.12 | | 20.18 | | 5.42 | | 4.06 | | 15.96 | | 15.97 | |
| 2 | 20.18 | | 20.18 | | 5.47 | | 4.07 | | 15.92 | | 15.96 | |
| 3 | 20.18 | | 20.15 | | 5.45 | | 4.05 | | 15.92 | | 15.98 | |
| 4 | 20.18 | | 20.13 | | 5.47 | | 4.06 | | 15.98 | | 15.97 | |
| 5 | 20.17 | | 20.16 | | 5.46 | | 4.06 | | 15.97 | | 15.99 | |
|  DONG GUAN TOP NATION ELECTRONIC LIMITED NO. 3 INDUSTRIAL AREA, JUZHOU SHIJIE TOWN DONGGUAN GUANGDONG CHINA TEL:86-769-86632772 FAX:86-769-86315197 | | | | | | | DESIGN | | CHECK | | APPROVAL | |
| | | | | | | | H.S HONG | | S.J KIM | | M.D KIM | |
| | | | | | | | FILE NO. | | YS19320028 | | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | SHEET NO. | 17 OF 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|------------|---------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|------|---|-------|-------|------|-------|------|-------|------|------|------|------|------|-------|-------|-------|------|---|-------|-------|------|-------|------|-------|------|------|------|------|------|-------|-------|-------|------|
| | | DATE | 2013. 01. 15. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PART NAME | LINE FILTER | MODEL NAME | L32.46SF_DPN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PART NO. | 1420603 | TYPE | SQE2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div>20. BOBBIN DIMENSIONS</div> <div>(UNIT : mm)</div> </div> <div style="text-align: right; margin-top: 10px;">(DONG YUAN)</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th>P</th><th>Q</th><th>R</th><th>S</th><th>T</th><th>U</th><th>V</th><th>W</th><th>X</th><th>Y</th><th>Z</th></tr> </thead> <tbody> <tr> <td>0.80</td><td>15.00</td><td>2.50</td><td>20.00</td><td>14.00</td><td>18.00</td><td>20.00</td><td>11.70</td><td>16.00</td><td>14.00</td><td>13.00</td></tr> <tr> <td>±0.10</td><td>±0.20</td><td>±0.10</td><td>±0.30</td><td>±0.20</td><td>±0.30</td><td>±0.10</td><td>±0.20</td><td>±0.20</td><td>±0.20</td><td>±0.20</td></tr> <tr> <td>0.81</td><td>15.01</td><td>2.52</td><td>20.00</td><td>14.01</td><td>18.00</td><td>20.00</td><td>11.71</td><td>16.01</td><td>14.00</td><td>13.01</td></tr> <tr> <td>0.80</td><td>15.00</td><td>2.55</td><td>20.01</td><td>14.05</td><td>18.01</td><td>20.01</td><td>11.70</td><td>16.02</td><td>14.02</td><td>13.02</td></tr> <tr> <td>0.80</td><td>15.00</td><td>2.52</td><td>20.00</td><td>14.00</td><td>18.00</td><td>20.00</td><td>11.71</td><td>16.01</td><td>14.01</td><td>13.01</td></tr> <tr> <td>0.85</td><td>15.05</td><td>2.51</td><td>20.00</td><td>14.02</td><td>18.00</td><td>20.00</td><td>11.72</td><td>16.03</td><td>14.02</td><td>13.03</td></tr> <tr> <td>0.82</td><td>15.02</td><td>2.51</td><td>20.02</td><td>14.01</td><td>18.03</td><td>20.00</td><td>11.71</td><td>16.03</td><td>14.03</td><td>13.00</td></tr> </tbody> </table> | | | | | P | Q | R | S | T | U | V | W | X | Y | Z | 0.80 | 15.00 | 2.50 | 20.00 | 14.00 | 18.00 | 20.00 | 11.70 | 16.00 | 14.00 | 13.00 | ±0.10 | ±0.20 | ±0.10 | ±0.30 | ±0.20 | ±0.30 | ±0.10 | ±0.20 | ±0.20 | ±0.20 | ±0.20 | 0.81 | 15.01 | 2.52 | 20.00 | 14.01 | 18.00 | 20.00 | 11.71 | 16.01 | 14.00 | 13.01 | 0.80 | 15.00 | 2.55 | 20.01 | 14.05 | 18.01 | 20.01 | 11.70 | 16.02 | 14.02 | 13.02 | 0.80 | 15.00 | 2.52 | 20.00 | 14.00 | 18.00 | 20.00 | 11.71 | 16.01 | 14.01 | 13.01 | 0.85 | 15.05 | 2.51 | 20.00 | 14.02 | 18.00 | 20.00 | 11.72 | 16.03 | 14.02 | 13.03 | 0.82 | 15.02 | 2.51 | 20.02 | 14.01 | 18.03 | 20.00 | 11.71 | 16.03 | 14.03 | 13.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P | Q | R | S | T | U | V | W | X | Y | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.80 | 15.00 | 2.50 | 20.00 | 14.00 | 18.00 | 20.00 | 11.70 | 16.00 | 14.00 | 13.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ±0.10 | ±0.20 | ±0.10 | ±0.30 | ±0.20 | ±0.30 | ±0.10 | ±0.20 | ±0.20 | ±0.20 | ±0.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.81 | 15.01 | 2.52 | 20.00 | 14.01 | 18.00 | 20.00 | 11.71 | 16.01 | 14.00 | 13.01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.80 | 15.00 | 2.55 | 20.01 | 14.05 | 18.01 | 20.01 | 11.70 | 16.02 | 14.02 | 13.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.80 | 15.00 | 2.52 | 20.00 | 14.00 | 18.00 | 20.00 | 11.71 | 16.01 | 14.01 | 13.01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.85 | 15.05 | 2.51 | 20.00 | 14.02 | 18.00 | 20.00 | 11.72 | 16.03 | 14.02 | 13.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.82 | 15.02 | 2.51 | 20.02 | 14.01 | 18.03 | 20.00 | 11.71 | 16.03 | 14.03 | 13.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th></th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th><th>G</th><th>H</th><th>I</th><th>J</th><th>K</th><th>L</th><th>M</th><th>N</th><th>O</th></tr> </thead> <tbody> <tr> <td>Spec</td><td>22.50</td><td>14.50</td><td>1.50</td><td>22.50</td><td>2.28</td><td>15.70</td><td>5.00</td><td>2.00</td><td>3.00</td><td>4.70</td><td>9.70</td><td>15.70</td><td>14.10</td><td>12.10</td><td>3.70</td></tr> <tr> <td></td><td>±0.30</td><td>±0.20</td><td>±0.10</td><td>±0.30</td><td>±0.10</td><td>±0.20</td><td>±0.20</td><td>±0.10</td><td>±0.10</td><td>±0.20</td><td>±0.20</td><td>±0.20</td><td>±0.20</td><td>±0.20</td><td>±0.10</td></tr> <tr> <td>1</td><td>22.51</td><td>14.01</td><td>1.51</td><td>22.51</td><td>2.32</td><td>15.72</td><td>5.02</td><td>2.01</td><td>3.01</td><td>4.72</td><td>9.71</td><td>15.71</td><td>14.11</td><td>12.11</td><td>3.71</td></tr> <tr> <td>2</td><td>22.50</td><td>14.02</td><td>1.53</td><td>22.51</td><td>2.30</td><td>15.71</td><td>5.01</td><td>2.00</td><td>3.00</td><td>4.70</td><td>9.72</td><td>15.70</td><td>14.12</td><td>12.12</td><td>3.72</td></tr> <tr> <td>3</td><td>22.53</td><td>14.05</td><td>1.53</td><td>22.52</td><td>2.31</td><td>15.72</td><td>5.04</td><td>2.02</td><td>3.00</td><td>4.71</td><td>9.70</td><td>15.72</td><td>14.11</td><td>12.11</td><td>3.71</td></tr> <tr> <td>4</td><td>22.51</td><td>14.02</td><td>1.52</td><td>22.50</td><td>2.29</td><td>15.73</td><td>5.00</td><td>2.02</td><td>3.01</td><td>4.71</td><td>9.71</td><td>15.72</td><td>14.13</td><td>12.13</td><td>3.73</td></tr> <tr> <td>5</td><td>22.52</td><td>14.03</td><td>1.51</td><td>22.52</td><td>2.29</td><td>15.69</td><td>5.02</td><td>2.00</td><td>3.02</td><td>4.73</td><td>9.72</td><td>15.70</td><td>14.13</td><td>12.13</td><td>3.73</td></tr> </tbody> </table> | | | | | | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | Spec | 22.50 | 14.50 | 1.50 | 22.50 | 2.28 | 15.70 | 5.00 | 2.00 | 3.00 | 4.70 | 9.70 | 15.70 | 14.10 | 12.10 | 3.70 | | ±0.30 | ±0.20 | ±0.10 | ±0.30 | ±0.10 | ±0.20 | ±0.20 | ±0.10 | ±0.10 | ±0.20 | ±0.20 | ±0.20 | ±0.20 | ±0.20 | ±0.10 | 1 | 22.51 | 14.01 | 1.51 | 22.51 | 2.32 | 15.72 | 5.02 | 2.01 | 3.01 | 4.72 | 9.71 | 15.71 | 14.11 | 12.11 | 3.71 | 2 | 22.50 | 14.02 | 1.53 | 22.51 | 2.30 | 15.71 | 5.01 | 2.00 | 3.00 | 4.70 | 9.72 | 15.70 | 14.12 | 12.12 | 3.72 | 3 | 22.53 | 14.05 | 1.53 | 22.52 | 2.31 | 15.72 | 5.04 | 2.02 | 3.00 | 4.71 | 9.70 | 15.72 | 14.11 | 12.11 | 3.71 | 4 | 22.51 | 14.02 | 1.52 | 22.50 | 2.29 | 15.73 | 5.00 | 2.02 | 3.01 | 4.71 | 9.71 | 15.72 | 14.13 | 12.13 | 3.73 | 5 | 22.52 | 14.03 | 1.51 | 22.52 | 2.29 | 15.69 | 5.02 | 2.00 | 3.02 | 4.73 | 9.72 | 15.70 | 14.13 | 12.13 | 3.73 |
| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spec | 22.50 | 14.50 | 1.50 | 22.50 | 2.28 | 15.70 | 5.00 | 2.00 | 3.00 | 4.70 | 9.70 | 15.70 | 14.10 | 12.10 | 3.70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ±0.30 | ±0.20 | ±0.10 | ±0.30 | ±0.10 | ±0.20 | ±0.20 | ±0.10 | ±0.10 | ±0.20 | ±0.20 | ±0.20 | ±0.20 | ±0.20 | ±0.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 22.51 | 14.01 | 1.51 | 22.51 | 2.32 | 15.72 | 5.02 | 2.01 | 3.01 | 4.72 | 9.71 | 15.71 | 14.11 | 12.11 | 3.71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 22.50 | 14.02 | 1.53 | 22.51 | 2.30 | 15.71 | 5.01 | 2.00 | 3.00 | 4.70 | 9.72 | 15.70 | 14.12 | 12.12 | 3.72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 22.53 | 14.05 | 1.53 | 22.52 | 2.31 | 15.72 | 5.04 | 2.02 | 3.00 | 4.71 | 9.70 | 15.72 | 14.11 | 12.11 | 3.71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 22.51 | 14.02 | 1.52 | 22.50 | 2.29 | 15.73 | 5.00 | 2.02 | 3.01 | 4.71 | 9.71 | 15.72 | 14.13 | 12.13 | 3.73 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 22.52 | 14.03 | 1.51 | 22.52 | 2.29 | 15.69 | 5.02 | 2.00 | 3.02 | 4.73 | 9.72 | 15.70 | 14.13 | 12.13 | 3.73 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  <div style="margin-top: 10px;"> DONG GUAN TOP NATION ELECTRONIC LIMITED NO. 3 INDUSTRIAL AREA, JUZHOU SHIJI TOWN DONGGUAN GUANGDONG CHINA TEL:86-769-86632772 FAX:86-769-86315197 </div> | | DESIGN | CHECK | APPROVAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | H.S HONG | S.J KIM | M.D KIM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | FILE NO. | YS19320028 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | SHEET NO. | 18 OF 30 |
|----------------|-------------|------------|---------------|
| | | DATE | 2013. 01. 15. |
| PART NAME | LINE FILTER | MODEL NAME | L32,46SF_DPN |
| PART NO. | 1420603 | TYPE | SQE2020 |

21. GEAR DIMENSIONS

(UNIT : mm)

Technical drawing of a gear component. The drawing includes three views: a top view showing a semi-circular gear with 8 teeth and a diameter of $\phi 14.0 \pm 0.3$ K; a side view showing a thickness of 12.5 B and a total height of 15.6 J; and a cross-sectional view (SECTION A-A) showing internal features and dimensions including 1.2 C, 4.4 F, 0.5 E, 0.75*2 I, 0.7 H, and 11.6 D. A detail view of a tooth shows a root diameter of $\phi 6.2$ A and a tooth height of 3.2 G.

SECTION A-A

〈DONG YUAN〉

| | A | B | C | D | E | F | G | H | I | J | K |
|------|---------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| Spec | 6.20 ±0.20 | 12.50 ±0.20 | 1.20 ±0.10 | 11.60 ±0.20 | 0.50 ±0.10 | 4.40 ±0.20 | 3.20 ±0.10 | 0.70 ±0.10 | 0.75 ±0.10 | 15.60 ±0.20 | 14.00 ±0.20 |
| 1 | 6.21 | 12.51 | 1.21 | 11.62 | 0.52 | 4.42 | 3.22 | 0.71 | 0.75 | 15.62 | 14.01 |
| 2 | 6.20 | 12.52 | 1.23 | 11.66 | 0.53 | 4.41 | 3.21 | 0.70 | 0.78 | 15.60 | 14.02 |
| 3 | 6.22 | 12.55 | 1.23 | 11.66 | 0.51 | 4.42 | 3.24 | 0.72 | 0.77 | 15.61 | 14.00 |
| 4 | 6.21 | 12.52 | 1.22 | 11.65 | 0.52 | 4.43 | 3.23 | 0.72 | 0.76 | 15.61 | 14.01 |
| 5 | 6.22 | 12.53 | 1.21 | 11.65 | 0.52 | 4.43 | 3.22 | 0.70 | 0.79 | 15.63 | 14.02 |

DONG GUAN TOP NATION ELECTRONIC LIMITED

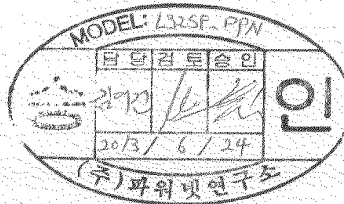
NO.3 INDUSTRIAL AREA, JUZHOU SHIJIE TOWN DONGGUAN GUANGDONG CHINA

TEL:86-769-86632772 FAX:86-769-86315197

| DESIGN | CHECK | APPROVAL |
|----------|------------|----------|
| H.S HONG | S.J KIM | M.D KIM |
| FILE NO. | YS19320028 | |

PN개발-승- 13171

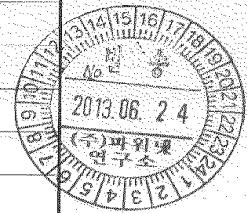
직조반장



NO.

