FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

COMPONENT - SWITCHES, INDUSTRIAL CONTROL
(NRNT2,NRNT8)

Manufacturer: SEE ADDENDUM FOR MANUFACTURER LOCATIONS

595918 (Party Site)
Applicant: ZHEJIANG KACON ELECTRIC CO LTD
(100030-171) No.211 Weft Twelve Road
Economic Development Zone
Yueqing
Zhejiang 325600 CHINA

594977 (Party Site)
Recognized Company: Korea Auto Controls Co Ltd (E168231)
(877808-001) 66 Geonji-ro 250beon-gil Seo-gu
Incheon 22837 KOREA

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party and any applicable Service Terms. The UL Contracting Party for Follow-Up Services is listed on addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

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The Applicant, the specified Manufacturer(s) and any Recognized Company in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable agreement is a Global Services Agreement ("GSA") with an effective date of January 1, 2012 or later and this Follow-Up Service Procedure is issued on or after that effective date, the Applicant, the specified Manufacturer(s) and any Recognized Company will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of use of the prescribed UL Mark, acceptance of the factory inspection, or payment of the Follow-Up Service fees which will incorporate such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking here: http://www.ul.com/contracts/Terms-After-12-31-2011. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

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This Follow-Up Service Procedure contains information for the use of the above Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Manufacturer with the understanding that it will be returned upon request and is not to be copied in whole or in part.

This Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service Procedure contains confidential information for use only by the above named Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Subscribers with the understanding that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

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UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

UL LLC has signed below solely in its capacity as the accredited entity to indicate that this Follow-Up Service Procedure is in compliance with the accreditation requirements.

Bruce A. Mahrenholz
Director
North American Certification Program

LOCATION

595918 (Party Site)
(100030-171) ZHEJIANG KACON ELECTRIC CO LTD
No.211 Weft Twelve Road
Economic Development Zone
Yueqing
Zhejiang 325600 CHINA
Factory ID: None
UL Contracting Party for above site is: UL AG

Recognized Component Marking Data Page (RCMDP)

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

RECOGNIZED COMPONENT MARKING

Products Recognized under UL's Component Recognition Service are identified by marking elements consisting of:

1. The Recognized Company's identification specified in this document.

2. A catalog, model or other applicable product designation specified in the descriptive sections of this document.

3. The UL Recognized Component Mark shown below is optional unless required elsewhere in the Procedure.

Only those components, which actually bear the Marking, should be considered as being covered under the Recognition Program. The UL Listing or Classification Mark is not authorized for use on or in connection with Recognized Components.

Recognized Component Mark

Minimum size of the Recognized Component Mark is not specified as long as it is legible. Minimum height of the registered symbol ® shall be 3/64 inch but may be omitted if it is out of proportion to the Recognized Component Mark or not legible to the naked eye.

The manufacturer may reproduce the Mark electronically. Any decision regarding the acceptability of the manufacturer's Mark reproduction will be made at the Reviewing Office.

Recognized Component Marking Data Page (RCMDP)

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

RECOGNIZED COMPONENT MARKING

Products Recognized under UL's Component Recognition Service are identified by marking elements consisting of:

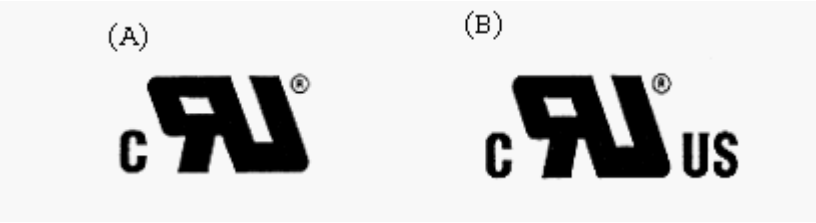
1. The Recognized Company's identification specified in this document.

2. A catalog, model or other applicable product designation specified in the descriptive sections of this document.

3. The UL Recognized Component Mark shown below:
   (A) Recognized only to Canadian safety requirements, or;
   (B) Recognized to both U.S. and Canadian safety requirements.

Only those components, which actually bear the Marking, should be considered as being covered under the Recognition Program. The UL Listing or Classification Mark is not authorized for use on or in connection with Recognized Components.

Recognized Component Mark



Minimum size of the Recognized Component Mark is not specified as long as it is legible. Minimum height of the registered symbol ® shall be 3/64 inch but may be omitted if it is out of proportion to the Recognized Component Mark or not legible to the naked eye.

The manufacturer may reproduce the Mark electronically. Any decision regarding the acceptability of the manufacturer's Mark reproduction will be made at the Reviewing Office.

THIS FORM PAGE IS TO BE REVISED BY THE NORTHBROOK LABEL DEPARTMENT ONLY

INDEX

Model Designation	Section	Report Date	USR	CNR
Industrial control switch, Solid State Relay, Models No. KSR, followed by -2, followed by 005, 015, 030, 040, 050, 060 or 080, followed by Z, followed by D, followed by H.	1	2010-03-26	X	X
Models No. KSC, followed by -2, followed by 015, 030, 040, 050 or 060, followed by Z, followed by D, followed by H.				

USR indicates these products were investigated under the Standard for Industrial Control Equipment, UL 508.

CNR indicates these products were investigated under the Standard for Industrial Control Equipment, CSA C22.2 No. 14-10.

GENERAL

PRODUCT COVERED:

USR, CNR - Switches, Industrial Control.

CONSTRUCTION DETAILS:

General - Unless otherwise described in the individual Reports, the following paragraphs apply to all products included in this Procedure.

Abbreviations –

Sec. Gen. – Sectional General
R/C - Recognized Component
USR - United States, Recognized
CNR - Canadian Standard, Recognized

FACTORY LOCATION AND IDENTIFICATION:

Manufacturer's Name	Manufacturer's Address	Factory Identification

C-UR

(To Be Filed Behind Section General)

COVERAGE BASED ON CANADIAN STANDARDS:

The products tabulated below also comply with the requirements of CSA Standard for Industrial Control Equipment, C22.2 No. 14-05.

Marking Requirements - These products are intended to be marketed in Canada. Markings shall be based on the "Marking" provisions of the Section General and each individual section within this volume.

The necessity for a bilingual marking (i.e. English and French) shall be determined by the Listee depending upon which Provinces in Canada the product will be marketed. When the product identification is also required in French, the French translation shall be consistent with the English version as described in each individual Section. The above CSA Standard presently only requires bilingual marking of warning and cautionary statements when applicable. Unless specified otherwise, the products are not required to be marked with any warning or cautionary statements.

Model/Type Part/Cat. No.	Type of Product	Section
All	Industrial Control Equipment	All

TRADEMARK DESIGNATION:

The following trademark or trade name “KACON”, if any, may be used to identify products described in this Procedure in lieu of the Listee and/or Recognized Company name. The company identification is the Recognized Company's name or trademark.

File E307625
Project 09CA44642

March 26, 2010

REPORT

On

COMPONENT - SWITCHES, INDUSTRIAL CONTROL

Zhejiang Kacon Electric Co Ltd
Yueqing, Zhejiang

DESCRIPTION

PRODUCT COVERED:

USR/CNR – Solid State Relays, Models No. KSR, followed by -2, followed by 005, 015, 030, 040, 050, 060 or 080, followed by Z, followed by D, followed by H.

USR/CNR – Solid State Relays, Models No. KSC, followed by -2, followed by 015, 030, 040, 050 or 060, followed by Z, followed by D, followed by H.

GENERAL:

The devices are open type solid state switch, with loads controlled by Semiconductors, and Isolation is provided between the control circuit and the load circuit by Recognized Component – Optical Isolator. The switching devices are zero-crossover input type devices.

ELECTRICAL RATINGS:

Model	Input Control Voltage	Max. Load Current @ Surrounding Air Temp.	Load Voltage	Load Type
KSR-2005ZDH	4–32 Vdc	5 A @20 °C	90~240 Vac	Resistive
KSR-2015ZDH	4–32 Vdc	15 A @20 °C	90~240 Vac	Resistive
KSR-2030ZDH	4–32 Vdc	30 A @20 °C	90~240 Vac	Resistive
KSR-2040ZDH	4–32 Vdc	40 A @20 °C	90~240 Vac	Resistive
KSR-2050ZDH	4–32 Vdc	50 A @20 °C	90~240 Vac	Resistive
KSR-2060ZDH	4–32 Vdc	60 A @20 °C	90~240 Vac	Resistive
KSR-2080ZDH	4–32 Vdc	80 A @20 °C	90~240 Vac	Resistive

Model	Input Control Voltage	Max. Load Current @ Surrounding Air Temp.	Load Voltage (three phase)	Load Type
KSC-2015ZDH	4–32 Vdc	15 A @20 °C	90~240 Vac	Resistive
KSC-2030ZDH	4–32 Vdc	30 A @20 °C	90~240 Vac	Resistive
KSC-2040ZDH	4–32 Vdc	40 A @20 °C	90~240 Vac	Resistive
KSC-2050ZDH	4–32 Vdc	50 A @20 °C	90~240 Vac	Resistive
KSC-2060ZDH	4–32 Vdc	60 A @20 °C	90~240 Vac	Resistive

NOMENCLATURE:

KSR	-	2	-	005	Z	D	H
I		II		III	IV	V	VI

I. Model Designation

KSR

II. Load Voltage

2: 90~240 Vac

III. Load current

005:5A,015:15A,030:30A,040:40A,050:50A,060:60A,080:80A

IV. Optical Isolator Operation Type

Z: Zero cross turn-on

V. Input voltage
D: 4~32 Vdc

VI. Heat sink

H: With heat sink

KSC	-	2	-	015	Z	D	H
I		II		III	IV	V	VI

I. Model Designation

KSC

II. Load Voltage

2: 90~240 Vac

III. Load current

015:15A, 030:30A, 040:40A, 050:50A, 060:60A

IV. Optical Isolator Operation Type

Z: Zero cross turn-on

V. Input voltage
D: 4~32 Vdc

VI. Heat sink

H: With heat sink

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

USR indicates these products were investigated under the Standard for Industrial Control Equipment, UL 508, 17th Edition.

CNR indicates these products were investigated under the Standard for Industrial Control Equipment, CSA C22.2 No. 14-10, 11th Edition.

Conditions of Acceptability -

Use - For use only in (or with) complete equipment when the acceptability of the combination is determined by Underwriters Laboratories Inc.

1. The relay terminals are not suitable for field wiring. The relay terminals are to be factory wired only and the suitability of the connection (including spacings between factory connectors) shall be determined for end use application.

2. Spacing from the exposed live metal parts to the enclosure walls shall be in accordance with the requirements of the overall equipment.

3. These devices are DIN-rail mounted devices.

4. Theses device had been evaluated based on Pollution Degree II. The suitability shall be determined for end use.

CONSTRUCTION DETAILS:

The product shall be constructed in accordance with the following description and as described in this Report.

Spacing – Spacings on Printed Wiring Board have been evaluated in accordance with UL 840, Standard for Insulation Coordination Including Clearances and Creepage Distances for Electrical Equipment, 3rd Edition, table 9.2. Spacing through the system was based on pollution degree II and Material Groups IIIa.

Location	Operating Voltage, V ac rms or dc	Over Surface, mm
Between Input and Output circuit, UL 840.	Maximum 50	0.04
	Maximum 250	1.0

Spacing - Spacings at Factory wiring terminals have been evaluated in accordance with UL 508, Standard for Industrial Control Equipment, 17th Edition, Table 36.3. Spacing through the system was based on the load voltage, pollution degree II.

Location	126 – 250 Vac rms	
	Through Air	Over Surface
Factory Wiring Terminal and all other locations, UL 508.	2.4 mm	2.4 mm
Factory Wiring Terminal and all other locations, CSA C22.2 No. 14-10.	3.2 mm	3.2 mm

Tolerances – Unless specified otherwise, all indicated dimensions are nominal.

Corrosion Protection – All parts are of corrosion resistant material or are plated or painted as corrosion protection.

Markings – Molded, die-stamped, paint-stenciled, stamped or etched metal, ink-stamped on cover or adhesive backed label (PGDQ2) secured to the device with Recognized Company's name and/or file number or trademark and model or catalog number, electrical ratings.

Installation instructions or Label shall include:
1. Maximum Surrounding Air temperature;
2. Pollution Degree II;

Printed Wiring Board – R/C (ZPMV2), printed wiring board whose solder time and temperature can be confirmed in the Recognized Component Directory and rated minimum V-2, 130 °C, suitable for Directly Support Requirement.

Illustrations – The following illustrations are provided in this Report.

ILL. No.	Description
1	Schematic diagram, layout of PWB, electronic component list and overall dimension of models KSR-2005ZDH, 2015ZDH, 2030ZDH
2	Schematic diagram, layout of PWB, electronic component list and overall dimension of model KSR-2040ZDH
3	Schematic diagram, layout of PWB, electronic component list and overall dimension of models KSR-2050ZDH, 2060ZDH, 2080ZDH
4	Schematic diagram, layout of PWB, electronic component list and overall dimension of models KSC-2015ZDH, 2030ZDH, 2040ZDH
5	Schematic diagram, layout of PWB, electronic component list and overall dimension of models KSC-2050ZDH, 2060ZDH

Model Difference:

Model KSR-2015ZDH is identical to the model KSR-2005ZDH except for the triac model and heat sink dimension.

Model KSR-2030ZDH is identical to the model KSR-2015ZDH except for the triac model.

Model KSR-2060ZDH is identical to the model KSR-2050ZDH except for the triac model.

Model KSR-2080ZDH is identical to the model KSR-2060ZDH except for the heat sink dimension.

Model KSC-2030ZDH is identical to the model KSC-2015ZDH except for the triac model and heat sink dimension.

Model KSC-2040ZDH is identical to the model KSC-2030ZDH except for the heat sink dimension.

Model KSC-2050ZDH is identical to the model KSC-2040ZDH except for the triac model, triac amount, heat sink and mouting plate dimension.

Model KSC-2060ZDH is identical to the model KSC-2050ZDH except for the triac model.

KSR-2005ZDH - FIG.1 & ILL.1

General – FIG.1 shows an assembled and disassembled view of model KSR-2005ZDH. ILL.1 illustrates the schematic diagram, layout of PWB and electronic component list. Model KSR-2005ZDH represents models KSR-2015ZDH and KSR-2030ZDH except the Triac used and heat sink dimension.

1. Cover – R/C (QMFZ2), measured overall approx. 58.1 by 29.9 by 18.72 mm, 1.9 mm thickness. Secured with Case by physical fit. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	File No.	Material Mfr.
EXL9330(X)(f1)(GG)(B1)	0.8-0.88 mm	HB/(125°C)	E45329	Sabic Innovative Plastics B V

2. Base - R/C (QMFZ2), measured overall approx. 80.1 by 30.1 by 24.9 mm high, 1.8 minimum thickness. suitable for DSR. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	HWI	HAI	CTI	File No.	Material Mfr.
EXL9330(X)(f1)(GG)(B1)	1.5 mm	V-0/(125°C)	2	1	3	E45329	Sabic Innovative Plastics B V

3. Terminal Covers - R/C (QMFZ2), each measured overall approx. 29.9 by 8.7 by 26.7 mm high, 1.5 minimum thickness. Two provided. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	File No.	Material Mfr.
S-3001+(f1)	1.5 mm	V-2/(125°C)	E41179	Mitsubishi Engineering-Plastics Corp

4. Optical Isolator - R/C (FPQU2), as outline below.

Manufacturer	Cat. No.	PWB Location	Rating
Sharp Corporation Electronic Components Division (E64380)	3SF21	PC1	Isolation Voltage: 5000 V. 100°C operating temperature.

5. Triac (Q1) - R/C (QQQX2), as outline below. Physically fixed on heat sink.

SSR Model	Triac Model	Manufacturer	Isolation Voltage	Electrical Rating	Operation Temperature
KSR-2005ZDH	BTA08-600B	ST Microelectronics Inc. (E81734)	2500 Vac	8 A, 600 Vac	125 °C
KSR-2015ZDH	BTA26-600B			25 A, 600 Vac	
KSR-2030ZDH	BTA41-600B			40 A, 600 Vac	

6. Thermal protectors – R/C(YFZW2/8), type THB2D, Jiangyin Tonghui Electronics Co., Ltd(E308271). Physically fitted to the heat sink by screw.

*7. Connector – R/C (ECBT2), type **2100-04, Vensik Electronics Co., Ltd (E118221),** rated **250** V, **1** A. Soldered on PWB.

8. Heat Sink and mounting plate – Aluminium alloy for Heat Sink and Zinc plated Steel for mounting plate. Please refer to ILL-1 for the dimensions.

9. Power terminals and Output Terminals – Two provided for Power Terminal and two provided for Output Terminal. Tin-Bronze. Please refer to ILL-1 for the dimensions.

KSR-2040ZDH - FIG.2 & ILL.2

General – FIG.2 shows an assembled view and a disassembled view of model KSR-2040ZDH. ILL.2 illustrates the schematic diagram, layout of PWB and electronic component list.

*1. Cover – R/C (QMFZ2), measured overall approx. 54.9 by 45.1 by **15.4** mm, 1.9 mm thickness. Secured with Case by physical fit. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	File No.	Material Mfr.
EXL9330(X)(f1)(GG)(B1)	0.8-0.88 mm	HB/(125°C)	E45329	Sabic Innovative Plastics B V

*2. Base - R/C (QMFZ2), measured overall approx. 80 by 45.8 by 25.1 mm high, **1.8** minimum thickness. suitable for DSR. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	HWI	HAI	CTI	File No.	Material Mfr.
EXL9330(X)(f1)(GG)(B1)	1.5 mm	V-0/(125°C)	2	1	3	E45329	Sabic Innovative Plastics B V

3. Terminal Covers - R/C (QMFZ2), each measured overall approx. 44.7 by 26.3 by 12.3 mm high, 1.5 minimum thickness. Two provided. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	File No.	Material Mfr.
S-3001+(f1)	1.5 mm	V-2/(125°C)	E41179	Mitsubishi Engineering-Plastics Corp

4. Optical Isolator - R/C (FPQU2), as outline below.

Manufacturer	Cat. No.	PWB Location	Rating
Sharp Corporation Electronic Components Division (E64380)	3SF21	PC1	Isolation Voltage: 5000 V. 100°C operating temperature.

5. Triac - R/C (QQQX2), as outline below. Physically fixed on the heat sink.

Models	Manufacturer	Cat. No.	Electrical Rating	Operation Temperature
BTA41-600B	ST Microelectronics Inc. (E81734)	TOP3I	40 A, 600 Vac	125 °C

6. Power terminals – Two provided. Tin-Bronze. Please refer to ILL-2 for the dimensions.

7. Output Terminals – Two provided. Copper. Please refer to ILL-2 for the dimensions.

8. Thermal protectors – R/C, type THB2D, Jiangyin Tonghui Electronics Co., Ltd(E308271). Physically fitted to the heat sink by screw.

9. Heat Sink and mounting plate – **Aluminium alloy for Heat Sink and Zinc plated** Steel **for mounting plate**, please refer to ILL-2 for the dimensions.

KSR-2050ZDH - FIG.3 & ILL.3

General – FIG.3 shows an assembled view and a disassembled view of model KSR-2050ZDH. It is representative of models KSR-2060ZDH and KSR-2080ZDH except for triac model and heat sink dimensions. ILL.3 illustrates the schematic diagram, layout of PWB and electronic component list.

*1. Cover – R/C (QMFZ2), measured overall approx. 54.9 by 45.1 by **15.4** mm, 1.9 mm thickness. Secured with Case by physical fit. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	File No.	Material Mfr.
EXL9330(X)(f1)(GG)(B1)	0.8-0.88 mm	HB/(125°C)	E45329	Sabic Innovative Plastics B V

*2. Base - R/C (QMFZ2), measured overall approx. 80 by 45.8 by 25.1 mm high, **1.8** minimum thickness. suitable for DSR. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	HWI	HAI	CTI	File No.	Material Mfr.
EXL9330(X)(f1)(GG)(B1)	1.5 mm	V-0/(125°C)	2	1	3	E45329	Sabic Innovative Plastics B V

3. Terminal Covers - R/C (QMFZ2), each measured overall approx. 44.7 by 26.3 by 12.3 mm high, 1.5 minimum thickness. Two provided. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	File No.	Material Mfr.
S-3001+(f1)	1.5 mm	V-2/(125°C)	E41179	Mitsubishi Engineering-Plastics Corp

4. Optical Isolator - R/C (FPQU2), as outline below.

Manufacturer	Cat. No.	PWB Location	Rating
Sharp Corporation Electronic Components Division (E64380)	3SF21	PC1	Isolation Voltage: 5000 V. 100°C operating temperature.