SPECIFICATIONS

| | |
|---------------------|------------------------------------|
| DESCRIPTION | LINE FILTER |
| SPECIFICATION | SQE2020(SM-100,HL10,JSH10K)/14.0mH |
| MAKER SPECIFICATION | |
| PART NO. | 1420603 |
| TYPE NO. | SQE2020 |
| MODEL NO. | L32,46SF_DPN, L32SF-DPN |
| SPECIAL ARTICLES | |



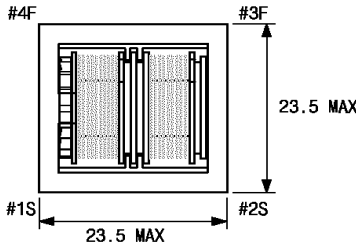
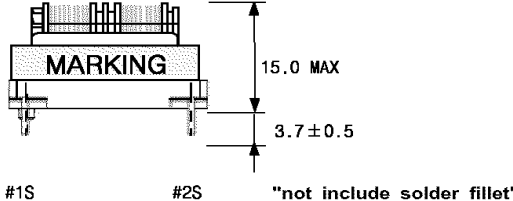
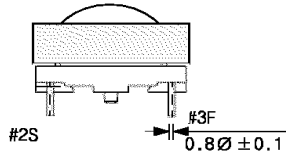
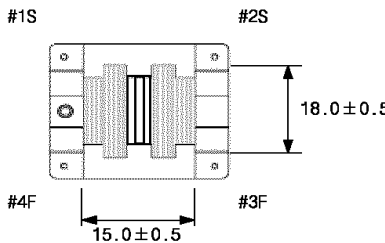
| DESIGN | CHECK | APPROVAL |
|--------------------|---------------|---------------|
| S.J PARK | G.T KIM | S.J YOO |
| 2013. 01. 15. | 2013. 01. 15. | 2013. 01. 15. |
| A TERM OF VALIDITY | YEAR | |

Indemnification

Clover Hi-Tech will indemnify, hold harmless, and at POWERNET's request, defend POWERNET and POWERNET's directors, officers, employees, agents and independent contractors from and against any loss, cost, liability or expense (including court costs and reasonable fees of attorneys and other professionals) arising out of or resulting from any third party claim that any Products and/or Components provided by Clover Hi-Tech infringes patent, copyright, trade secret right or other intellectual property right. If Clover Hi-Tech receives notice of an alleged patent, copyright, trade secret or other intellectual property right infringement or if POWERNET's use of the Products and/or the Components provided by Clover Hi-Tech shall be prevented by permanent injunction for reasons of patent, copyright or trade secret infringement, Clover Hi-Tech may, at its sole option and expense, procure for POWERNET the right to continued use of the Products and/or the Components as provided hereunder, or modify the allegedly infringing item such that it is no longer infringing, or replace the allegedly infringing item.

| | | | |
|------------------|---|-----|-------------|
| REQUEST CUSTOMER | CLOVER Hi-Tech CO., LTD. | TEL | 02)453-0488 |
| ADDRESS | HEAD QUARTER : CLOVER BLDG., 131, Samjeon-Dong, Songpa-Gu, Seoul, Korea. FACTORY 1: 322, Sindu-Ri, Gongdo-Eup, Ansung-City, Gyeonggi-Do, Korea. FACTORY 2: 62, Shenzhen Road, Mansanzhen, Wendeng-City, Shan Dong, China. FACTORY 3: Chang Fa Management Area, Fu Shan Liad Bu Town, Dong Guan-City, Guang Dong P.R.China. FACTORY 4: Wuyishan Road no1 Gaoxin town Zaozhuang city.shandong P.R.,China. | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | DATE | 2013.01.16 | | | | | | | | | | | | | | | |
|--|-------------------------------------|--|------------|----------|----------|-----------------|-------------------------------------|-------------------------------------|-------------------------------------|----------|-------------------------|-------------------|----------|-------------------------|--------------------|--|--|---------------------|
| PART NAME | LINE FILTER | CODE NO | 1420603 | | | | | | | | | | | | | | | |
| 6. DIMENSION (UNIT:mm) | | <div>*MARKING(BLACK)* 1420603 SC-AABBC ----- LOT NO. <div>PRODUCT CODE WEEK YEAR MAKER PART NO.</div></div> <div>LOT NO <table><tr><th>YEAR(AA)</th><th>WEEK(BB)</th><th>PRODUCT CODE(C)</th></tr><tr><td>2012Y→12</td><td>1st WEEK→01</td><td>A: KOREA PRODUCT</td></tr><tr><td>2013Y→13</td><td>2nd WEEK→02</td><td>C: CHINA(WENDENG)</td></tr><tr><td>2014Y→14</td><td>3rd WEEK→03</td><td>D: CHINA(DONGGUAN)</td></tr><tr><td></td><td></td><td>E: CHINA(ZAOZHUANG)</td></tr></table></div> | | YEAR(AA) | WEEK(BB) | PRODUCT CODE(C) | 2012Y→12 | 1 st WEEK→01 | A: KOREA PRODUCT | 2013Y→13 | 2 nd WEEK→02 | C: CHINA(WENDENG) | 2014Y→14 | 3 rd WEEK→03 | D: CHINA(DONGGUAN) | | | E: CHINA(ZAOZHUANG) |
| YEAR(AA) | WEEK(BB) | PRODUCT CODE(C) | | | | | | | | | | | | | | | | |
| 2012Y→12 | 1 st WEEK→01 | A: KOREA PRODUCT | | | | | | | | | | | | | | | | |
| 2013Y→13 | 2 nd WEEK→02 | C: CHINA(WENDENG) | | | | | | | | | | | | | | | | |
| 2014Y→14 | 3 rd WEEK→03 | D: CHINA(DONGGUAN) | | | | | | | | | | | | | | | | |
| | | E: CHINA(ZAOZHUANG) | | | | | | | | | | | | | | | | |
|  <p>TOP VIEW</p> | | | | | | | | | | | | | | | | | | |
|  <p>FRONT VIEW</p> | |  <p>SIDE VIEW</p> | | | | | | | | | | | | | | | | |
|  <p>BOTTOM VIEW</p> | | | | | | | | | | | | | | | | | | |
| CLOVER Hi-Tech CO., LTD. | | <table><tr><th>DESIGN</th><th>CHECK</th><th>APPROVAL</th><th>PAGE</th></tr><tr><td><div>朴秀晶 13.01.16 技術部</div></td><td><div>金基泰 13.01.16 技術部</div></td><td><div>劉成宰 13.01.16 技術部</div></td><td>4/22</td></tr></table> | DESIGN | CHECK | APPROVAL | PAGE | <div>朴秀晶 13.01.16 技術部</div> | <div>金基泰 13.01.16 技術部</div> | <div>劉成宰 13.01.16 技術部</div> | 4/22 | | | | | | | | |
| DESIGN | CHECK | APPROVAL | PAGE | | | | | | | | | | | | | | | |
| <div>朴秀晶 13.01.16 技術部</div> | <div>金基泰 13.01.16 技術部</div> | <div>劉成宰 13.01.16 技術部</div> | 4/22 | | | | | | | | | | | | | | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| | | | |
|----------------|-------------|---------|------------|
| SPECIFICATIONS | | DATE | 2013.01.16 |
| PART NAME | LINE FILTER | CODE NO | 1420603 |

7. SCHEMATIC DIAGRAM

| | | |
|---------------|-------------|-------|
| WINDING | BOTTOM VIEW | C.C.W |
| BOBBIN INSERT | SIDE INSERT | |
| N.C PIN | X | |
| REMOVE PIN | X | |

8. WINDING SPECIFICATION

| NO | TERMINAL NO | | WINDING | | |
|--------------------|-------------|--------|---------------|--------------|---------------------------|
| | START | FINISH | WIRE | TURNS | METHOD |
| L1 | 1 | 4 | 2UEW 0.45Ø | 47 ± 1 Ts | SOLENOID |
| L2 | 2 | 3 | 2UEW 0.45Ø | 47 ± 1 Ts | SOLENOID |
| WIRE SPECIFICATION | | | CONDUCTOR | | |
| | | | WIRE | DIAMETER[mm] | TOLERANCE OF DIAMETER[mm] |
| | | | 2UEW | 0.45 | ±0.003 |

* REGARDING ABOVE TABLE STANDARD, THICKNESS OF WIRE MUST BE OVER SPECIFICATION.

| | | | | |
|--------------------------|------------------------|------------------------|------------------------|------|
| CLOVER Hi-Tech CO., LTD. | DESIGN | CHECK | APPROVAL | PAGE |
| | 朴秀晶 13.01.16 技術部 | 金基泰 13.01.16 技術部 | 劉成宰 13.01.16 技術部 | 5/22 |

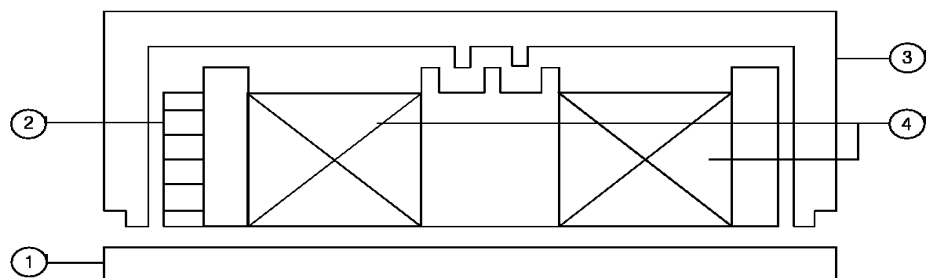
CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | DATE | 2013.01.16 |
|---|-----------------------|----------------|-----------------------|--|
| PART NAME | LINE FILTER | | CODE NO | 1420603 |
| | | | | |
| 9. ELECTRICAL CHARACTERISTIC | | | | |
| NO | ITEM | TERMINAL | SPECIFICATION | REMARKS |
| 1 | INDUCTANCE | 1 - 4 | 14.0 mH ±35% | HP-4284A at 100KHz, 1V. (20℃ ± 5℃) |
| | | 2 - 3 | 14.0 mH ±35% | |
| 2 | DIFFERENCE INDUCTANCE | L1 - L2 | 0.75 mH MAX. | |
| 3 | DC RESISTANCE | 1 - 4 | 0.240 Ω MAX. | VP-2941A (20℃ ± 5℃) |
| | | 2 - 3 | 0.240 Ω MAX. | |
| 4 | WITHSTANDING VOLTAGE | COIL - CORE | AC0.5kVrms, 1 MINUTE. | TOS-8850 CUT OFF CURRENT (5mA) |
| | | COIL - COIL | AC0.5kVrms, 1 MINUTE. | |
| 5 | INSULATION RESISTANCE | COIL - CORE | DC500V, 100MΩ MIN. | TOS-8850 |
| | | COIL - COIL | | |
| 6 | LAYER SHORT | AC 1.5KV, 60Hz | | NO BREAK DOWN |
| * TEST CONDITION : TEMPERATURE 20℃±5℃, HUMIDITY 65%±20% | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | DATE | 2013.01.16 |
|----------------|-------------|---------|------------|
| PART NAME | LINE FILTER | CODE NO | 1420603 |

13. CONSTRUCTION



14. LIST OF MATERIAL

| NO | COMPONENT | NAME OF MATERIAL | MANUFACTURER OF MATERIAL | UL FILE NO |
|----|-----------|--|---|--------------------|
| 1 | CORE | SM-100, SQE 2020 HL10, SQE 2020 JSH10K, SQE 2020 | SAMWHA ELECTRONICS CO.,LTD. Ruyuan Dongyangguang Magnetic Materials CO.,LTD. SHANGHAI JISHUN MAGNETIC MATERIAL CO.,LTD. | |
| 2 | BOBBIN | P.E.T. 94V-0 2 SECTION | E I DUPONT DE NEMOURS & CO INC. (FR-530) | E41938 |
| 3 | BASE | PHENOLIC, 94V-0 H" TYPE 4PIN | MOMENTIVE SPECIALTY CHEMICALS GMBH. (PF 2736(a)(b)) CHANG CHUN PLASTICS CO.,LTD.(T375HF) | E61040 E59481 |
| 4 | WIRE | 2UEW 0.45Ø | DONGYANG ELECTRONICS IND CO.,LTD. CNI CABLE CO.,LTD. (ANSI TYPE(RATED 130℃)=MW28, MW75) | E102761 E210918 |
| 5 | VARNISH | DVB-2085(*) | NOROO PAINT & COATINGS CO.,LTD. | E93947 |
| 6 | SOLDER | BAR, WIRE | ALPHA METALS CO.,LTD. | |
| | FLUX | EF-9301 JS-7000S-2 | ALPHA METALS CO.,LTD. KOKI KOREA CO.,LTD. | |
| 7 | MARKING | INK or LABEL | HITACHI CHEMICAL CO.,LTD.(BLACK) | |

CLOVER Hi-Tech CO., LTD.