5. Triacs - R/C (QQQX2), as outline below. Physically fixed on the heat sink. Two provided.

SSR Model	Triac Model	Manufacturer	Isolation Voltage	Electrical Rating	Operation Temperature
KSR-2050ZDH	BTA26-600B	ST Microelectronics Inc. (E81734)	2500 Vac	25 A, 600 Vac	125 °C
KSR-2060ZDH KSR-2080ZDH	BTA41-600B			40 A, 600 Vac	

6. Power terminals – Two provided. Tin-Bronze. Please refer to ILL-3 for the dimensions.

7. Output Terminals – Two provided. Copper. Please refer to ILL-3 for the dimensions.

8. Thermal protectors – R/C, type THB2D, Jiangyin Tonghui Electronics Co., Ltd(E308271). Physically fitted to the heat sink by screw.

9. Heat Sink and mounting plate – **Aluminium alloy for Heat Sink and Zinc plated** Steel **for mounting plate**, please refer to ILL-3 for the dimensions.

KSC-2015ZDH - FIG.4 & ILL.4

General – FIG.4 shows an assembled view and a disassembled view of model KSC-2015ZDH. It is representative of models KSC-2030ZDH and KSC-2040ZDH except for triac model and heat sink dimension. ILL.4 illustrates the schematic diagram, layout of PWB and electronic component list.

1. Cover – R/C (QMFZ2), measured overall approx. 80.1 by 80.1 by 24.6 mm, 2.1 mm thickness. Secured with Case by physical fit. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	File No.	Material Mfr.
*LN-1250G(#)(f1)(*)	1.0 mm	V-0/(125°C)	**E245526**	TEIJIN **POLYCARBONATE CHINA** LTD

2. Base - R/C (QMFZ2), measured overall approx. 80.1 by 80.1 by 30.5 mm, 1.4 minimum thickness. suitable for DSR. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	HWI	HAI	CTI	File No.	Material Mfr.
LN-*1250G(#)(f1)(*)	1.0 mm	V-0/(125°C)	3	2	3	**E245526**	TEIJIN **POLYCARBONATE CHINA** LTD

3. Terminal Covers - R/C (QMFZ2), each measured overall approx. 52.9 by 15.2 by 5.1 mm high, 1.1 minimum thickness. Two provided. See table below for detailed information:

Material Designation	Minimum Thickness	Flammability/RTI	File No.	Material Mfr.
L-1250(#)(f2)	1.5 mm	HB/(125°C)	E245526	TEIJIN POLYCARBONATE CHINA LTD

4. Optical Isolators - R/C (FPQU2), as outline below. Three provided.

Manufacturer	Cat. No.	PWB Location	Rating
Sharp Corporation Electronic Components Division (E64380)	3SF21	PC1	Isolation Voltage: 5000 V. 100°C operating temperature.

5. Triacs - R/C (QQQX2), as outline below. Physically fixed inside Cover. Three provided.

SSR Model	Triac Model	Manufacturer	Isolation Voltage	Electrical Rating	Operation Temperature
KSC-2015ZDH	BTA26-600B	ST Microelectronics Inc. (E81734)	2500 Vac	25 A, 600 Vac	125 °C
KSC-2030ZDH KSC-2040ZDH	BTA41-600B			40 A, 600 Vac	

6. Power terminals – Two provided. Tin-Bronze. Please refer to ILL-4 for the dimensions.

7. Output Terminals – Six provided. Copper. Please refer to ILL-4 for the dimensions.

8. Thermal protectors – R/C, type THB2D, Jiangyin Tonghui Electronics Co., Ltd(E308271). Physically fitted to the heat sink by screw.

9. Potting - R/C (QMFZ2), type 682A/682B, Shenzhen Hitchson Industry Co Ltd (E329705), rated 130 °C, V-0. Potted and covered Printed Wire Board **partly**.

10. Heat Sink and mounting plate – **Aluminium alloy for Heat Sink and Zinc plated** Steel **for mounting plate**, please refer to ILL-4 for the dimensions.

KSC-2050ZDH - FIG.5 & ILL.5

General – FIG.6 shows an assembled view and a disassembled view of model KSC-2050ZDH. It is representative of models KSC-2060ZDH except where variations are specifically described. ILL.5 illustrates the schematic diagram, layout of PWB and electronic component list. It is identical to the model KSC-2040ZDH except for the triac model, triac amount and heat sink dimension, mounting plate.

4. Optical Isolators - Six provided.

5. Triacs - R/C (QQQX2), as outline below. Physically fixed inside. Six Provided.

Models	Manufacturer	Isolation Voltage	Electrical Rating	Operation Temperature
BTA26-600B	ST Microelectronics Inc. (E81734)	2500 Vac	25 A, 600 Vac	125 °C

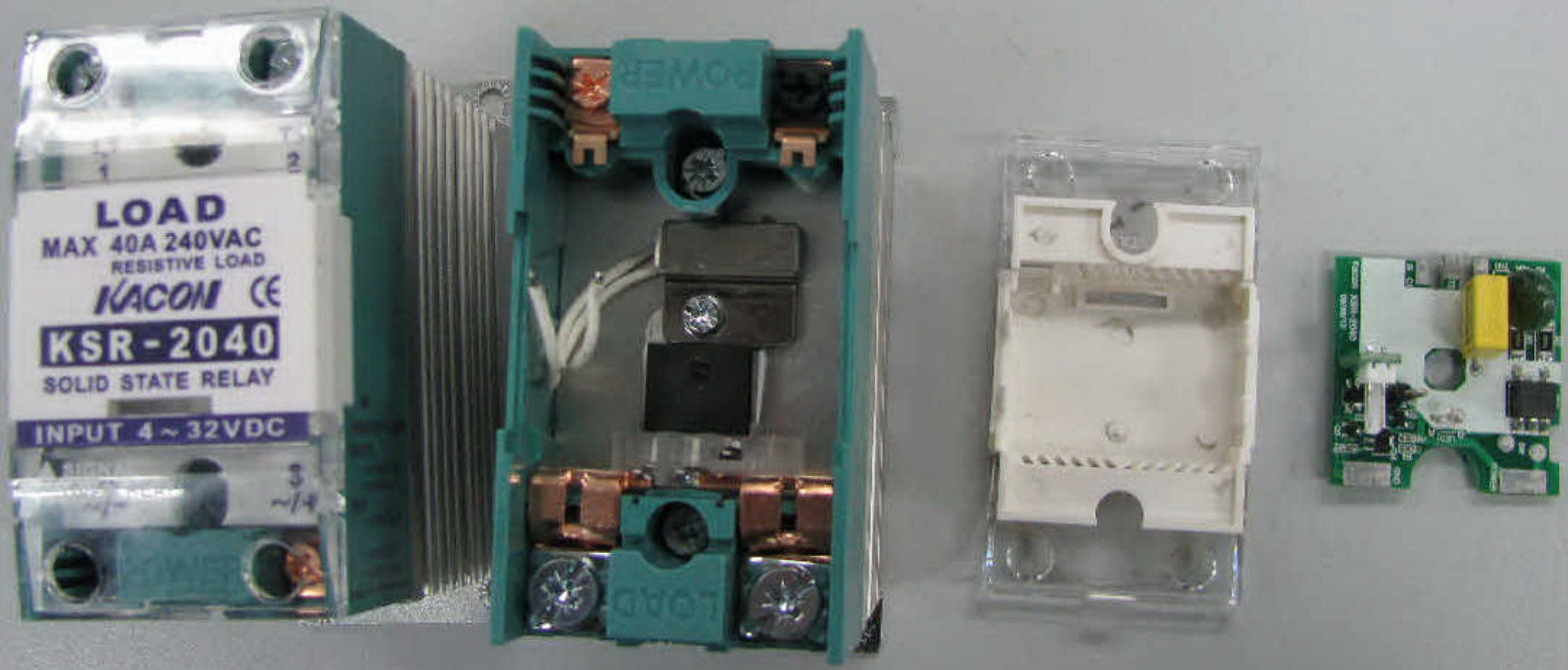
11. Heat Sink and mounting plate – **Aluminium alloy for Heat Sink and Zinc plated** Steel **for mounting plate**, please refer to ILL-5 for the dimensions.

KSC-2060ZDH – ILL.5

General – Model KSC-2060ZDH is identical to the model KSC-2050ZDH except for the triac model.