DESIGN

朴秀晶

13.01.16

技術部

CHECK

金基泰

13.01.16

技術部

APPROVAL

劉成宰

13.01.16

技術部

PAGE

10/22

| SPECIFICATIONS | | | | DATE | | 2013.01.16 | |
|--|---------------|--------------|-------------|-------------|-------------|-------------|-------------------|
| PART NAME | | LINE FILTER | | CODE NO | | 1420603 | |
| <div> <div>※ CORE DIMENSION ※</div> <div> <div>SQE</div> </div> </div> | | | | | | | |
| TYPE | DIMENSION(mm) | | | | | | REMARKS |
| | A | B | C | D | E | F | |
| SQE 2020 | 20.1 ±0.4 | 20.1 ±0.4 | 5.4 ±0.2 | 15.9 MIN | 4.0 ±0.2 | 15.9 MIN | SAMWHA |
| SQE 2020 | 20.1 ±0.4 | 20.1 ±0.4 | 5.4 ±0.2 | 15.9 MIN | 4.0 ±0.2 | 15.9 MIN | DONGYANG GUANG |
| SQE 2020 | 20.1 ±0.4 | 20.1 ±0.4 | 5.4 ±0.2 | 15.9 MIN | 4.0 ±0.2 | 15.9 MIN | JISHUN |

| | A | B | C | D | E | F |
|---|-------|-------|------|-------|------|-------|
| 1 | 20.08 | 20.12 | 5.46 | 16.08 | 3.96 | 16.06 |
| 2 | 20.42 | 20.44 | 5.43 | 15.98 | 4.00 | 15.95 |
| 3 | 20.16 | 20.12 | 5.41 | 16.04 | 3.96 | 15.94 |
| 4 | 20.25 | 20.26 | 5.43 | 15.96 | 3.97 | 15.98 |
| 5 | 20.32 | 20.34 | 5.41 | 16.04 | 3.98 | 16.00 |

| | | | | |
|--------------------------|-----------------|-----------------|-----------------|-------|
| CLOVER Hi-Tech CO., LTD. | DESIGN | CHECK | APPROVAL | PAGE |
| | 朴秀品 | 金基泰 | 劉成宰 | 11/22 |
| | 13.01.16 技術部 | 13.01.16 技術部 | 13.01.16 技術部 | |

MIS-05 (Page 7) Issued: 2018-01-31

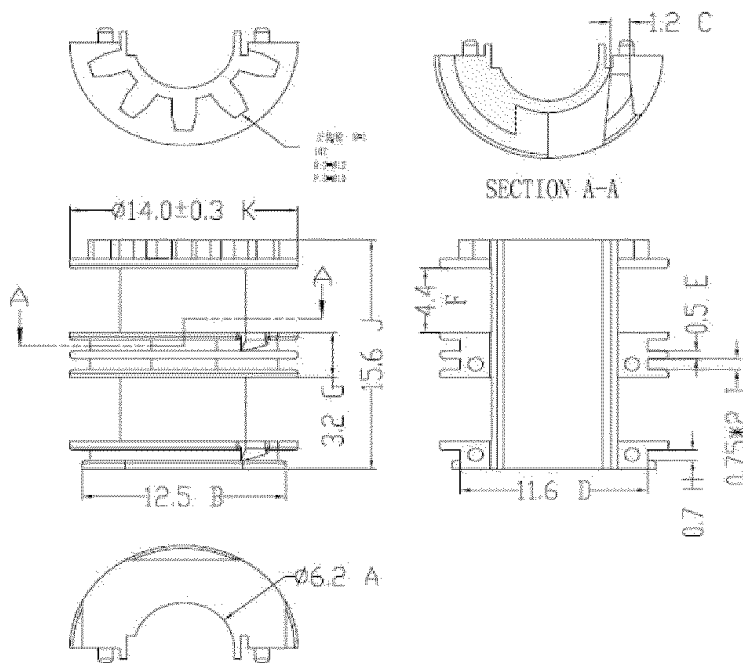
CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | | | | | | | | | DATE | | 2013.01.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---|-------------|---|--------------|---|-------------|-------------|---|---|---|---|---|---|---|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|-------------|-------------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|------|------|------|------|------|-------|-------|-------|------|------|---|-------|-------|------|-------|------|-------|------|------|------|------|------|-------|-------|-------|------|------|---|-------|-------|------|-------|------|-------|------|------|------|------|------|-------|-------|-------|------|------|
| PART NAME | | LINE FILTER | | | | | | | | CODE NO | | 1420603 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ※ BOBBIN(GEAR) DIMENSION ※ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table> <tr> <th>Q</th> <th>R</th> <th>S</th> <th>T</th> <th>U</th> <th>V</th> <th>W</th> <th>X</th> <th>Y</th> <th>Z</th> </tr> <tr> <td>15.0 ±0.2</td> <td>2.5 ±0.1</td> <td>20.0 ±0.3</td> <td>14.0 ±0.2</td> <td>18.0 ±0.3</td> <td>20.0 ±0.1</td> <td>11.7 ±0.2</td> <td>18.0 ±0.2</td> <td>14.0 ±0.2</td> <td>13.0 ±0.2</td> </tr> <tr> <td>15.05</td> <td>2.52</td> <td>20.04</td> <td>14.03</td> <td>18.00</td> <td>20.02</td> <td>11.73</td> <td>15.97</td> <td>14.02</td> <td>13.03</td> </tr> <tr> <td>15.06</td> <td>2.53</td> <td>20.07</td> <td>14.04</td> <td>18.01</td> <td>20.03</td> <td>11.76</td> <td>15.99</td> <td>14.02</td> <td>13.05</td> </tr> <tr> <td>15.04</td> <td>2.53</td> <td>20.01</td> <td>14.03</td> <td>17.99</td> <td>20.00</td> <td>11.72</td> <td>16.00</td> <td>14.00</td> <td>13.01</td> </tr> <tr> <td>15.07</td> <td>2.51</td> <td>20.05</td> <td>14.05</td> <td>17.99</td> <td>19.99</td> <td>11.71</td> <td>15.99</td> <td>14.03</td> <td>13.06</td> </tr> <tr> <td>15.05</td> <td>2.52</td> <td>20.08</td> <td>14.04</td> <td>18.00</td> <td>20.20</td> <td>11.73</td> <td>15.98</td> <td>14.03</td> <td>13.06</td> </tr> </table> | | | | | | | | | | | | | | Q | R | S | T | U | V | W | X | Y | Z | 15.0 ±0.2 | 2.5 ±0.1 | 20.0 ±0.3 | 14.0 ±0.2 | 18.0 ±0.3 | 20.0 ±0.1 | 11.7 ±0.2 | 18.0 ±0.2 | 14.0 ±0.2 | 13.0 ±0.2 | 15.05 | 2.52 | 20.04 | 14.03 | 18.00 | 20.02 | 11.73 | 15.97 | 14.02 | 13.03 | 15.06 | 2.53 | 20.07 | 14.04 | 18.01 | 20.03 | 11.76 | 15.99 | 14.02 | 13.05 | 15.04 | 2.53 | 20.01 | 14.03 | 17.99 | 20.00 | 11.72 | 16.00 | 14.00 | 13.01 | 15.07 | 2.51 | 20.05 | 14.05 | 17.99 | 19.99 | 11.71 | 15.99 | 14.03 | 13.06 | 15.05 | 2.52 | 20.08 | 14.04 | 18.00 | 20.20 | 11.73 | 15.98 | 14.03 | 13.06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Q | R | S | T | U | V | W | X | Y | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.0 ±0.2 | 2.5 ±0.1 | 20.0 ±0.3 | 14.0 ±0.2 | 18.0 ±0.3 | 20.0 ±0.1 | 11.7 ±0.2 | 18.0 ±0.2 | 14.0 ±0.2 | 13.0 ±0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.05 | 2.52 | 20.04 | 14.03 | 18.00 | 20.02 | 11.73 | 15.97 | 14.02 | 13.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.06 | 2.53 | 20.07 | 14.04 | 18.01 | 20.03 | 11.76 | 15.99 | 14.02 | 13.05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.04 | 2.53 | 20.01 | 14.03 | 17.99 | 20.00 | 11.72 | 16.00 | 14.00 | 13.01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.07 | 2.51 | 20.05 | 14.05 | 17.99 | 19.99 | 11.71 | 15.99 | 14.03 | 13.06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15.05 | 2.52 | 20.08 | 14.04 | 18.00 | 20.20 | 11.73 | 15.98 | 14.03 | 13.06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table> <tr> <th>S.T.D</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> <th>G</th> <th>H</th> <th>I</th> <th>J</th> <th>K</th> <th>L</th> <th>M</th> <th>N</th> <th>O</th> <th>P</th> </tr> <tr> <td></td> <td>22.5 ±0.3</td> <td>14.5 ±0.2</td> <td>1.5 ±0.1</td> <td>22.5 ±0.3</td> <td>2.28 ±0.1</td> <td>15.7 ±0.2</td> <td>5.0 ±0.2</td> <td>2.0 ±0.1</td> <td>3.0 ±0.1</td> <td>4.7 ±0.2</td> <td>9.7 ±0.2</td> <td>15.7 ±0.2</td> <td>14.1 ±0.2</td> <td>12.1 ±0.2</td> <td>3.7 ±0.1</td> <td>0.8 ±0.1</td> </tr> <tr> <td>1</td> <td>22.51</td> <td>14.57</td> <td>1.50</td> <td>22.52</td> <td>2.27</td> <td>15.72</td> <td>5.02</td> <td>2.00</td> <td>3.01</td> <td>4.69</td> <td>9.68</td> <td>15.73</td> <td>14.12</td> <td>12.16</td> <td>3.71</td> <td>0.80</td> </tr> <tr> <td>2</td> <td>22.52</td> <td>14.53</td> <td>1.52</td> <td>22.50</td> <td>2.25</td> <td>15.72</td> <td>5.04</td> <td>2.03</td> <td>3.02</td> <td>4.68</td> <td>9.67</td> <td>15.72</td> <td>14.10</td> <td>12.11</td> <td>3.73</td> <td>0.80</td> </tr> <tr> <td>3</td> <td>22.48</td> <td>14.58</td> <td>1.50</td> <td>22.54</td> <td>2.29</td> <td>15.72</td> <td>5.05</td> <td>2.01</td> <td>3.00</td> <td>4.71</td> <td>9.69</td> <td>15.76</td> <td>14.11</td> <td>12.07</td> <td>3.73</td> <td>0.80</td> </tr> <tr> <td>4</td> <td>22.49</td> <td>14.55</td> <td>1.53</td> <td>22.51</td> <td>2.32</td> <td>15.70</td> <td>5.03</td> <td>2.02</td> <td>3.01</td> <td>4.70</td> <td>9.73</td> <td>15.71</td> <td>14.11</td> <td>12.14</td> <td>3.71</td> <td>0.81</td> </tr> <tr> <td>5</td> <td>22.49</td> <td>14.51</td> <td>1.52</td> <td>22.56</td> <td>2.29</td> <td>15.74</td> <td>5.01</td> <td>1.99</td> <td>3.01</td> <td>4.69</td> <td>9.71</td> <td>15.68</td> <td>14.10</td> <td>12.15</td> <td>3.70</td> <td>0.81</td> </tr> </table> | | | | | | | | | | | | | | S.T.D | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | | 22.5 ±0.3 | 14.5 ±0.2 | 1.5 ±0.1 | 22.5 ±0.3 | 2.28 ±0.1 | 15.7 ±0.2 | 5.0 ±0.2 | 2.0 ±0.1 | 3.0 ±0.1 | 4.7 ±0.2 | 9.7 ±0.2 | 15.7 ±0.2 | 14.1 ±0.2 | 12.1 ±0.2 | 3.7 ±0.1 | 0.8 ±0.1 | 1 | 22.51 | 14.57 | 1.50 | 22.52 | 2.27 | 15.72 | 5.02 | 2.00 | 3.01 | 4.69 | 9.68 | 15.73 | 14.12 | 12.16 | 3.71 | 0.80 | 2 | 22.52 | 14.53 | 1.52 | 22.50 | 2.25 | 15.72 | 5.04 | 2.03 | 3.02 | 4.68 | 9.67 | 15.72 | 14.10 | 12.11 | 3.73 | 0.80 | 3 | 22.48 | 14.58 | 1.50 | 22.54 | 2.29 | 15.72 | 5.05 | 2.01 | 3.00 | 4.71 | 9.69 | 15.76 | 14.11 | 12.07 | 3.73 | 0.80 | 4 | 22.49 | 14.55 | 1.53 | 22.51 | 2.32 | 15.70 | 5.03 | 2.02 | 3.01 | 4.70 | 9.73 | 15.71 | 14.11 | 12.14 | 3.71 | 0.81 | 5 | 22.49 | 14.51 | 1.52 | 22.56 | 2.29 | 15.74 | 5.01 | 1.99 | 3.01 | 4.69 | 9.71 | 15.68 | 14.10 | 12.15 | 3.70 | 0.81 |
| S.T.D | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 22.5 ±0.3 | 14.5 ±0.2 | 1.5 ±0.1 | 22.5 ±0.3 | 2.28 ±0.1 | 15.7 ±0.2 | 5.0 ±0.2 | 2.0 ±0.1 | 3.0 ±0.1 | 4.7 ±0.2 | 9.7 ±0.2 | 15.7 ±0.2 | 14.1 ±0.2 | 12.1 ±0.2 | 3.7 ±0.1 | 0.8 ±0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 22.51 | 14.57 | 1.50 | 22.52 | 2.27 | 15.72 | 5.02 | 2.00 | 3.01 | 4.69 | 9.68 | 15.73 | 14.12 | 12.16 | 3.71 | 0.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 22.52 | 14.53 | 1.52 | 22.50 | 2.25 | 15.72 | 5.04 | 2.03 | 3.02 | 4.68 | 9.67 | 15.72 | 14.10 | 12.11 | 3.73 | 0.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 22.48 | 14.58 | 1.50 | 22.54 | 2.29 | 15.72 | 5.05 | 2.01 | 3.00 | 4.71 | 9.69 | 15.76 | 14.11 | 12.07 | 3.73 | 0.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 22.49 | 14.55 | 1.53 | 22.51 | 2.32 | 15.70 | 5.03 | 2.02 | 3.01 | 4.70 | 9.73 | 15.71 | 14.11 | 12.14 | 3.71 | 0.81 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 22.49 | 14.51 | 1.52 | 22.56 | 2.29 | 15.74 | 5.01 | 1.99 | 3.01 | 4.69 | 9.71 | 15.68 | 14.10 | 12.15 | 3.70 | 0.81 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLOVER Hi-Tech CO., LTD. | | | | | | | | | | DESIGN | | CHECK | | APPROVAL | | PAGE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | <div>朴秀晶</div> <div>13.01.16</div> <div>技術部</div> | | <div>金基泰</div> <div>13.01.16</div> <div>技術部</div> | | <div>劉成宰</div> <div>13.01.16</div> <div>技術部</div> | | 15/22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

CUSTOMER : POWERNET TECHNOLOGIES.

| SPECIFICATIONS | | DATE | 2013.01.16 |
|----------------|-------------|---------|------------|
| PART NAME | LINE FILTER | CODE NO | 1420603 |

※ BOBBIN(BASE) DIMENSION ※



| S.T.D | A | B | C | D | E | F | G | H | I | J | K |
|-------|-------------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| | 6.2 ±0.2 | 12.5 ±0.2 | 1.2 ±0.1 | 11.6 ±0.2 | 0.5 ±0.1 | 4.4 ±0.2 | 3.2 ±0.1 | 0.7 ±0.1 | 0.75 ±0.1 | 15.6 ±0.2 | 14.0 ±0.2 |
| 1 | 6.25 | 12.53 | 1.27 | 11.66 | 0.53 | 4.41 | 3.20 | 0.71 | 0.74 | 15.64 | 14.07 |
| 2 | 6.21 | 12.51 | 1.24 | 11.62 | 0.51 | 4.43 | 3.21 | 0.71 | 0.74 | 15.62 | 14.09 |
| 3 | 6.23 | 12.55 | 1.21 | 11.62 | 0.51 | 4.45 | 3.20 | 0.72 | 0.75 | 15.62 | 14.05 |
| 4 | 6.20 | 12.54 | 1.22 | 11.67 | 0.52 | 4.46 | 3.23 | 0.71 | 0.77 | 15.65 | 14.03 |
| 5 | 6.24 | 12.53 | 1.26 | 11.63 | 0.52 | 4.42 | 3.20 | 0.70 | 0.76 | 15.62 | 14.07 |

CLOVER Hi-Tech CO., LTD.