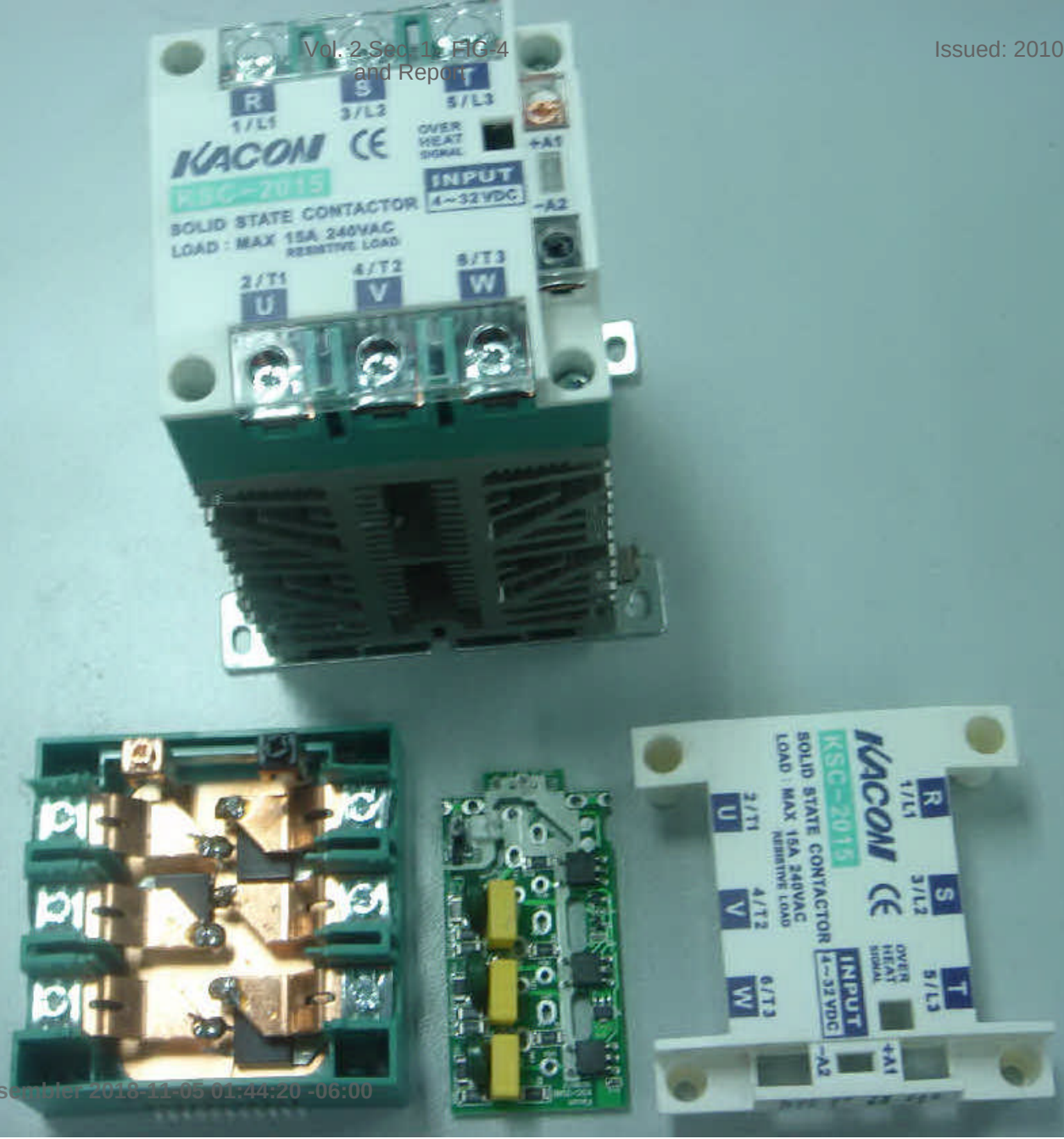
5. Triacs - R/C (QQQX2), as outline below. Physically fixed inside. Six Provided.

Models	Manufacturer	Isolation Voltage	Electrical Rating	Operation Temperature
BTA41-600B	ST Microelectronics Inc. (E81734)	2500 Vac	40 A, 600 Vac	125 °C

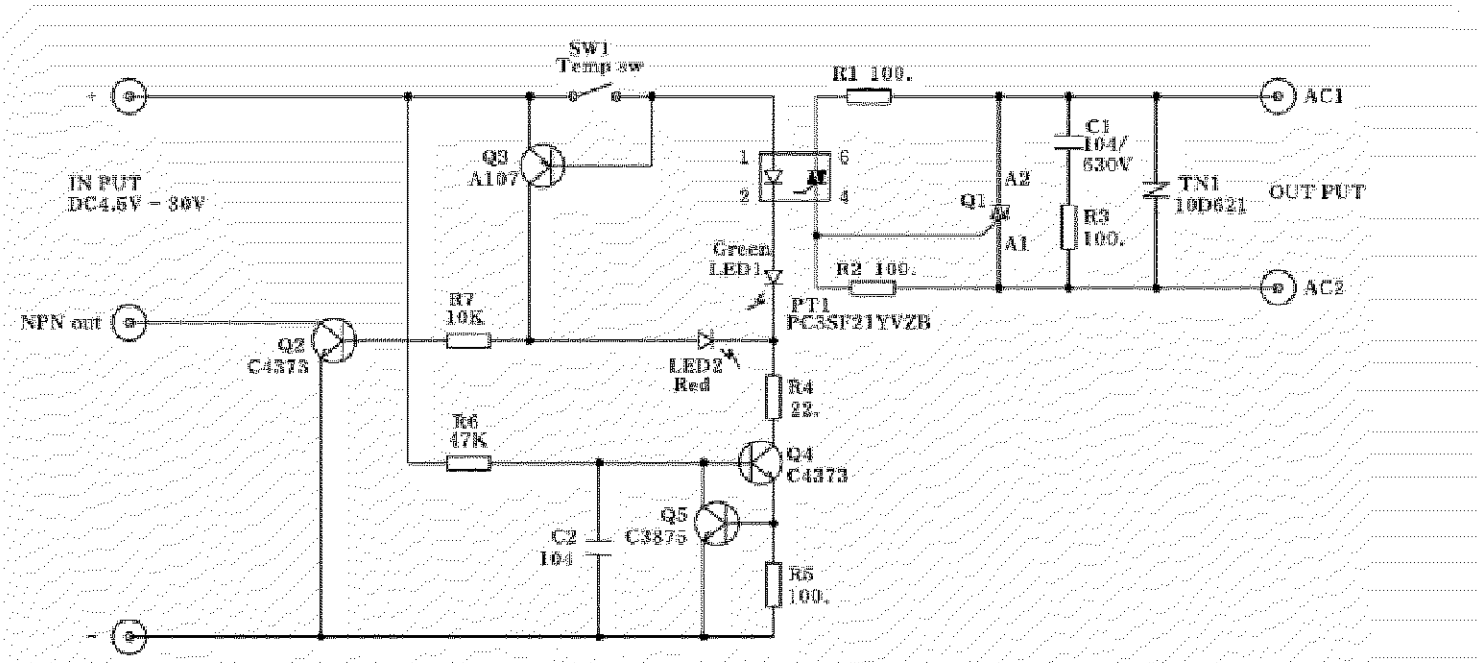


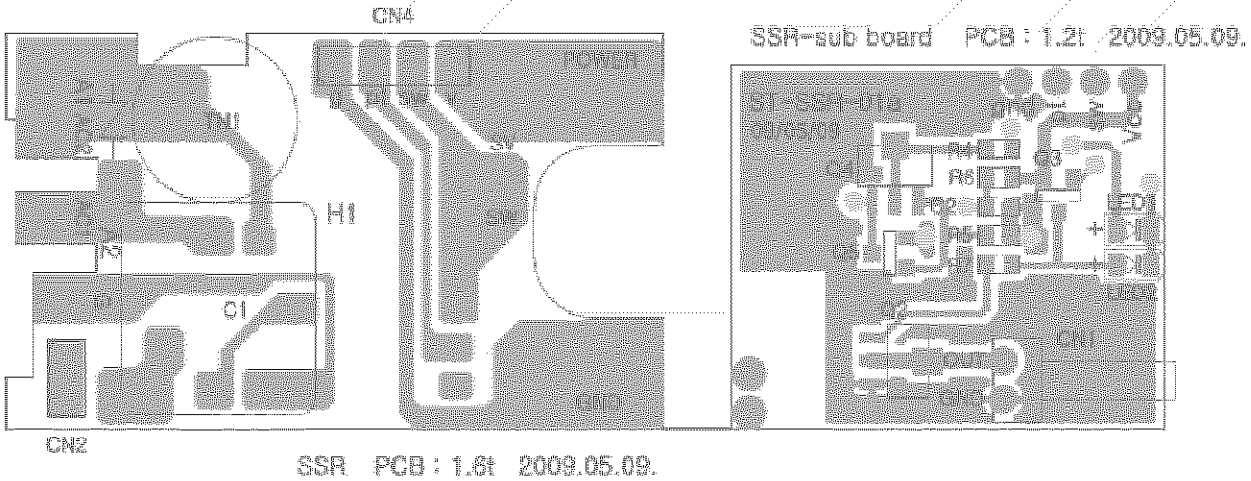

LOAD
MAX 50A 240VAC
RESISTIVE LOAD
KACON
KSR-2050
SOLID STATE RELAY
INPUT 4~32VDC
SIGNAL
4
3


LOAD
MAX 50A 480VAC
RESISTIVE LOAD
KACON
KSR-2050
SOLID STATE RELAY
INPUT 4~32VDC
L1
1
T1
2
3
~/+
3
~/-
LOAD
POWER

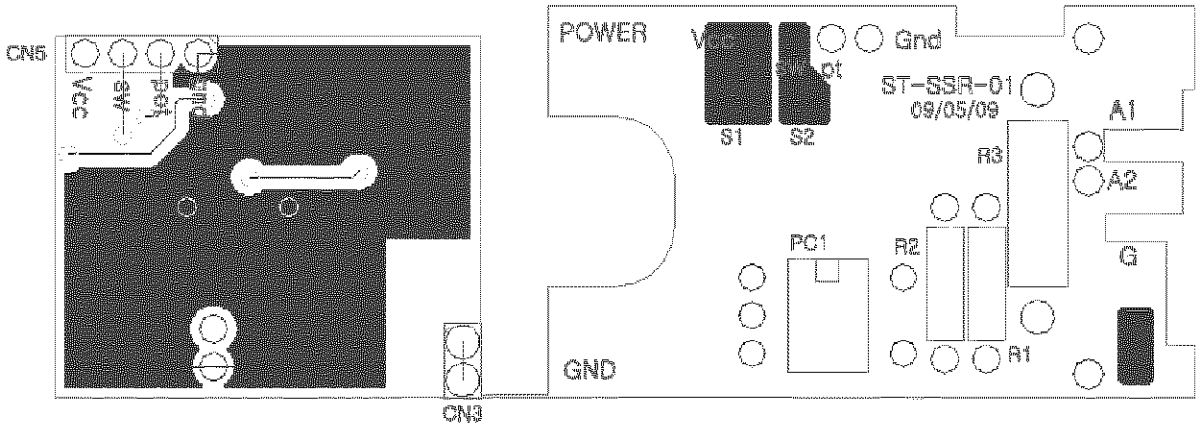


KSR-2005ZDH、2015ZDH、2030ZDH
schematic diagram, layout of PWB and electronic component list





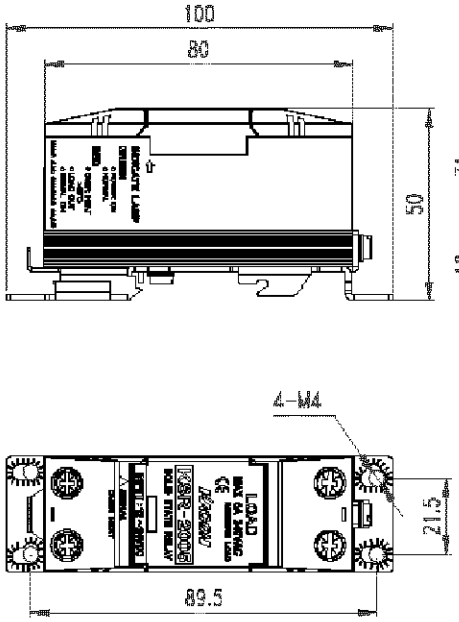
PWB layout (face side)



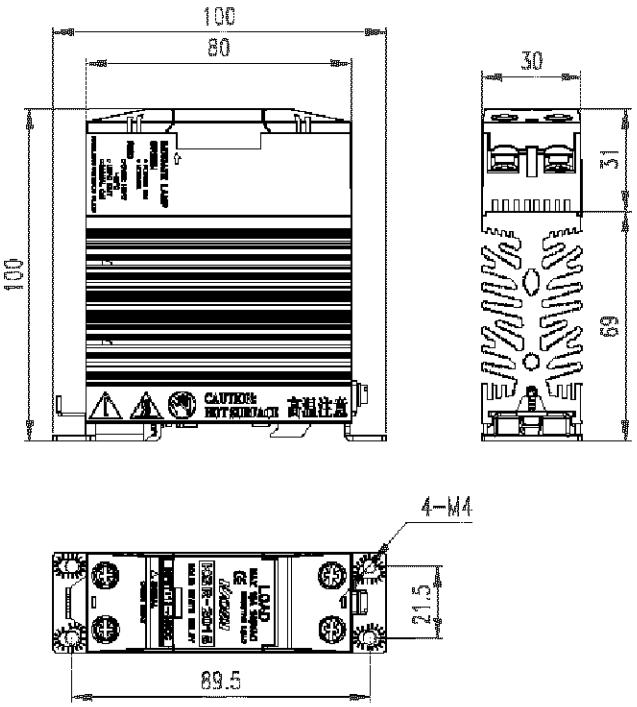
PWB layout (inverse side)

PWB Component list

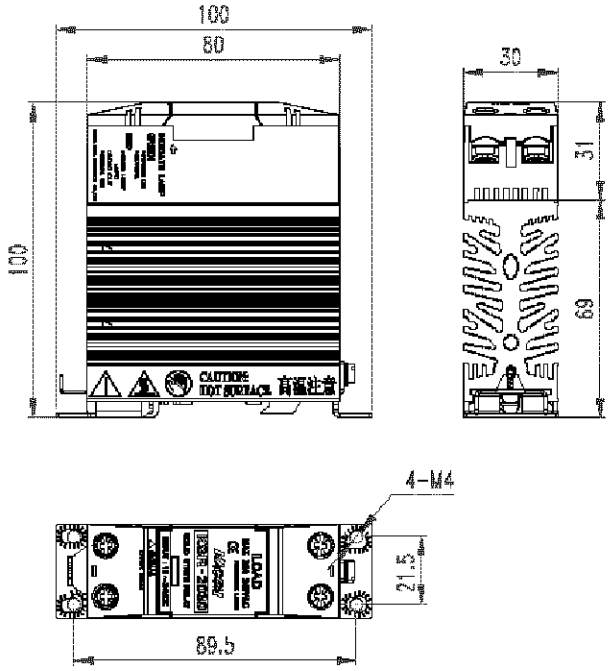
Code	Name	Model
C1	Capacitor	104 nF /630V
R1	Resistor	100 Ω
R2	Resistor	100 Ω
TN1	Thysistor	10D621