DESIGN

朴秀晶

13.01.16

技術部

CHECK

金基泰

13.01.16

技術部

APPROVAL

劉成宰

13.01.16

技術部

PAGE

16/22

[illegible]

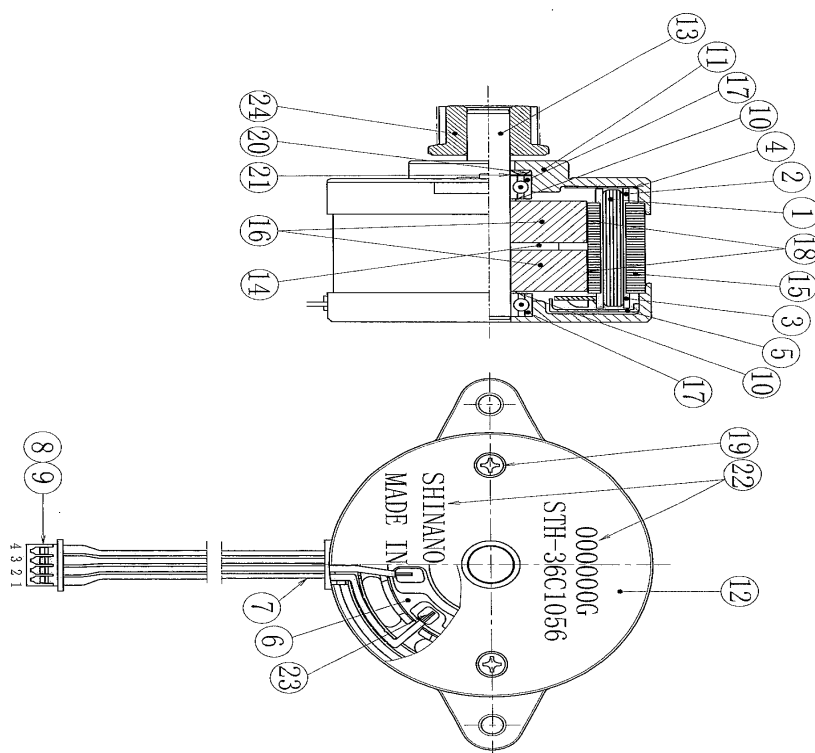
绝 缘 构 造 材 料 表 / INSULATION MATERIALS LIST

| NO. | 零件名称 及 构成材料 ARTICLE & COMPONENTS MATERIAL | 型号 TYPE NO. | 制造厂家 MANUFACTURER | UL认证号 UL FILE NO. | 绝缘等级 INSULATION CLASS |
|-----|--|--|---|---|----------------------------|
| ① | 漆包线/MAGNET WIRE (可焊锡) 漆性类型聚酯铜线/ (SELF BONDING) MODIFIED POLYESTER ENAMELLED COPPER WIRE 或者/OR (可焊锡) 聚亚安脂铜线/ (SELF BONDING) POLYURETHANE ENAMELLED COPPER WIRE | SPEBN, SPEBRIN, UEN SF BY, SF BY-2, UET, SF B LOCK, SF BLOCKES SF BY, FL ELLOCKX, SF BLOCKES, UET MPEVN, UENV PEVN, UENV UBEN, UENF-E | 信越电线有限公司/SUN-ETSI ELECTRIC WIRE CO., LTD. 东京特殊电线有限公司/TOKU ELECTRIC CO., LTD. 爱星电线工业股份有限公司/JUNG SHING WIRE CO., LTD. 佛山市威奇电工材料有限公司 GUANGDONG WEILKEY ELECTRIC MATERIAL CO., LTD 东莞新隆电工材料有限公司 XIN LONG MAGNET WIRE CO., LTD. 台一国际股份有限公司 TAI-I ELECTRIC WIRE & CABLE CO., LTD. | E 94931 E 79029 E 174837 E 211138 E 171082 E 85640 | B B B B B B |
| ② | 绝缘胶圈/SLIT INSULATOR POLYPLASTICS CRV7000 BLACK | CRV7000 | FINTECH POLYMER, LTD | E213445 | B (94V-0) |
| ③ | 绝缘纸/绝缘放置 INSULATION SHEET/OIL COVER ZYTEL 103HS-1 | ZYTEL 103 HS-1 NC-010 | E. I. DUPONT DE NEMOURS & CO., INC. | E 41938 | B (94V-2) |
| ④ | 印刷电路板/PRINTED WIRING BOARD FR-4 | 4 F4-00 YS6 NS-1 103A | 裕华线路板有限公司/YUE WAH CIRCUITS CO., LTD. 冠丰电路板有限公司 WELFARE PRINTED CIRCUITS BOARD CO., LTD 玉成电路有限公司/YUK SHING CIRCUITS CO., LTD. 苏州王氏电路板有限公司/WANG'S CIRCUIT BOARD CO., LTD. 红坂有限公司/RED BOARD LTD | E 128280 E 93938 E 4210 E 214800 E 133472 | (94V-0) |
| ⑤ | 电机引线 / LEAD WIRE UL1061 AWG28 300V 80℃ 耐潮 P.V. 电线/HEAT RESISTANCE POLYVINYL CHLORIDE INSULATED WIRE | 102621 | 乐庭电线工业/LTK WIRING CO., LTD. 住友电气工业株式会社 SUMITOMO ELECTRIC INDUSTRIES, LTD. | E148000 E41105 | |
| ⑥ | 连接器/CONNECTOR HOUSING 尼龙66/66 NYLON | 51021-0400 | MOLEX (株) /MOLEX JAPAN CO., LTD. | E29179 | (94V-0) |

[illegible]

其它构造材料表/MATERIALS LIST EXCEPT INSULATION PARTS

| NO. | 零件名称 ARTICLE | 构成材料 COMPONENTS MATERIAL |
|-----|-----------------------------------|---|
| ⑨ | 端子 CONNECTOR CONTACT | 磷青铜 镀锡 PHOSPHOR BRONZE TIN-PLATED |
| ⑩ | 挡圈 SPACER | A1050P (JIS H4000) |
| ⑪⑫ | 端盖 END BELL | 铝合金 ADC12 |
| ⑬ | 轴 SHAFT | 不锈钢棒 SUS303 |
| ⑭ | 磁石 MAGNET | 无方向性电磁棒带 PERMANENT MAGNET MATERIAL. |
| ⑮ | 定子铁芯 STATOR CORE | 无方向性电磁棒带 NON-ORIENTED MAGNETIC STEEL SHEET AND STRIP |
| ⑯ | 转子铁芯 ROTOR CORE | 无方向性电磁棒带 NON-ORIENTED MAGNETIC STEEL SHEET AND STRIP |
| ⑰ | 滚动轴承 BALL BEARING | TYPE R166Z |
| ⑱ | 转子涂料 COATING MATERIAL OR ROTOR | 环氧树脂 EPOXY RESIN |
| ⑲ | 螺丝 SCREW | 黄铜棒 或 合金铜 BRASS ROD OR ALLOY STEEL WIRE ROD |
| ⑳ | 波形垫片 WAVE WASHER | SAE1085 OR SAE604 (JIS G 3311) OR S65 |
| ㉑ | 平垫片 FLASHER | 烧入铜带 BETTER STEEL |
| ㉒ | 我印 STAMP | |
| ㉓ | 焊料 SOLDER | Sn-3.0Ag-0.5Cu |
| ㉔ | 带钩 PULLY | SMF4030 |

[illegible]

电动机规格书 MOTOR SPECIFICATION

电动机型号 MOTOR MODEL STH-36C1056
顾客型号 CUSTOMER MODEL

1. 适用范围 SCOPE

本规格书规定了包含式步进电动机STH-36C1056的基本要求
THIS SPECIFICATION COVERS THE GENERAL REQUIREMENTS FOR
THE STEP MOTOR STH-36C1056 THAT CONSISTS OF BIPOLAR
WINDING STATOR AND HYBRID MAGNET MOTOR

2. 电气特性 ELECTRICAL CHARACTERISTICS

| 项目/ITEM | 内容/SPECIFICATION | 备注/DESCRIPTION |
|--------------------------------|--|----------------|
| 额定工作电压/DUTY | 连续/CONTINUOUS | |
| 额定电压/RATED VOLTAGE | 4.6 V D.C | |
| 额定电流/RATED CURRENT | 0.4 A/相(PHASE) | |
| 步进角/STEP ANGLE | 0.9° (0.9°/全步/FULL STEP) | |
| 相数/NUMBER OF PHASE | 2相 双极的 2相励磁/2PHASE BIPOLAR 2PHASE EXCITING | |
| 绝缘等级(UL)/INSULATION CLASS(UL) | UL B级/CLASS(绝缘/COIL) | |
| 绝缘电阻/INSULATING RESISTANCE | 11.5 Ω ± 10% | 25° C |
| 电感/INDUCTANCE | 9.0mH ± 20% | 注释1/NOTE1 |
| 保持力/HOLDING TORQUE | 76.5mN·m (80gf·cm)以上/MIN | 注释2/NOTE2 |
| 启动转矩/STARTING TORQUE | 7.85mN·m (80gf·cm)参考值/REF. | |
| 最大启动频率/MAX STARTING PULSE RATE | 1950PPS以上/MIN | 注释3/NOTE3 |
| 静摩擦力/STATIC FRICTION | ±0.045 (4mg)以下/MAX. | 注释4/NOTE4 |
| 绝缘耐压/DIELECTRIC STRENGTH | 500V A.C 1分钟/MINUTE 无异常/NO ABNORMAL. | 注释5/NOTE5 |
| 绝缘电阻/INSULATION RESISTANCE | 100 MΩ 以上/MIN | 注释6/NOTE6 |
| 温度上升/TEMPERATURE RISE | 80 K (80DEG) 以下/MAX. | 注释7/NOTE7 |

3. 机械特性 MECHANICAL CHARACTERISTICS

| 项目/ITEM | 内容/SPECIFICATION | 备注/DESCRIPTION |
|---------------------------|---|----------------|
| 机械尺寸/MECHANICAL DIMENSION | 根据电动机规格书113-4961-(3/3页)所示 ACCORDING TO SPECIFICATION 113-4961-(PAGE3/3) | |
| 轴材料/SHAFT MATERIAL | SUS303 | |
| 轴承/BALL BEARING | 系列滚珠轴承/SINGLE ROW BALL BEARING | |
| 端盖材料/END BELL MATERIAL | 铝合金/ALUMINIUM ALLOY | |
| 底壳/BASE | 约90% APPROXIMATELY 90% | |
| 转子惯量 | 约19.6g·cm ² (20.0×10 ⁻⁴ g·cm ² ·s ²) | |
| 转子惯量 | 约19.6g·cm ² (20.0×10 ⁻⁴ g·cm ² ·s ²) | |
| 其他 ADDITIONAL | | |

4. 其他 ADDITIONAL

| 项目/ITEM | 内容/SPECIFICATION | 备注/DESCRIPTION |
|----------------------------|---|----------------|
| 转动方向/DIRECTION OF ROTATION | 按照表的励磁顺序从安装面开测时方向 PHASE SEQUENCE TO PRODUCE COUNTER ROTATION | |
| 电机引线型号/TYPE OF LEAD WIRE | UL1061 CSA 90W AWG28 | |
| 电机引线颜色/COLOR OF LEAD WIRE | 按照表所示/ACCORDING TO TABLE 2 | |
| 寿命/LIFE | 5000小时以上/HOURS MIN. | 注释9/NOTE9 |

本电动机Pb, Cr(VI+), Cd, Hg, PBB, PBDE 6种物质符合RoHS指令(2002/95/EC)的要求。
MATERIALS OF MOTOR CONTAIN SIX SUBSTANCES Pb Cr(VI+) Cd Hg PBB AND PBDE. THESE CONTENTS
COMPLY WITH THE ROHS INSTRUCTION

| 项目/ITEM | 内容/SPECIFICATION | 备注/DESCRIPTION |
|---|------------------|----------------|
| 使用温度范围 OPERATION AMBIENT TEMPERATURE | -30°C ~ +60°C | |
| 使用湿度范围 OPERATION AMBIENT HUMIDITY | 20%RH ~ 90%RH | 注释9/NOTE9 |
| 保存温度范围 STORAGE AMBIENT TEMPERATURE | -30°C ~ +80°C | |
| 保存湿度范围 STORAGE AMBIENT HUMIDITY | 15%RH ~ 95%RH | 注释9/NOTE9 |

不可将电动机引线拿取电动机, 电动机引出线出口处请不要用外力
PLEASE DON'T HOLD MOTOR BY LEAD WIRES. NO OUTSIDE FORCE ON THE
EXIT OF LEAD WIRES.

通电状态下不可插拔电动机插头
PLEASE DON'T PLUG OR UNPLUG THE MOTOR CONNECTOR WHILE POWER ON

请不要使电动机绕组以及磁通电动机
PLEASE DON'T DROP AND BUMP MOTOR AGAINST HARD MATERIAL.

如有此等情形发生, 即使当时电动机可以使用, 但质
量将不能得到保证
MALFUNCTION MAY NOT BE OBSERVED AT EARLY STAGE AFTER SUCH
SHOCK BUT IT MAY BE FOUND LATER. THIS TYPE OF MISHANDLING VOIDS
OUR WARRANTY

使用时的注意事项
CAUTION AND RECOMMENDATION

请顾客方对电动机在实装时的状态进行确认, 验证实装使用时的适用性
THE FUNCTION OR PERFORMANCE SHALL BE EVALUATED BY INSTALLING
MOTOR TO APPLICATION THAT SHOULD BE CHECKED AT BUYER'S SIDE

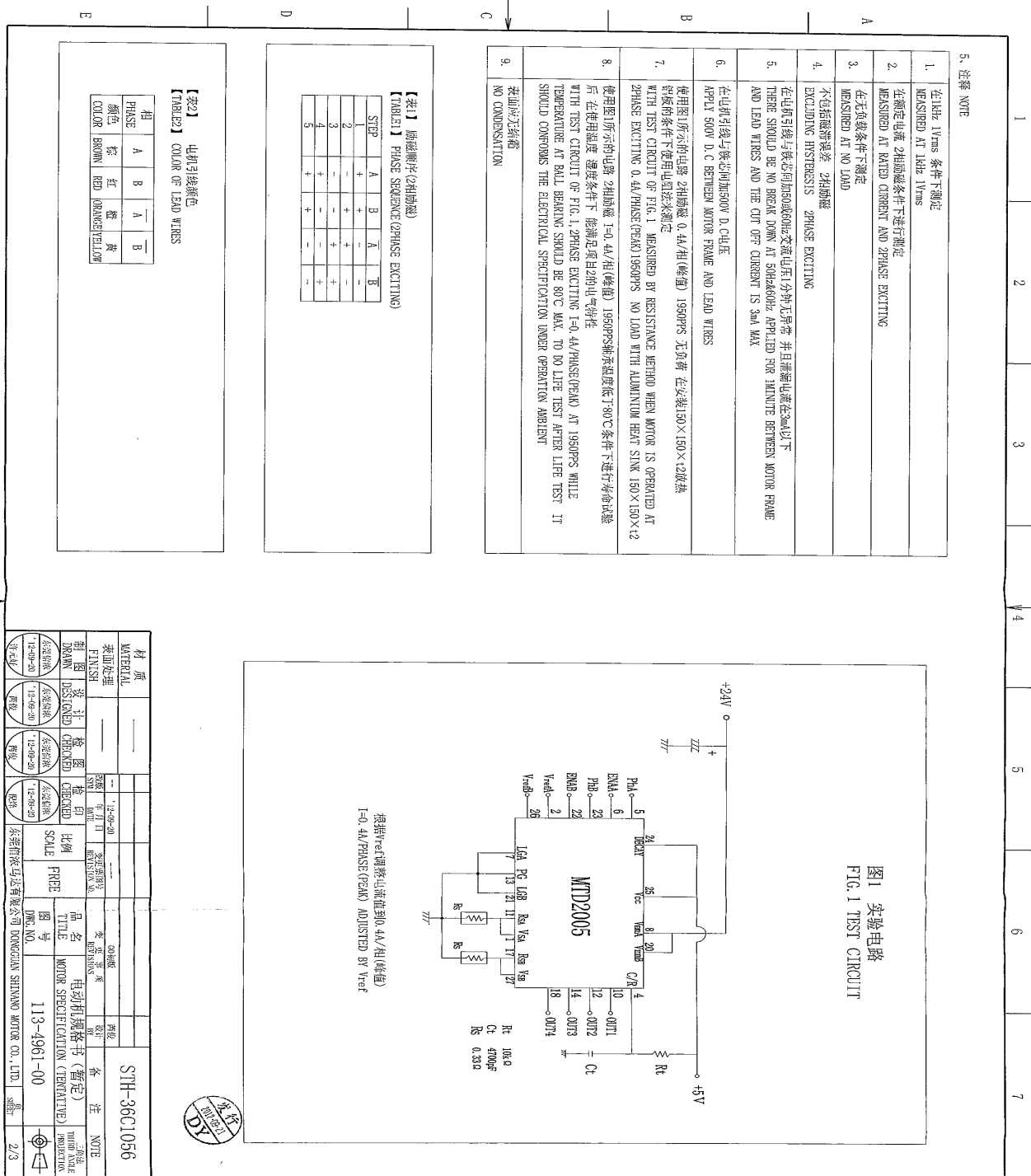
电动机分解后不可再组装使用
PLEASE DON'T REUSE DISASSEMBLED MOTOR

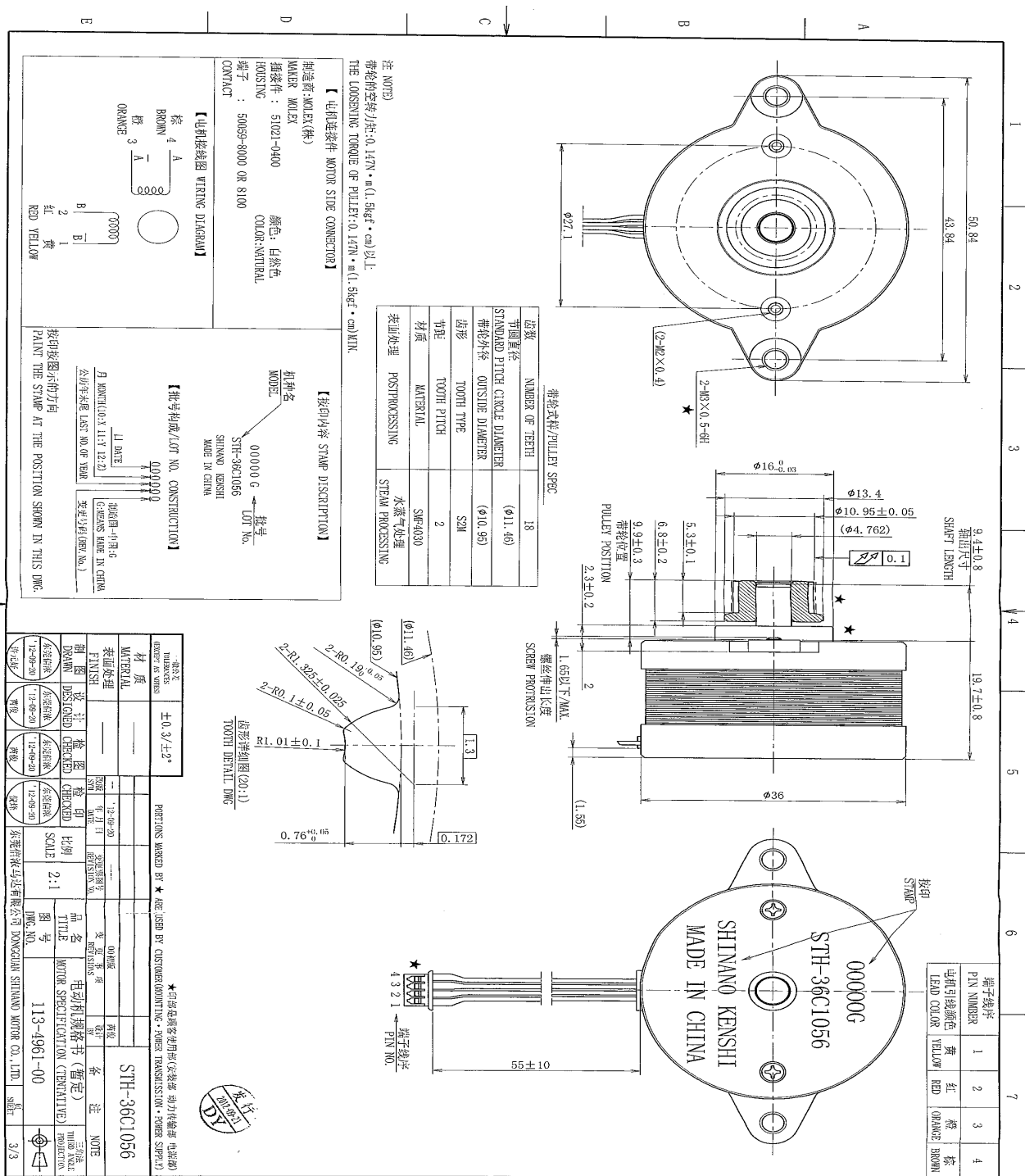
在电动机的使用上, 若产生有关专利问题, 本公司不予保证, 请贵公司特别注意
OUR CORPORATION WILL NOT BE RESPONSIBLE FOR ANY PATENT DISPUTE OR
PROBLEM CAUSED BY ACTUAL APPLICATIONS

| | | | | | | | |
|----------------|----------------|--------------|---------------|-------------|-------------|-------------------|---------------------------|
| 材料 MATERIAL | 表面处理 FINISH | 设计 DESIGN | 检查 CHECKED | 比例 SCALE | 品名 TITLE | 图号 DRAWING NO. | 备注 NOTE |
| 铝 | 阳极氧化 | 1:2 | 1:2 | 1:2 | 电动机规格书 | 113-4961-00 | THIRD ANGLE PROJECTION |

STH-36C1056




1/3





QC PROCESS FLOW CHART

SHINANOKENSHI CO.,LTD.

| PROCESS FLOW | | PROCESS No. | PROCESS NAME | MACHINERY | MANAGE STANDARD | MANAGE ITEM | MEASUREMENT | QUALITY ASSURANCE DEPT. | | |
|---|---|---|------------------------------------|--|------------------------|------------------------------------|--------------------------|---------------------------------|-----------|---------------------|
| MATERIAL | PROCESS FLOW | | | | | | | SAMPLING | OPERATOR | NOTE |
| PURCHASED | 1 | 1 | INCOMING CHECK | | PART DESIGN | SIZE/APPEARANCE, ETC. | CALIPER/VISIBLE | INCOMING CHECK RULE | INSPECTOR | INSPECTION RECORD |
| COIL STEEL | 2 | 2 | STATOR PRESS | PRESS MACHINE | OPERATION DIRECT SHEET | COIL DEPTH | CALIPER | ALL | OPERATOR | CHECK SHEET |
| | | | | | | VIBRATION | GAUGE/MICROMETER | TYPE CHANGE, 1/SHIFT | # | P CHART |
| | | | | | | DIAMETER | SPECIAL MACHINE | # | # | # |
| | | | | | | RIVET INTENSION | TATION GAUGE | # | # | # |
| PAINT | 3 | 3 | PAINT | PAINT MACHINE | OPERATION DIRECT SHEET | DIAMETER | GAUGE | ALL | OPERATOR | P CHART |
| | | | | | | APPEARANCE | VISIBLE | # | # | # |
| | 4 | 4 | ABRASION | MULLER | OPERATION DIRECT SHEET | VIBRATION | SPECIAL MACHINE | TYPE CHANGE, 1/SHIFT | # | CHECK SHEET |
| | 5 | 5 | WASH | | OPERATION DIRECT SHEET | WASH POSITION | VISIBLE | 1 PCS/1 BOX | OPERATOR | |
| ANTIRUST | 6 | 6 | ANTIRUST | | OPERATION DIRECT SHEET | SPREAD POSITION | | | OPERATOR | |
| INSULATOR WIRE | 7 | 7 | MAIN WINDING | WINDING MACHINE | OPERATION DIRECT SHEET | WIRE TYPE/DIAMETER | LABEL CHECK | BEFORE OPERATING, BOBBIN CHANGE | LEADER | CHECK SHEET |
| | | | | | | WINDING POSITION | VISIBLE | BEFORE OPERATING | # | # |
| | | | | | | RESISTANCE | RESISTANCE METER | # | # | # |
| PCB ASS'Y | 8 | 8 | PCB ASS'Y ASSEMBLY | | OPERATION DIRECT SHEET | WIRE ELICIT POSITION | VISIBLE | ALL | OPERATOR | P CHART |
| | | | | | | PCB FIX POSITION | # | # | # | # |
| SOLDERING | 9 | 9 | ROTOR/IRON PREPARATION | | OPERATION DIRECT SHEET | SEARING-IRON TEMPERATURE | SEARING-IRON THERMOMETER | TYPE CHANGE, 1/SHIFT | OPERATOR | CHECK SHEET |
| | | | | | | PREPARATION | VISIBLE | ALL | # | P CHART |
| SOLDERING | 10 | 10 | DOWN-LEAD SOLDERING | SEARING-IRON | OPERATION DIRECT SHEET | SEARING-IRON TEMPERATURE | SEARING-IRON THERMOMETER | TYPE CHANGE, 1/SHIFT | LEADER | CHECK SHEET |
| | | | | | | PREPARATION | VISIBLE | ALL | OPERATOR | P CHART |
| | | | | | | SOLDERING POSITION | | | | |
| | 11 | 11 | CONDUCTIVITY WAVE INSPECTION | INSULATION TESTER | OPERATION DIRECT SHEET | INSULATION/RESISTANCE | INSULATION TESTER | ALL | OPERATOR | CHECK SHEET |
| | | | | | | SHORT CIRCUIT CHECK | # | # | # | P CHART |
| STEEL | 12 | 12 | ROTOR SHAFT | SPECIAL MACHINE | OPERATION DIRECT SHEET | MANUFACTURE SIZE | CALIPER/MICROMETER | TYPE CHANGE, 1/SHIFT | OPERATOR | CHECK SHEET |
| | | | | | | SHAFT DIAMETER | CAL MICROMETER | TYPE CHANGE, 5/SHIFT | # | P CHART |
| | | | | | | VIBRATION | DIAL GAUGE | # | # | # |
| | 13 | 13 | CUTTING | CUTTING MACHINE | OPERATION DIRECT SHEET | MANUFACTURE SIZE | MICROMETER | TYPE CHANGE | OPERATOR | CHECK SHEET |
| COIL STEEL | 14 | 14 | ROTOR PRESS | PRESS MACHINE | OPERATION DIRECT SHEET | COIL DEPTH | CALIPER | TYPE CHANGE, 1/SHIFT | OPERATOR | CHECK SHEET |
| | | | | | | VIBRATION | SPECIAL MACHINE | TYPE CHANGE, 1/SHIFT | # | P CHART |
| | | | | | | DIAMETER | GAUGE/MICROMETER | # | # | # |
| | | | | | | RIVET INTENSION | TATION GAUGE | # | # | # |
| MAGNET | 15 | 15 | PRESS | SPECIAL MACHINE | OPERATION DIRECT SHEET | PRESSURE | PRESSURE METER | ALL | OPERATOR | CHECK SHEET |
| | | | | | | SHAFT LENGTH | CALIPER | TYPE CHANGE, 1/1H | # | P CHART |
| | | | | | | COIL DEPTH | # | # | # | # |
| PAINT | 16 | 16 | EXTERIOR COAT | SPECIAL PAINT MACHINE | OPERATION DIRECT SHEET | EXTERIOR COAT POSITION | VISIBLE | ALL | OPERATOR | |
| | 17 | 17 | TURREFACTION | OVEN | OPERATION DIRECT SHEET | TEMPERATURE/TIME | THERMOMETER/CALCULAGRAPH | TYPE CHANGE, 1/SHIFT | OPERATOR | CHECK SHEET |
| | | | | | | SCLEROUS POSITION | KNIFE | # | # | # |
| | 18 | 18 | OUTSIDE AROUND STIMULATE | SLEEVE SHARPENER | OPERATION DIRECT SHEET | MANUFACTURE SIZE | METER OF MACHINE | ALL | OPERATOR | CHECK SHEET |
| | | | | | | HARSH GRADE | VISIBLE | 1/1H | # | # |
| GREASE | 19 | 19 | DAUBING GREASE | | OPERATION DIRECT SHEET | DAUBING POSITION | VISIBLE | ALL | OPERATOR | |
| BRACKET (MACHINING) | 20 | 20 | ASSEMBLY | ELECTRIC TURNSCREW MAGNETIZE PWOER MAGNETIZE MACHINE | OPERATION DIRECT SHEET | SCREW TORQUE | TORQUE METER | BEFORE OPERATING | LEADER | CHECK SHEET |
| THRUST WASHE | | | | | | MAGNETIZE VOLTAGE | VOLTAGE METER | # | # | P CHART |
| ADHESIVE | | | | | | MAGNETIZE ORGAN | # | # | # | # |
| GREASE | | | | | | SOUND (BEFORE AND AFTER MAGNETIZE) | AUDIBLE | ALL | OPERATOR | |
| BALL BEARING | | | | | | PRESSURE | TACTILITY | # | # | # |
| SCREW BOLT | | | | | | SHAFT LENGTH | SHAFT LENGTH METER | # | # | # |
| WAVE WASHE | 21 | 21 | SHORT CIRCUIT CHARACTERISTIC CHECK | SHORT INSPECTOR INSULATION TESTER | OPERATION DIRECT SHEET | SHORT CIRCUIT CHECK | INSULATION | TESTER | ALL | OPERATOR |
| | | | | | | | | | | CHECK SHEET/P CHART |
| | 22 | 22 | DETENT TORQUE INSPECTION | | OPERATION DIRECT SHEET | DETENT TORQUE | TORQUE METER | ALL | OPERATOR | CHECK SHEET/P CHART |
| | 23 | 23 | ELECTRICITY CHARACTERISTIC CHECK 1 | ELECTRICITY CHARACTERISTIC INSPECTION | OPERATION DIRECT SHEET | ELECTRICITY CHARACTERISTIC | TESTER | ALL | OPERATOR | P CHART |
| | 24 | 24 | PRESS PULLEY | PRESS MACHINE | OPERATION DIRECT SHEET | PRESSURE | PRESSURE METER | BEFORE OPERATING | LEADER | CHECK SHEET |
| | | | | | | PULLEY HEIGHT | HEIGHT METER | ALL | OPERATOR | P CHART |
| | 25 | 25 | IMPRESS LABEL | PRINTER | LABEL LIST | LABEL POSITION/STATE | VISIBLE | ALL | OPERATOR | LABEL LIST |
| | 26 | 26 | APPEARANCE CHECK | | OPERATION DIRECT SHEET | APPEARANCE | VISIBLE | ALL | OPERATOR | P CHART |
| | 27 | 27 | PACKAGING | | BOND DIRECTION | BOND STATE | VISIBLE | ALL | OPERATOR | |
| | 28 | 28 | MOTOR CHECK | MOTOR INSPECTION | INSPECTION RECORD | ELECTRICITY CHARACTERISTIC | TESTER | SHIPPING CHECK RULE | INSPECTOR | INSPECTION RECORD |
| | | | | | | APPEARANCE | VISIBLE/CALIPER, ETC. | # | # | # |
| | 29 | 29 | STORE | | OPERATION DIRECT SHEET | LABEL/QUANTITY CONFORM | VISIBLE | ALL | OPERATOR | |
| APPROVED | CHECKED | PREPARED | REV. | DATE | NOTES | | | MODEL | | |
|  2017/11/28 |  2017/11/28 |  2017/11/28 | 0 | 2012.11.8 | THE FIRST EDITION | | | STR-36C1056 | | |