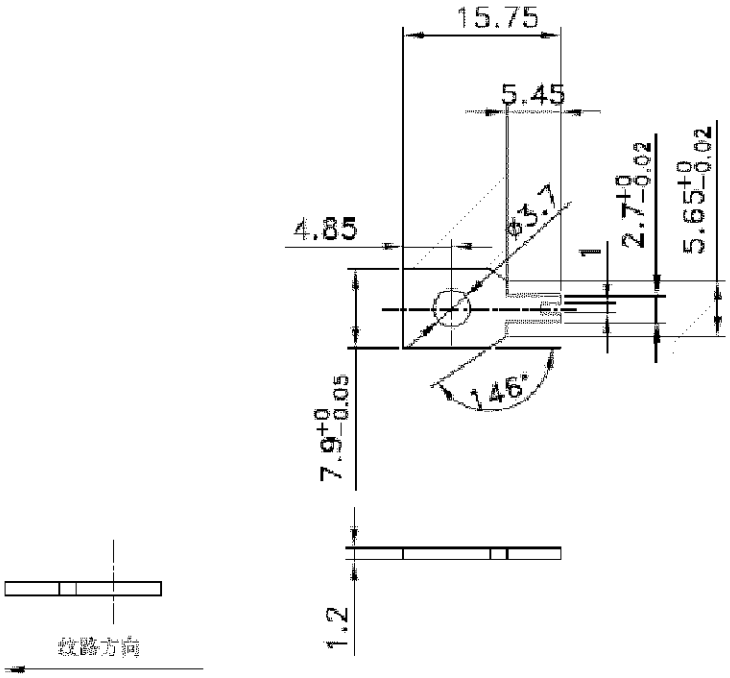
KSR-2005ZDH



KSR-2015ZDH

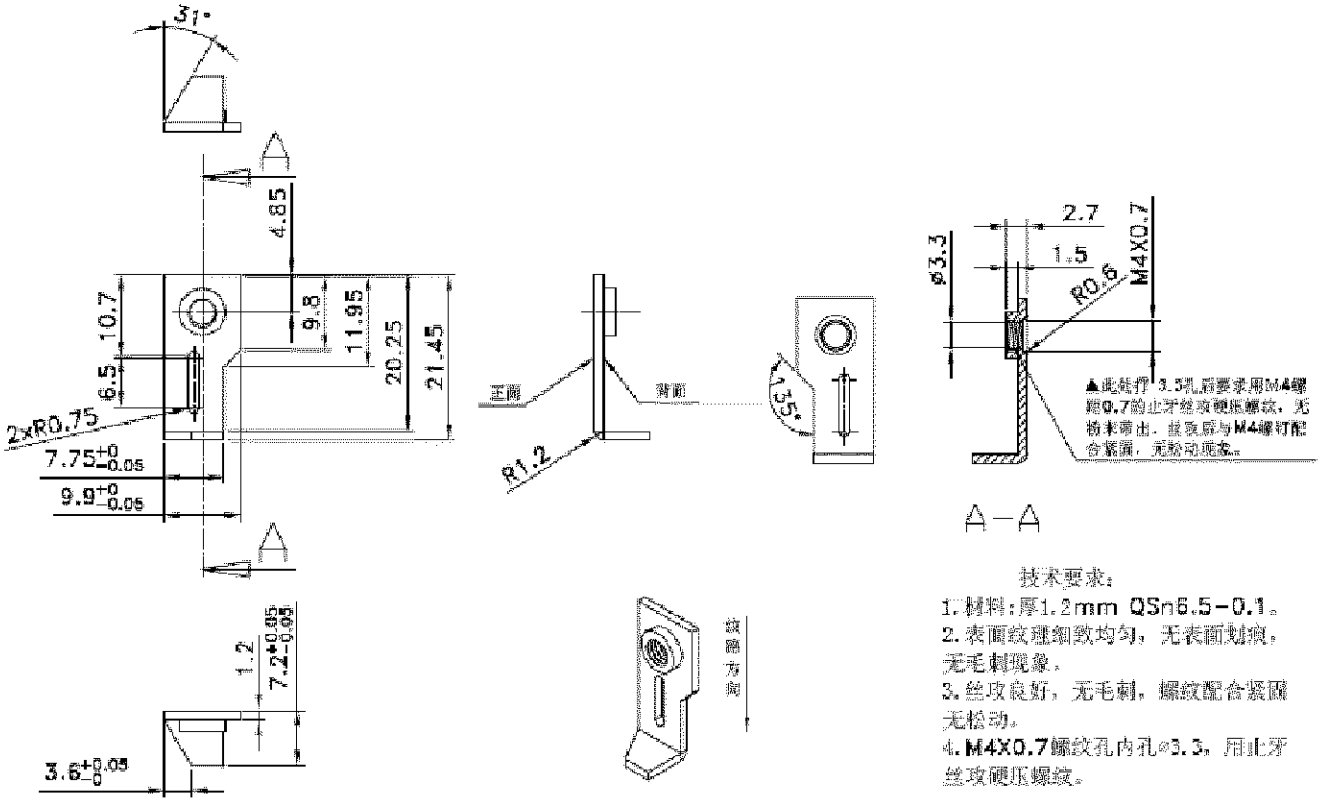


KSR-2030ZDH

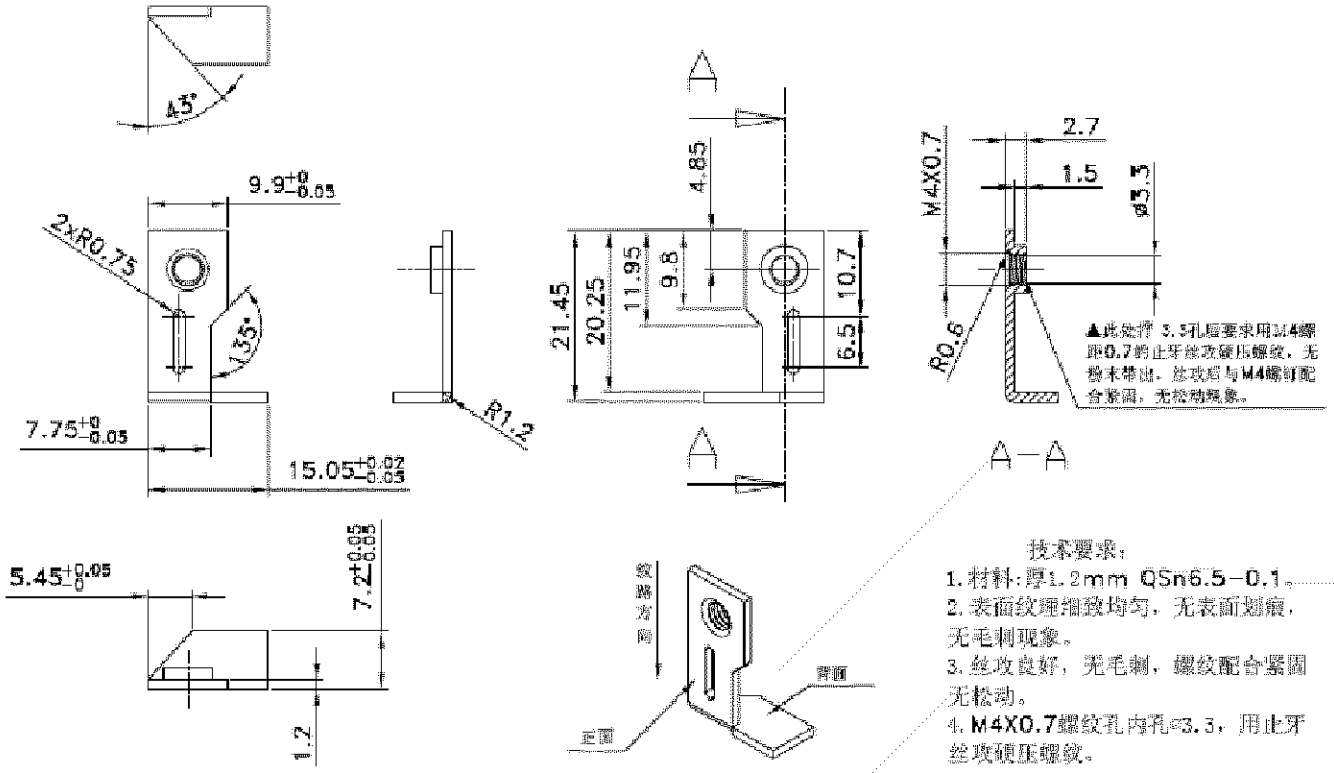


技术要求：
1.材料：厚1.2mm QSn4.3-0.1。
2.表面纹理细致均匀，无表面划痕，无毛刺现象。

Power terminals



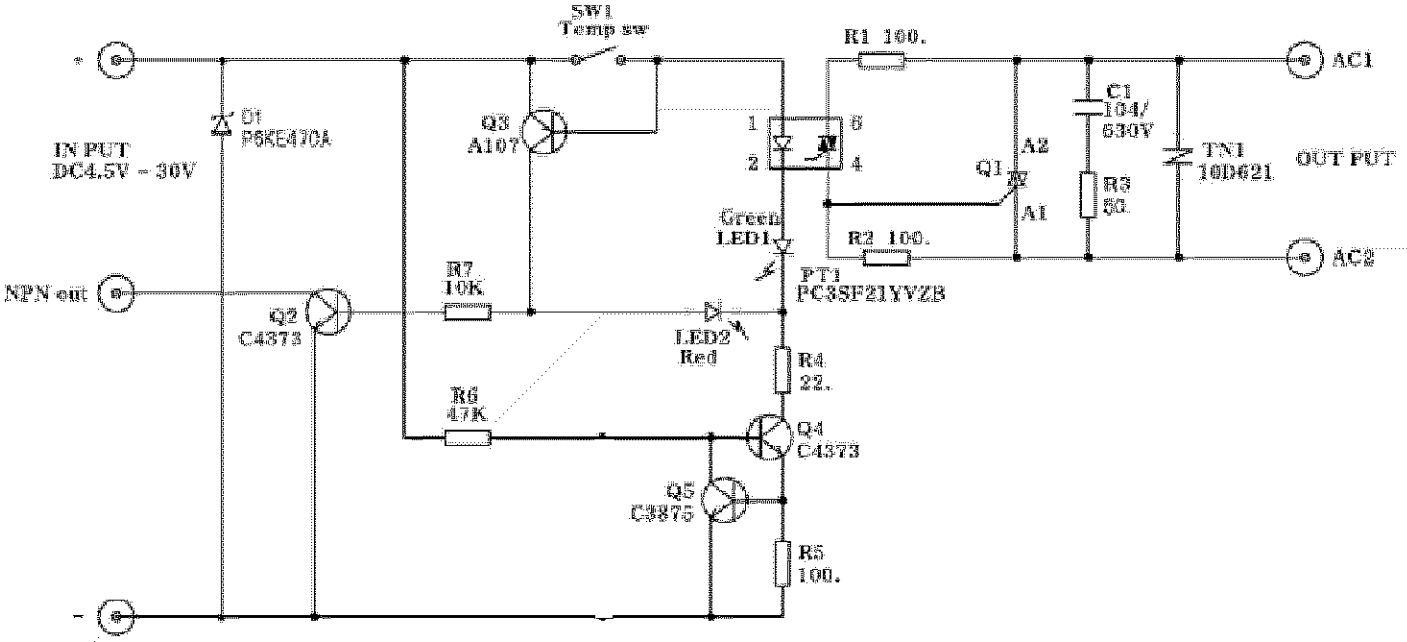
Output Terminal 1

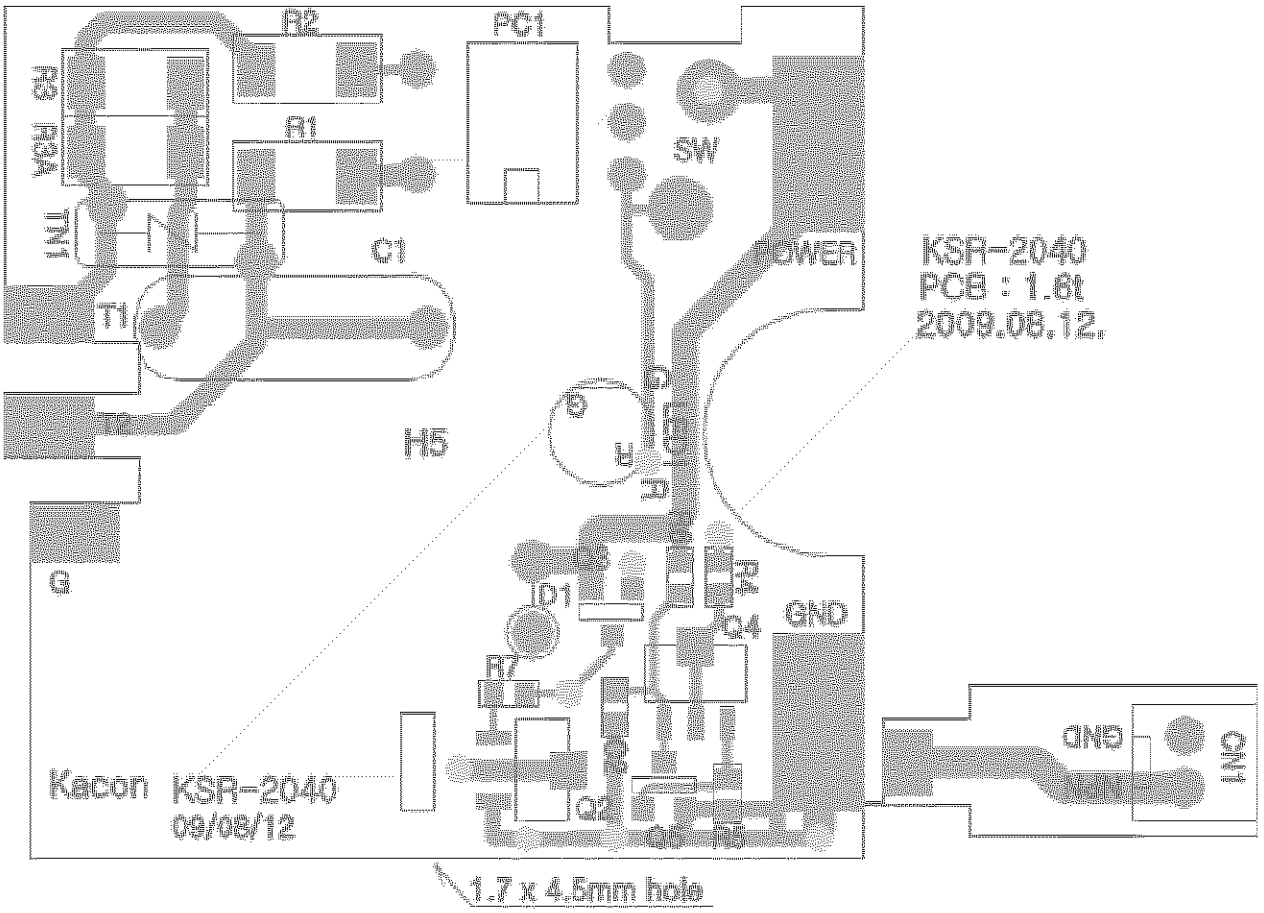


技术要求：
1. 材料：厚1.2mm QSn6.5-0.1。
2. 表面纹理细致均匀，无表面划痕，无毛刺现象。
3. 丝攻良好，无毛刺，螺纹配合紧固无松动。
4. M4X0.7螺纹孔内孔≤3.3，用止牙丝攻硬压螺纹。