产品出货包装规格书

(Delivery Packing Specification Instruction)

分发(Distribution) S1 CP CF QA ES SKJ

页(Page): 1/2

管理号码(Managing No.) HKK-STH36C1056GA-00

| | | | | |
|----------------|------------------------|------------------------------|--------------------------------------|---------------------------------|
| 型 号 (Model) | STH-36C1056GA | 顾客零件号 Customer's Part No. | 包装形式 Packing | 瓦楞纸箱 Corrugated paper box |
| | | 一箱总数量 Quantity Per Box | 30台×4层=120台 (30pcs×4Layer=120pcs) | |
| 顾客(Customer) | SAMSUNG TECHWIN CO LTD | 一箱总重量 Mass Per Box | 约 12 千克(About 12 Kg) | |

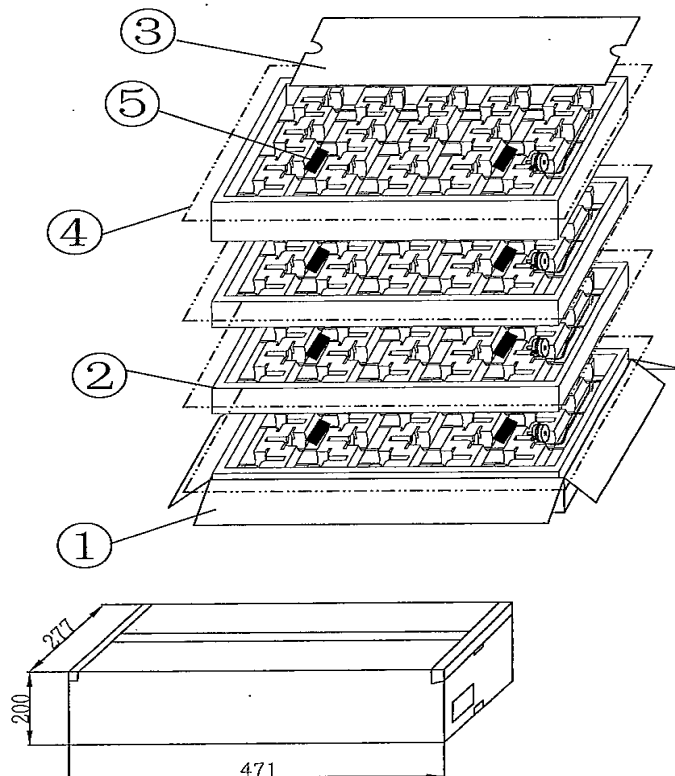
包

装

规

格

Packing specification



包

装

材

料

Packing material

| 序号 No. | 名称 Item | 材料 Material | 规格 Specification | 数量 Quantity | 编号 Spec. No. | 备注 Remark |
|-----------|--------------------|--------------------------------|---------------------|----------------|-----------------|--------------|
| 1 | 外箱(Outside box) | 瓦楞纸板(Corrugated cardboard) | 471×277×200 | 1 | AW0085 | Y39 |
| 2 | 内箱(Inside box) | 发泡箱(Eispastic polystyrene box) | SST36C0030GA | 4 | NP0274 | --- |
| 3 | 纸板(Cardboard) | 瓦楞纸板(Corrugated cardboard) | 430×235 | 1 | GW0019 | --- |
| 4 | 塑料片(Plastic sheet) | 塑料片(Plastic sheet) | 1200×1000×0.01 | 4 | PS0008 | --- |
| 5 | 干燥剂(Desiccant) | 硅胶(Silica Gel) | 5g | 8 | ZG0005 | --- |

| 履历 No. | 编制日期 Edit date | 编制 Prepared by | 批准 Approved by | 更改内容 Modification | 批准 Approved by | 审核 Checked by | 编制 Prepared by |
|-----------|-------------------|-------------------|-------------------|----------------------|--------------------------|--------------------------|--------------------------|
| 00 | 12/09/22 | 李阳 | 魏然 | | 东莞信浓 2017-9-22 马保京 | 东莞信浓 2017-9-22 马保京 | 东莞信浓 2012-09-22 李阳 |

东莞信浓马达有限公司/合肥信浓马达有限公司

DONG GUAN SHINANO MOTOR CO., LTD./HE FEI SHINANO MOTOR CO., LTD.

格式编号

Format No.

SKYJ407001-3

产品出货包装规格书

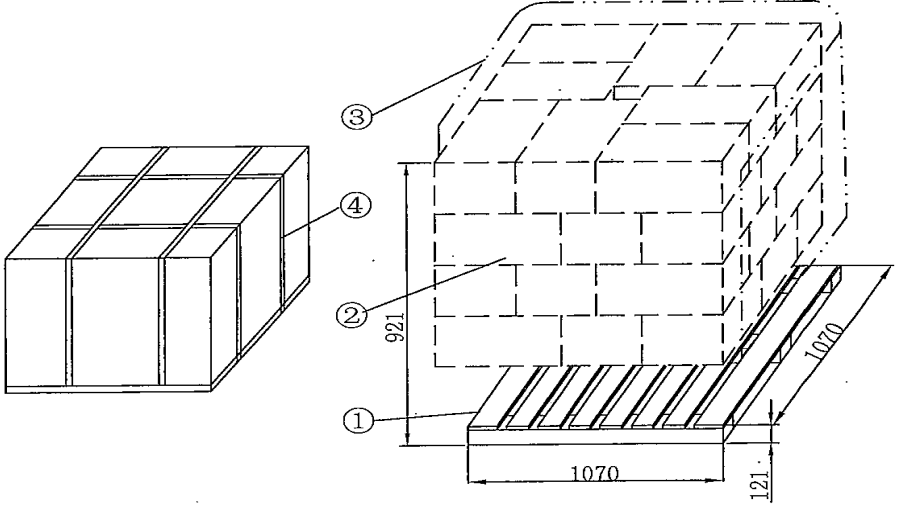
(Delivery Packing Specification Instruction)

页 (Page): 2/2

| 型 号 Model | STH-36C1056GA | 顾客零件号 Customer's Part No. | 包装形式 Packing | 卡 板 Pallet |
|---------------|------------------------|-------------------------------|-------------------------------|---------------|
| 顾客 (Customer) | SAMSUNG TECHWIN CO LTD | 一卡板总数量 Quantity Per Pallet | 8箱×4层=32箱 (8Box×4Layer=32Box) | |
| | | 一卡板总重量 Mass Per Pallet | 约 404 千克 (About 404 Kg) | |

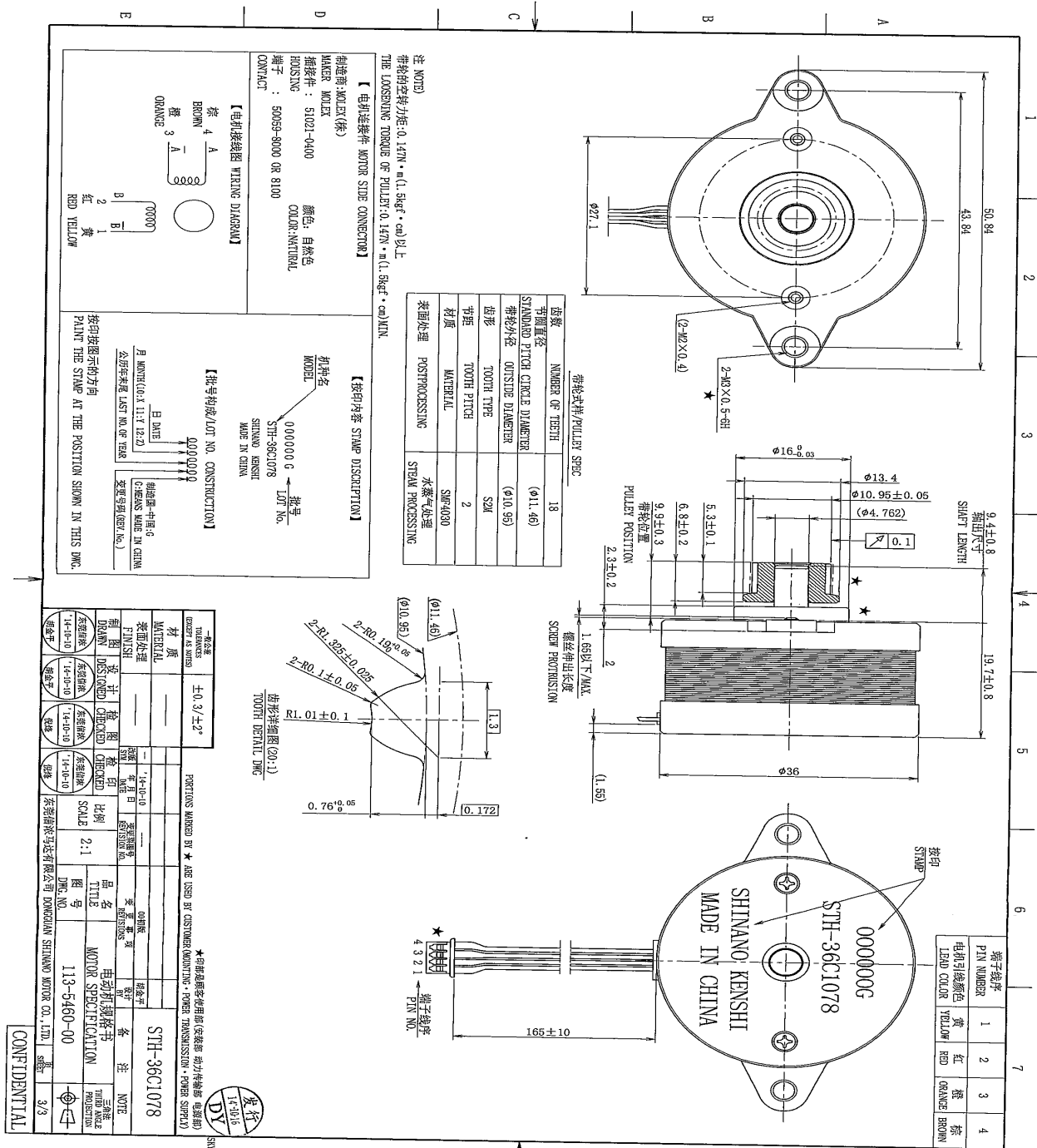
| 序号 No. | 名 称 Item | 材 料 Material | 规 格 Specification | 数 量 Quantity | 编 号 Spec. No. | 备 注 Remark |
|-----------|---------------------|-----------------------------|----------------------|-----------------|------------------|---------------|
| 1 | 卡板 (Pallet) | 合板 (Plywood) | 1070×1070×121 | 1 | KU0002 | ② |
| 2 | 外箱 (Outside box) | 瓦楞纸板 (Corrugated cardboard) | 471×277×200 | 32 | AW0085 | Y39 |
| 3 | 塑料薄膜 (Plastic film) | 塑料薄膜 (Plastic film) | | 1 | | |
| 4 | 打包带 (Strip) | 打包带 (Strip) | | 4 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| 东 莞 信 浓 马 达 有 限 公 司 / 合 肥 信 浓 马 达 有 限 公 司 | 格 式 编 号 | SKYJ407001-3 |
|--|------------|--------------|
| DONG GUAN SHINANO MOTOR CO., LTD. / HE FEI SHINANO MOTOR CO., LTD. | Format No. | |



[illegible]

发行
14-10-16
DY



产品出货包装规格书

(Delivery Packing Specification Instruction)

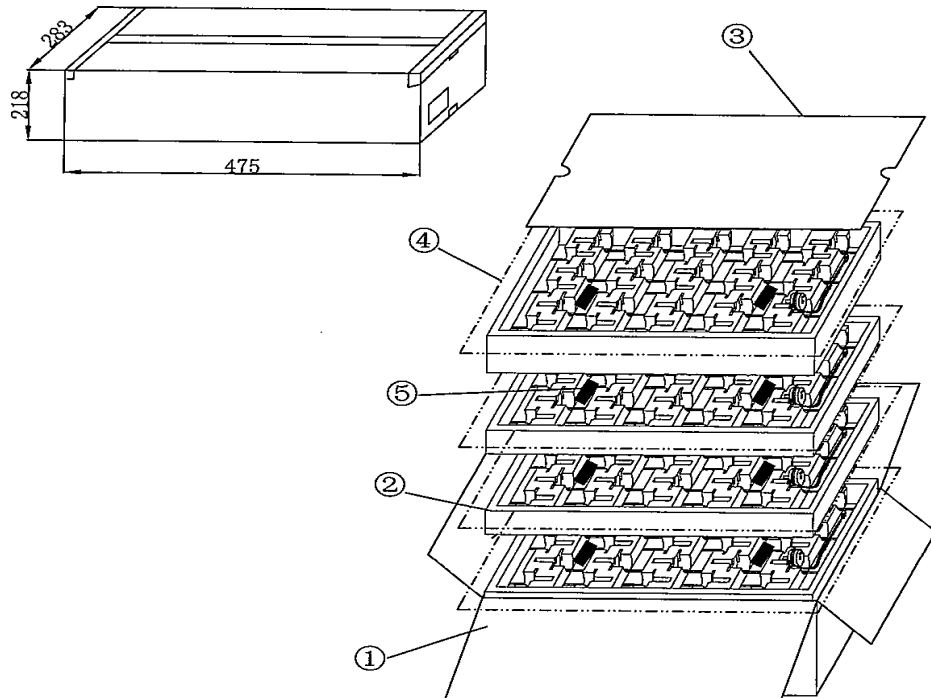
分发(Distribution) S1 CP CF QA ES SKJ

页(Page): 1/2

管理号码(Managing No.) HKK-STH36C1078GA-00

| | | | | |
|---------------------------|--------------------------------------|------------------------------|----------------------|------------------------------|
| 型 号 (Model) | STH-36C1078GA | 顾客零件号 Customer's Part No. | 包装形式 Packing | 瓦楞纸箱 Corrugated paper box |
| 一箱总数量 Quantity Per Box | 30台×4层=120台 (30pcs×4Layer=120pcs) | 一箱总重量 Mass Per Box | 约 12 千克(About 12 Kg) | |
| 顾客(Customer) | SAMSUNG TECHWIN CO LTD | | | |

包
装
规
格
Packing specification



| | | | | | | |
|-----------|--------------------|---------------------------------|---------------------|----------------|-----------------|--------------|
| 序号 No. | 名称 Item | 材料 Material | 规格 Specification | 数量 Quantity | 编号 Spec. No. | 备注 Remark |
| 1 | 外箱(Outside box) | 瓦楞纸板(Corrugated cardboard) | 475×283×218 | 1 | AW0085 | Y39 |
| 2 | 内箱(Inside box) | 发泡箱(Epislastic polystyrene box) | SST36C0030GA | 4 | NP0274 | --- |
| 3 | 纸板(Cardboard) | 瓦楞纸板(Corrugated cardboard) | 430×235 | 1 | GW0019 | --- |
| 4 | 塑料片(Plastic sheet) | 塑料片(Plastic sheet) | 1200×1000×0.01 | 4 | PS0008 | --- |
| 5 | 干燥剂(Desiccant) | 硅胶(Silica Gel) | 5g | 8 | ZG0005 | --- |

| | | | | | | | |
|-----------|-------------------|-------------------|-------------------|----------------------|-------------------|------------------|-------------------|
| 履历 No. | 编制日期 Edit date | 编制 Prepared by | 批准 Approved by | 更改内容 Modification | 批准 Approved by | 审核 Checked by | 编制 Prepared by |
| 00 | 14/10/11 | 韩培华 | 魏然 | | | | |
| | | | | | | | |
| | | | | | | | |

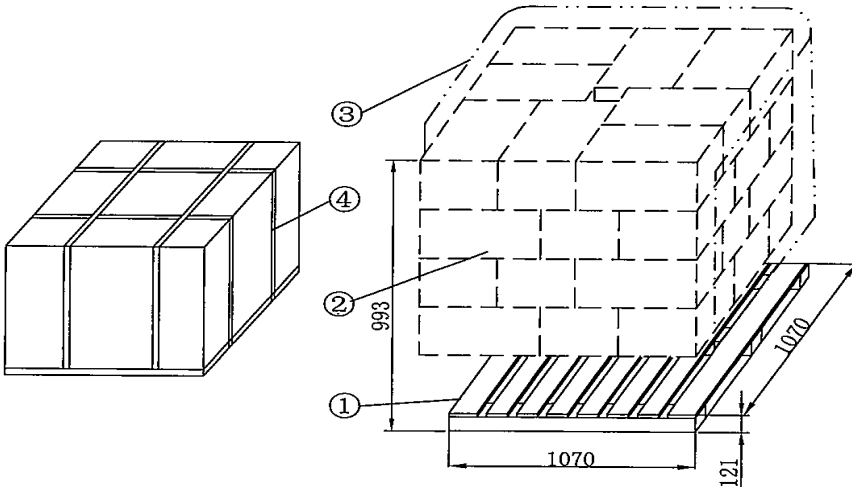
| | | |
|--|--------------------|--------------|
| 东莞信浓马达有限公司/合肥信浓马达有限公司 DONG GUAN SHINANO MOTOR CO.,LTD./HE FEI SHINANO MOTOR CO.,LTD | 格式编号 Format No. | SKYJ407001-3 |
|--|--------------------|--------------|

产品出货包装规格书

(Delivery Packing Specification Instruction)

页 (Page): 2/2

| | | | | | |
|---------------|------------------------|-------------------------------|-------------------------------|---------------------------|-------------------------|
| 型 号 Model | STH-36C1078GA | 顾客零件号 Customer's Part No. | | 包装形式 Packing | 卡 板 Pallet |
| 顾客 (Customer) | SAMSUNG TECHWIN CO LTD | 一卡板总数量 Quantity Per Pallet | 8箱×4层=32箱 (8Box×4Layer=32Box) | 一卡板总重量 Mass Per Pallet | 约 404 千克 (About 404 Kg) |

| | | | | | | | |
|---|---|---------------------|-----------------------------|----------------------|-----------------|------------------|---------------|
| 包 装 规 格 Packing specification |  | | | | | | |
| | 序号 No. | 名 称 Item | 材 料 Material | 规 格 Specification | 数 量 Quantity | 编 号 Spec. No. | 备 注 Remark |
| | 1 | 卡板 (Pallet) | 合板 (Plywood) | 1070×1070×121 | 1 | KU0002 | ② |
| | 2 | 外箱 (Outside box) | 瓦楞纸板 (Corrugated cardboard) | 475×283×218 | 32 | AW0085 | Y39 |
| | 3 | 塑料薄膜 (Plastic film) | 塑料薄膜 (Plastic film) | | 1 | | |
| 4 | 打包带 (Strip) | 打包带 (Strip) | | 4 | | | |
| 包 装 材 料 Packing material | | | | | | | |

| | | | | | | |
|--|--|--|--|-----------------------|--|--------------|
| 东莞信浓马达有限公司/合肥信浓马达有限公司 DONG GUAN SHINANO MOTOR CO., LTD. / HE FEI SHINANO MOTOR CO., LTD | | | | 格 式 编 号 Format No. | | SKYJ407001-3 |
|--|--|--|--|-----------------------|--|--------------|

出荷検査基準書/出荷検査成績書 (SHIPPING INSPECTION SPECIFICATION/SHIPPING INSPECTION RECORD)

東莞信濃馬達有限公司
シナノケンシ(株)中国工場 品質保証部

| | | | | | |
|-----------------------------|------------------------|-------------|---------------|-------------------|--|
| 出荷検査基準書 NO. | CQACH-14S120 | SKJ | SKY | LOT NO. | 検査年月日(INSPECTION DATE) 室温(TEMP) °C 気圧(ATM) hpa 湿度(HUMID) % 承認 (APPROVED) 検査 (CHECKED) 判定 (JUDGE) 氏名(NAME) 氏名(NAME) 番号(I.D.NO.) 番号(I.D.NO.) |
| 顧客名 CUSTOMER | SAMSUNG TECHWIN CO LTD | 合議 (CONFER) | 承認 (APPROVED) | LOT SIZE | |
| 顧客部署 CUSTOMER'S PARTS NO | | | 確認 (CHECKED) | S 出荷日(SHIP DATE) | |
| 機種名 MODEL | STH-36C1078GA | | 作成 (PREPARED) | K 出荷台数(SHIP SIZE) | |
| 新規作成日 FIRST ISSUE | 2014.10.15 | | | Y 出荷NO.(SHIP NO.) | |
| | | | | S 出荷日(SHIP DATE) | |
| | | | | K 出荷台数(SHIP SIZE) | |
| | | | | J 出荷NO.(SHIP NO.) | |

1. 特性・寸法検査(PERFORMANCES-DIMENSIONS INSP.)

| 検査項目 (INSPECTION ITEM) | 規格値(SPEC) | | 単位 (Unit) | 方法 (METHOD) | 測定値(MEASUREMENTS) | | | | | 判定(JUDGE) OK/NG | 備考(測定条件等) (REMARK) |
|---------------------------|-----------|--------------------|--------------|----------------|-------------------|------|------|------|------|--------------------|-----------------------|
| | 下限(Lower) | 上限(Upper) | | | No.1 | No.2 | No.3 | No.4 | No.5 | | |
| 巻線电阻 | A相 | 6.21 | 7.59 | Ω | 电阻计 | | | | | | 温度25℃ |
| | B相 | 6.21 | 7.59 | Ω | | | | | | | |
| 巻線电感 | A相 | 4.28 | 6.42 | mH | LCR表 | | | | | | 1kHz/1Vrms |
| | B相 | 4.28 | 6.42 | mH | | | | | | | |
| 保持力矩 | | 85.3 | - | mN·m | 力矩计 | | | | | | 0.6A/相、2相励磁 |
| 制动力矩 | | - | 11.7 | mN·m | 力矩计 | | | | | | |
| 最大自启动频率 | | 1800 | - | pps | 专用检查器 | | | | | | 无负荷 |
| 绝缘电阻 | | 100 以上 | | MΩ | 绝缘耐压计 | | | | | | DC500V |
| 绝缘耐压 | | 无异常 | | - | 绝缘耐压计 | | | | | | AC500V/1分/3mA |
| 回转方向 | | CW | | - | 目视 | | | | | | 从安装面侧见顺时针 |
| 轴振 | | - | 0.10 | mm | 千分表 | | | | | | |
| 轴出位置 | | 8.6 | 10.2 | mm | 高度计 | | | | | | |
| 带轮位置 | | 9.6 | 10.2 | mm | | | | | | | |
| Φ部外径 | | 15.97 | 16.00 | mm | 千分尺 | | | | | | |
| 螺纹孔 | | 2-M3×0.5-6H(OK/NG) | | mm | 螺纹规 | | | | | | |
| 口出线长度 | | 155 | 175 | mm | 直尺 | | | | | | |

2. 外觀検査(APPEARANCE)

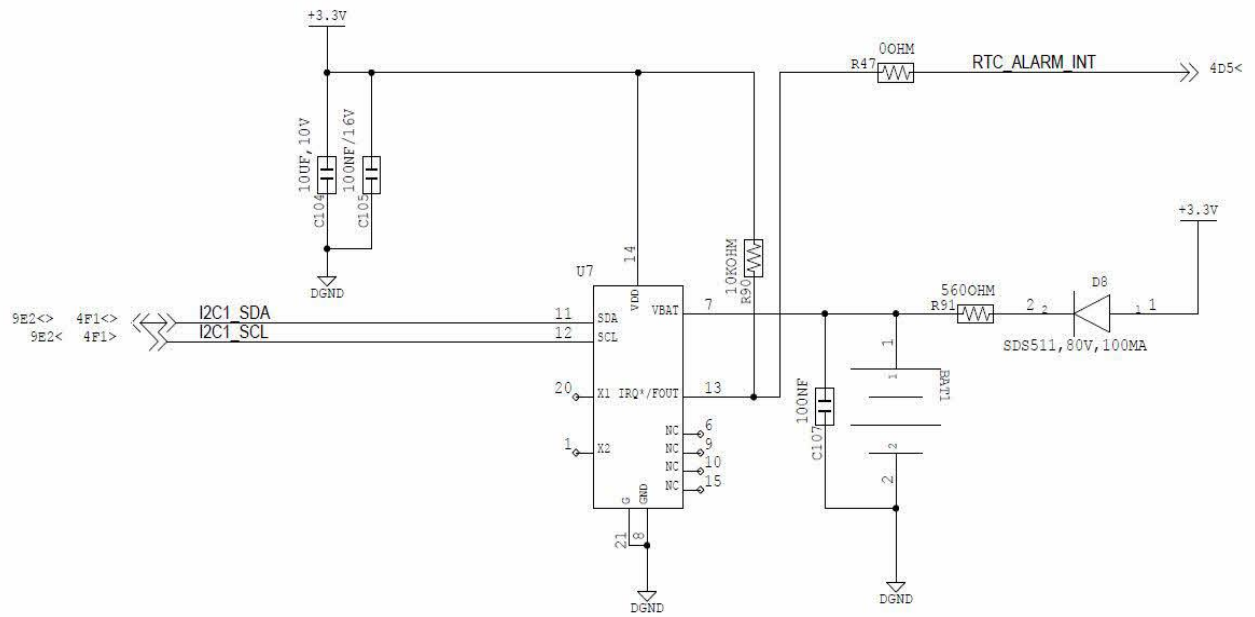
| 検査項目(INSPECTION ITEM) | 確認内容(CHECKED) | 方法(METHOD) | n | c |
|-----------------------|---------------------|------------|---|---|
| 铭牌 | 位置、方向、内容、汚迹、破損、批号等 | 目视 | | |
| 螺丝 | 欠品、异品、浮起、打花、打歪等 | 目视 | | |
| 安装面 | 毛刺、刻痕、变形、无漏加工、螺孔螺纹等 | 目视 | | |
| 出力轴/带轮 | 毛刺、刻痕、变形、生锈、带轮压入状态等 | 目视 | | |
| 口出线 | 松脱、破損、压伤、漏芯线、污迹等 | 目视 | | |
| 推力间隙 | 推力间隙大、小、移动无滞感等 | 手感 | | |
| 回转状态 | 挡回、转重、角度大、等 | 手感 | | |

| COMMENT | | | |
|---------------|-------------------------|------------|------------|
| | | | |
| | | | |
| | | | |
| 00 2014.10.15 | 新規作成 | 袁利星 | 张帆 |
| REV. 改訂日 | 改訂内容(REVISIONS) ① | 作成 | 承認 |
| NO. (DATE) | (仕様書図番・変更票番号・指示書番号等も記入) | (PREPARED) | (APPROVED) |

QC PROCESS FLOW CHART

SHINANO KENSHI CO., LTD.