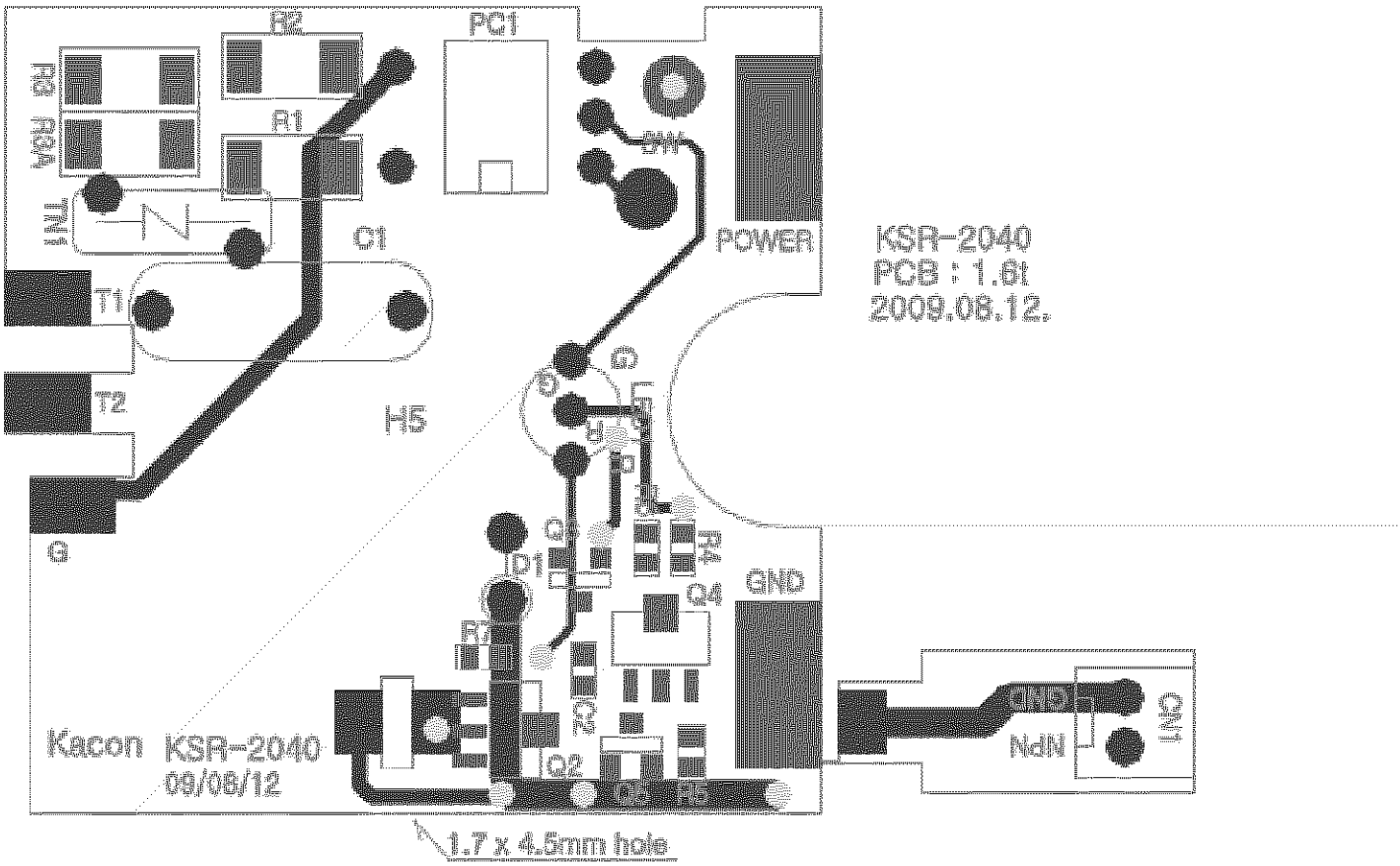
Output Terminal 2

KSR-2040ZDH
Schematic diagram, layout of PWB and electronic component list





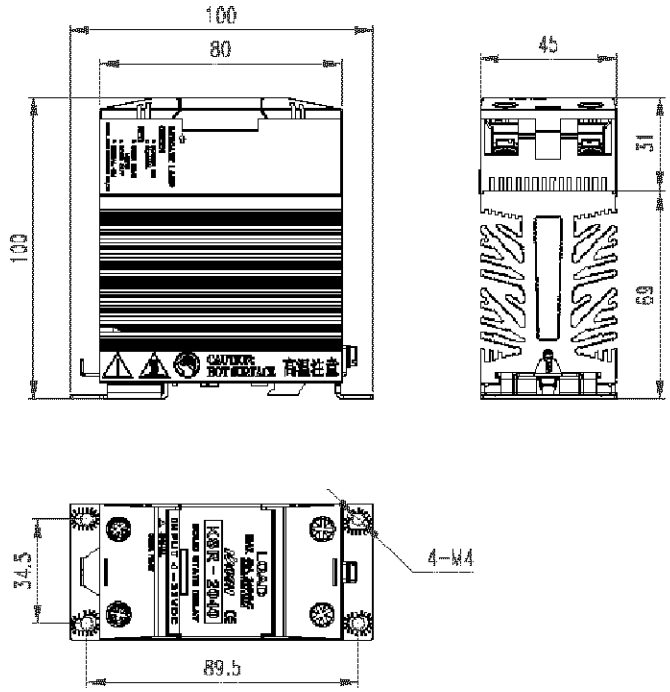
PWB layout (face side)



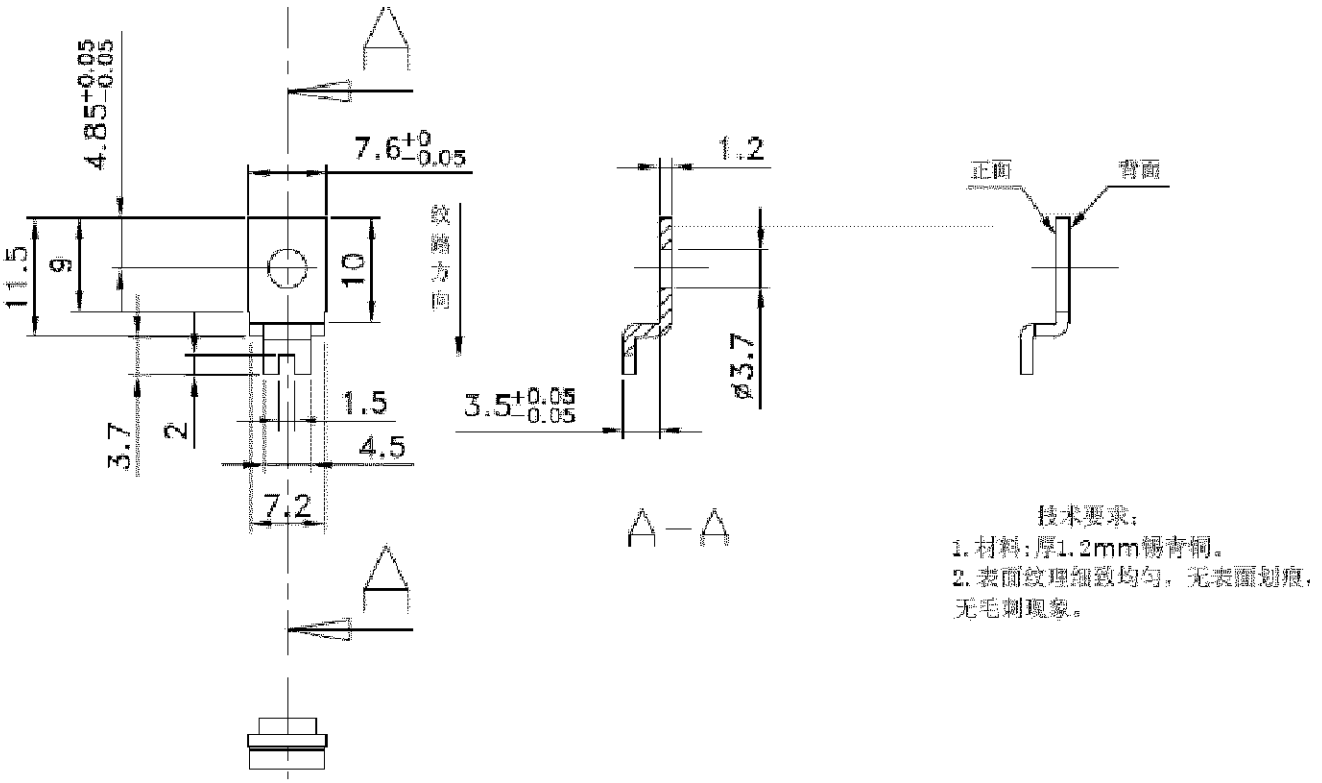
PWB layout (inverse side)

PWB Component list

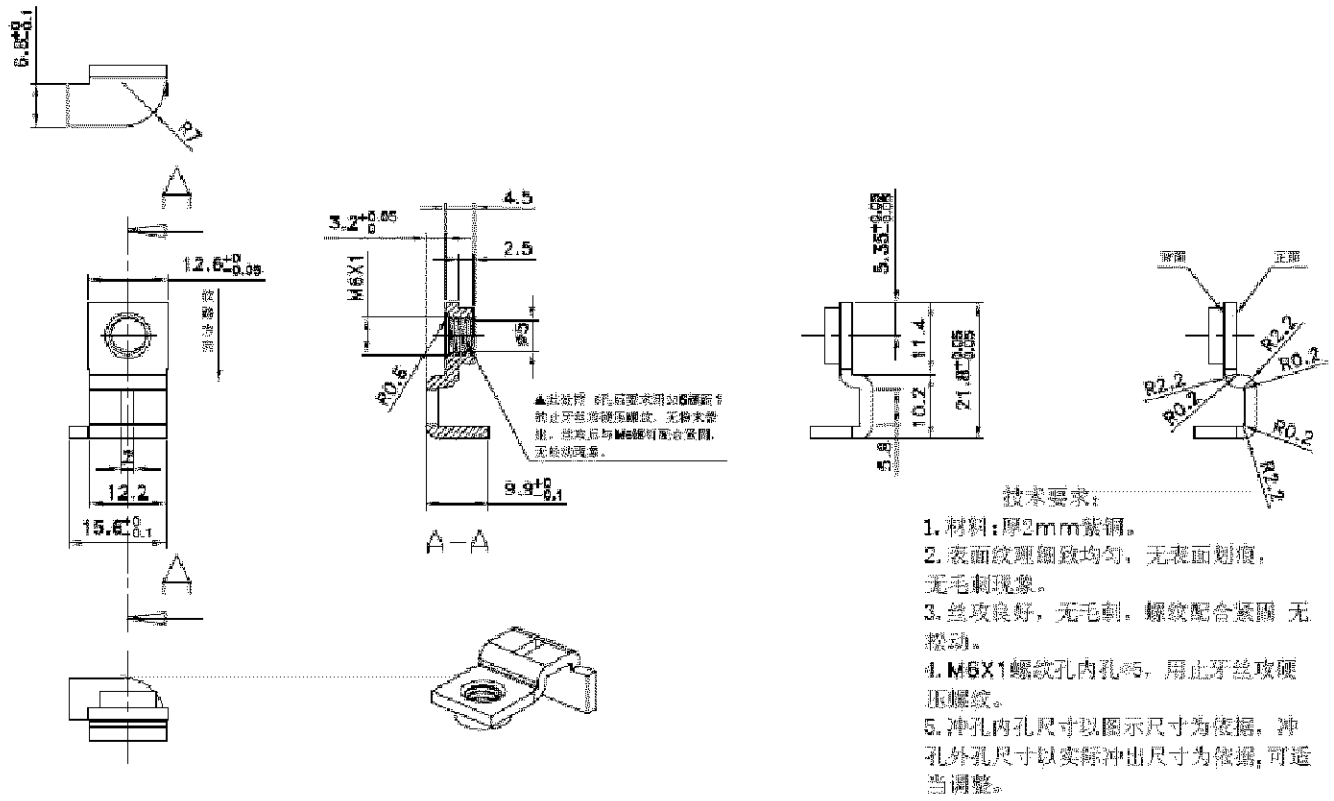
Code	Name	Model
C1	Capacitor	104 nF /630V
R1	Resistor	100 Ω
R2	Resistor	100 Ω
TN1	Thysistor	10D621