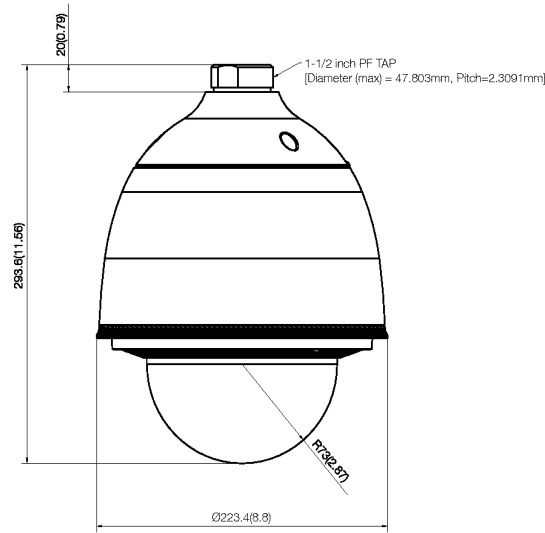
| PROCESS FLOW | | | QUALITY ASSURANCE DEPT. | | | | | | | |
|---------------------------|---------------------------|---------------------------|------------------------------------|--|------------------------|--|--------------------------|---------------------------------|-------------|---------------------|
| MATERIAL | PROCESS FLOW | PROCESS No. | PROCESS NAME | MACHINERY | MANAGE STANDARD | MANAGE ITEM | MEASUREMENT | SAMPLING | OPERATOR | NOTE |
| PURCHASED | 1 | 1 | INCOMING CHECK | | PART DESIGN | SIZE/APPEARANCE, ETC. | CALIPER/VISIBLE | INCOMING CHECK RUN | INSPECTOR | INSPECTION RECORD |
| COIL STEEL | 2 | 2 | STATOR PRESS | PRESS MACHINE | OPERATION DIRECT SHEET | COIL DEPTH | CALIPER | ALL | OPERATOR | CHECK SHEET |
| | | | | | | VIBRATION | GAUGE/MICROMETER | TYPE CHANGE, 1/SHIFT | | P CHART |
| | | | | | | DIAMETER | SPECIAL MACHINE | | | |
| PAINT | 3 | 3 | PAINT | PAINT MACHINE | OPERATION DIRECT SHEET | RIVET INTENSION | TATION GAUGE | | | |
| | | | | | | DIAMETER | GAUGE | ALL | OPERATOR | P CHART |
| | | | | | | APPEARANCE | VISIBLE | | | |
| | 4 | 4 | ABRASION | MULLER | OPERATION DIRECT SHEET | VIBRATION | SPECIAL MACHINE | TYPE CHANGE, 1/SHIFT | | CHECK SHEET |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | 5 | 5 | WASH | | OPERATION DIRECT SHEET | WASH POSITION | VISIBLE | 1 PCS/1 BOX | OPERATOR | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| ANTIRUST | 6 | 6 | ANTIRUST | | OPERATION DIRECT SHEET | SPREAD POSITION | | | OPERATOR | |
| INSULATOR WIRE | 7 | 7 | MAIN WINDING | WINDING MACHINE | OPERATION DIRECT SHEET | WIRE TYPE/DIAMETER | LABEL CHECK | BEFORE OPERATING, BOBBIN CHANGE | LEADER | CHECK SHEET |
| | | | | | | WINDING POSITION | VISIBLE | BEFORE OPERATING | | |
| | | | | | | RESISTANCE | RESISTANCE METER | | | |
| PCB ASS'Y | 8 | 8 | PCB ASS'Y ASSEMBLY | | OPERATION DIRECT SHEET | WIRE ELICIT POSITION | VISIBLE | ALL | OPERATOR | P CHART |
| | | | | | | PCB FIX POSITION | | | | |
| | | | | | | | | | | |
| SOLDERING | 9 | 9 | DOWN-LEAD PREPARATION SOLDERING | | OPERATION DIRECT SHEET | SEARING-IRON TEMPERATURE | SEARING-IRON THERMOMETER | TYPE CHANGE, BEFORE OPERATING | OPERATOR | CHECK SHEET |
| | | | | | | PREPARATION SOLDERING POSITION | VISIBLE | ALL | | P CHART |
| | | | | | | | | | | |
| SOLDERING | 10 | 10 | DOWN-LEAD SOLDERING | SEARING-IRON | OPERATION DIRECT SHEET | SEARING-IRON TEMPERATURE | SEARING-IRON THERMOMETER | TYPE CHANGE, BEFORE OPERATING | LEADER | CHECK SHEET |
| | | | | | | PREPARATION SOLDERING POSITION | VISIBLE | ALL | OPERATOR | P CHART |
| | | | | | | | | | | |
| | 11 | 11 | CONDUCTIVITY WAVE INSPECTION | INSULATION TESTER | OPERATION DIRECT SHEET | INSULATION/RESISTANCE | INSULATION TESTER | ALL | OPERATOR | CHECK SHEET |
| | | | | | | SHORT CIRCUIT CHECK | | | | P CHART |
| | | | | | | | | | | |
| STEEL | 12 | 12 | ROTOR SHAFT | SPECIAL MACHINE | OPERATION DIRECT SHEET | MANUFACTURE SIZE | CALIPER/MICROMETER | TYPE CHANGE, 1/SHIFT | OPERATOR | CHECK SHEET |
| | | | | | | SHAFT DIAMETER | CAL MICROMETER | TYPE CHANGE, 5/SHIFT | | P CHART |
| | | | | | | VIBRATION | DIAL GAUGE | | | |
| | 13 | 13 | CUTTING | CUTTING MACHINE | OPERATION DIRECT SHEET | MANUFACTURE SIZE | MICROMETER | TYPE CHANGE | OPERATOR | CHECK SHEET |
| | | | | | | | | | | |
| | | | | | | | | | | |
| COIL STEEL | 14 | 14 | ROTOR PRESS | PRESS MACHINE | OPERATION DIRECT SHEET | COIL DEPTH | CALIPER | TYPE CHANGE, 1/SHIFT | OPERATOR | CHECK SHEET |
| | | | | | | VIBRATION | SPECIAL MACHINE | TYPE CHANGE, 1/SHIFT | | P CHART |
| | | | | | | DIAMETER | GAUGE/MICROMETER | | | |
| | 15 | 15 | PRESS | SPECIAL MACHINE | OPERATION DIRECT SHEET | RIVET INTENSION | TATION GAUGE | | | |
| | | | | | | PRESSURE | PRESSURE METER | ALL | OPERATOR | CHECK SHEET |
| | | | | | | SHAFT LENGTH | CALIPER | TYPE CHANGE, 1/SHIFT | | P CHART |
| PAINT | 16 | 16 | EXTERIOR COAT | SPECIAL PAINT MACHINE | OPERATION DIRECT SHEET | COIL DEPTH | | | | |
| | | | | | | EXTERIOR COAT POSITION | VISIBLE | ALL | OPERATOR | |
| | | | | | | | | | | |
| | 17 | 17 | TORREFACTION | OVEN | OPERATION DIRECT SHEET | TEMPERATURE/TIME | THERMOMETER/CALCULAGRAPH | TYPE CHANGE 1/SHIFT | OPERATOR | CHECK SHEET |
| | | | | | | SCLEROUS POSITION | KNIFE | | | |
| | | | | | | | | | | |
| | 18 | 18 | OUTSIDE AROUND STIMULATE | SLEEVE SHARPENER | OPERATION DIRECT SHEET | MANUFACTURE SIZE | METER OF MACHINE | ALL | OPERATOR | CHECK SHEET |
| | | | | | | HARSH GRADE | VISIBLE | 1/SHIFT | | |
| | | | | | | | | | | |
| GREASE | 19 | 19 | DAUBING GREASE | | OPERATION DIRECT SHEET | DAUBING POSITION | VISIBLE | ALL | OPERATOR | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| BRACKET (MACHINING) | 20 | 20 | ASSEMBLY | ELECTRIC TURNSCREW MAGNETIZE PWOER MAGNETIZE MACHINE | OPERATION DIRECT SHEET | SCREW TORQUE | TORQUE METER | BEFORE OPERATING | LEADER | CHECK SHEET |
| | | | | | | MAGNETIZE VOLTAGE | VOLTAGE METER | | | P CHART |
| | | | | | | MAGNETIZE ORGAN SOUND (BEFORE AND AFTER MAGNETIZE) | AUDIBLE | ALL | OPERATOR | |
| THRUST WASHER | | | | | | PRESSURE | FACILITY | | | |
| | | | | | | SHAFT LENGTH | SHAFT LENGTH METER | | | |
| | | | | | | | | | | |
| ADHESIVE | 21 | 21 | ELECTRICITY CHARACTERISTIC CHECK 1 | SHORT INSPECTOR INSULATION TESTER | OPERATION DIRECT SHEET | SHORT CIRCUIT CHECK INSULATION | TESTER | ALL | OPERATOR | CHECK SHEET/P CHART |
| | | | | | | | | | | |
| | | | | | | | | | | |
| GREASE | 22 | 22 | ELECTRICITY CHARACTERISTIC CHECK 2 | ELECTRICITY CHARACTERISTIC INSPECTION | OPERATION DIRECT SHEET | ELECTRICITY CHARACTERISTIC | TESTER | ALL | OPERATOR | P CHART |
| | | | | | | | | | | |
| | | | | | | | | | | |
| BALL BEARING | 23 | 23 | PRESS PULLEY | PRESS MACHINE PRESS FIXTURE | OPERATION DIRECT SHEET | PRESSURE | PRESSURE METER | BEFORE OPERATING | LEADER | CHECK SHEET |
| | | | | | | PULLEY HEIGHT | HEIGHT METER | ALL | OPERATOR | P CHART |
| | | | | | | | | | | |
| SCREW BOLT | 24 | 24 | IMPRESS LABEL | PRINTER | LABEL LIST | LABEL POSITION/STATE | VISIBLE | ALL | OPERATOR | LABEL LIST |
| | | | | | | | | | | |
| | | | | | | | | | | |
| WAVE WASHER | 25 | 25 | APPEARANCE CHECK | | OPERATION DIRECT SHEET | APPEARANCE | VISIBLE | ALL | OPERATOR | P CHART |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | 26 | 26 | PACKAGING | | BOND DIRECTION | BOND STATE | VISIBLE | ALL | OPERATOR | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | 27 | 27 | MOTOR CHECK | MOTOR INSPECTION | INSPECTION RECORD | ELECTRICITY CHARACTERISTIC | TESTER | SHIPPING CHECK RULE | INSPECTOR | INSPECTION RECORD |
| | | | | | | APPEARANCE | VISIBLE/CALIPER, ETC. | | | |
| | | | | | | | | | | |
| | 28 | 28 | STORE | | OPERATION DIRECT SHEET | LABEL QUANTITY CONFIRM | VISIBLE | ALL | OPERATOR | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| APPROVED | CHECKED | PREPARED | REV. | DATE | NOTES | | | | MODEL | |
| 東海保証 2014/10/14 李加祥 | 東海保証 2014/10/14 李加祥 | 東海保証 2014/10/14 李加祥 | INTERIM | 2014.10.14 | THE FIRST EDITION | | | | STH-36C1078 | |



appendix

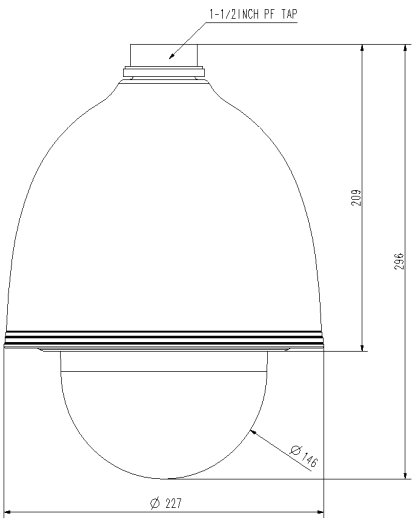
XNP-6320H

Unit : mm (inch)



XNP-6320HS

Unit : mm (inch)



NETWORK CAMERA, XNP-6320H

AC 24V ~ 50/60Hz 2.9A

PoE 42.5-57V  0.9A

M/C:XXXXXXXXX Fac. ID : T



Feb 2018 S/N:XXXXXXXXXXXXXX


MAC ADDRESS: XX-XX-XX-XX-XX-XX

HANWHA TECHWIN CO., LTD. MADE IN CHINA



NETWORK CAMERA, XNP-6320HS

AC 24V ~ 50/60Hz 2.9A

PoE 42.5-57V  0.9A

M/C:XXXXXXXXX Fac. ID : T



Feb 2018 S/N:XXXXXXXXXXXXXX


MAC ADDRESS: XX-XX-XX-XX-XX-XX

HANWHA TECHWIN CO., LTD. MADE IN CHINA



NETWORK CAMERA, QNP-6320H

AC 24V ~ 50/60Hz 2.9A

PoE 42.5-57V  0.9A

M/C:XXXXXXXXX Fac. ID : T



Feb 2018 S/N:XXXXXXXXXXXXXX

MAC ADDRESS: XX-XX-XX-XX-XX-XX

HANWHA TECHWIN CO., LTD. MADE IN CHINA