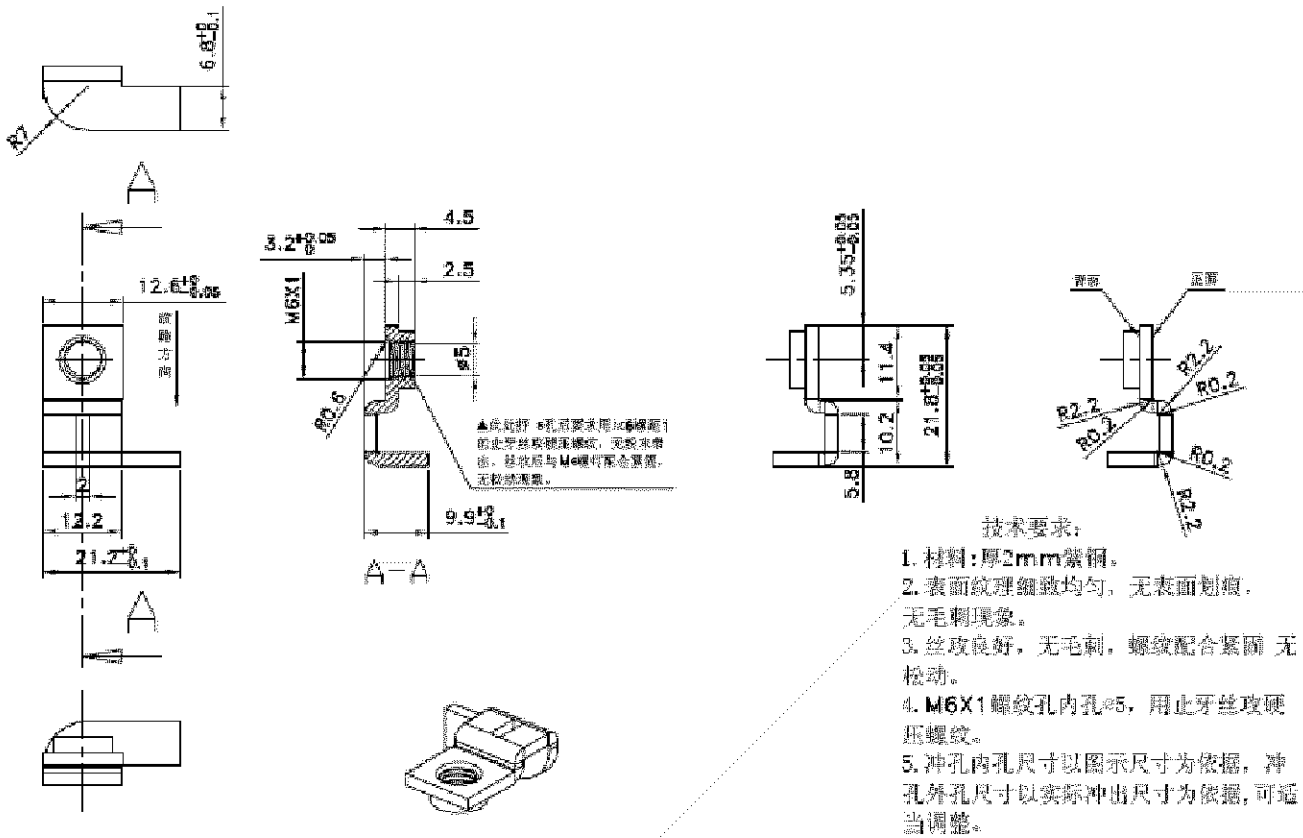
KSR-2040ZDH



Power Terminals

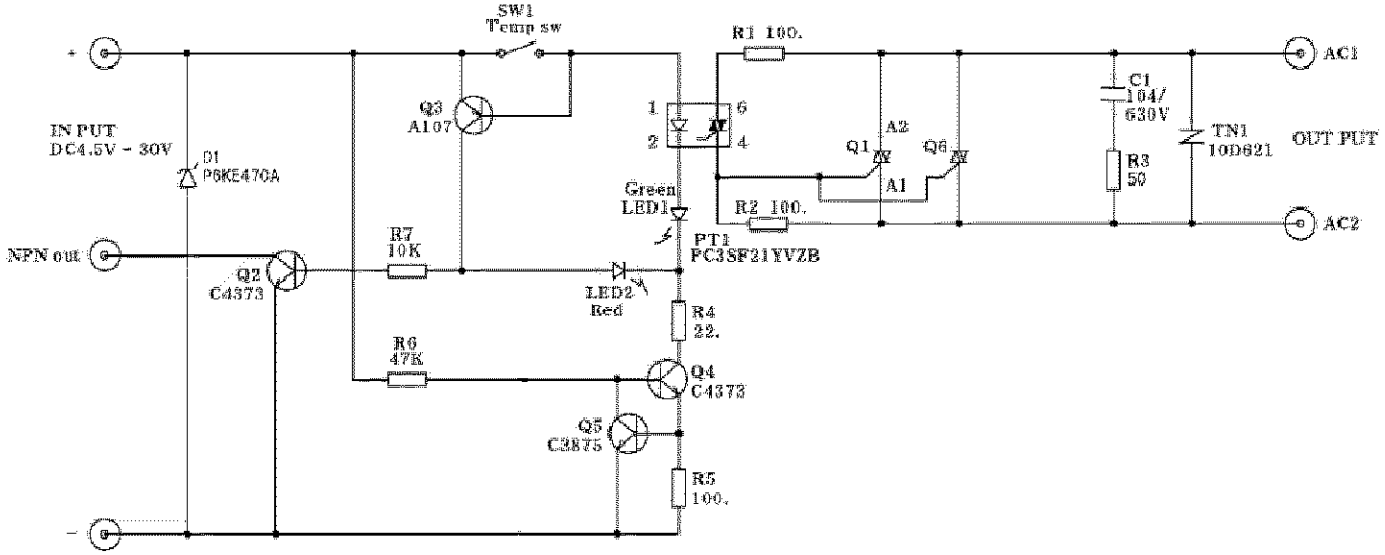


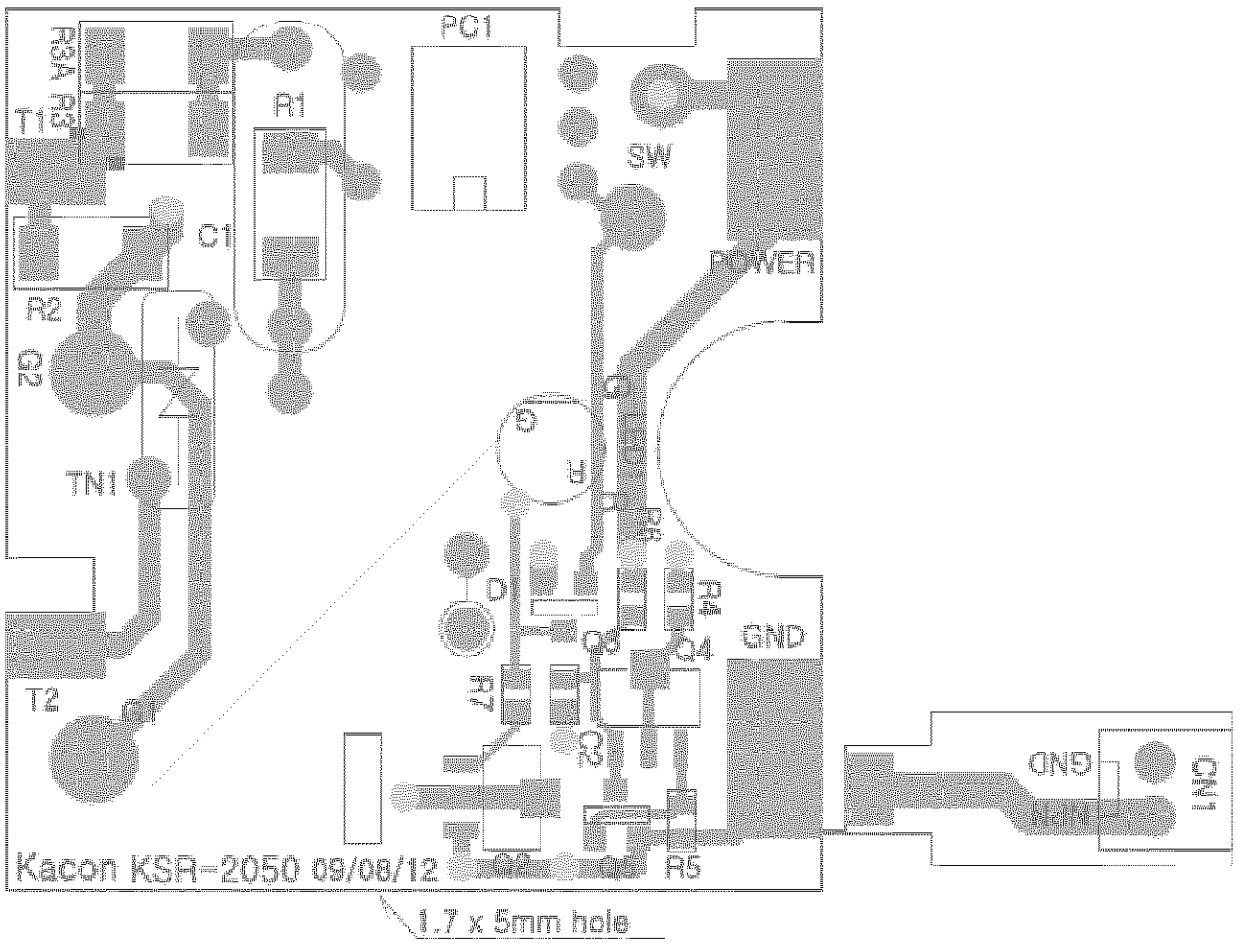
Output Terminal 1



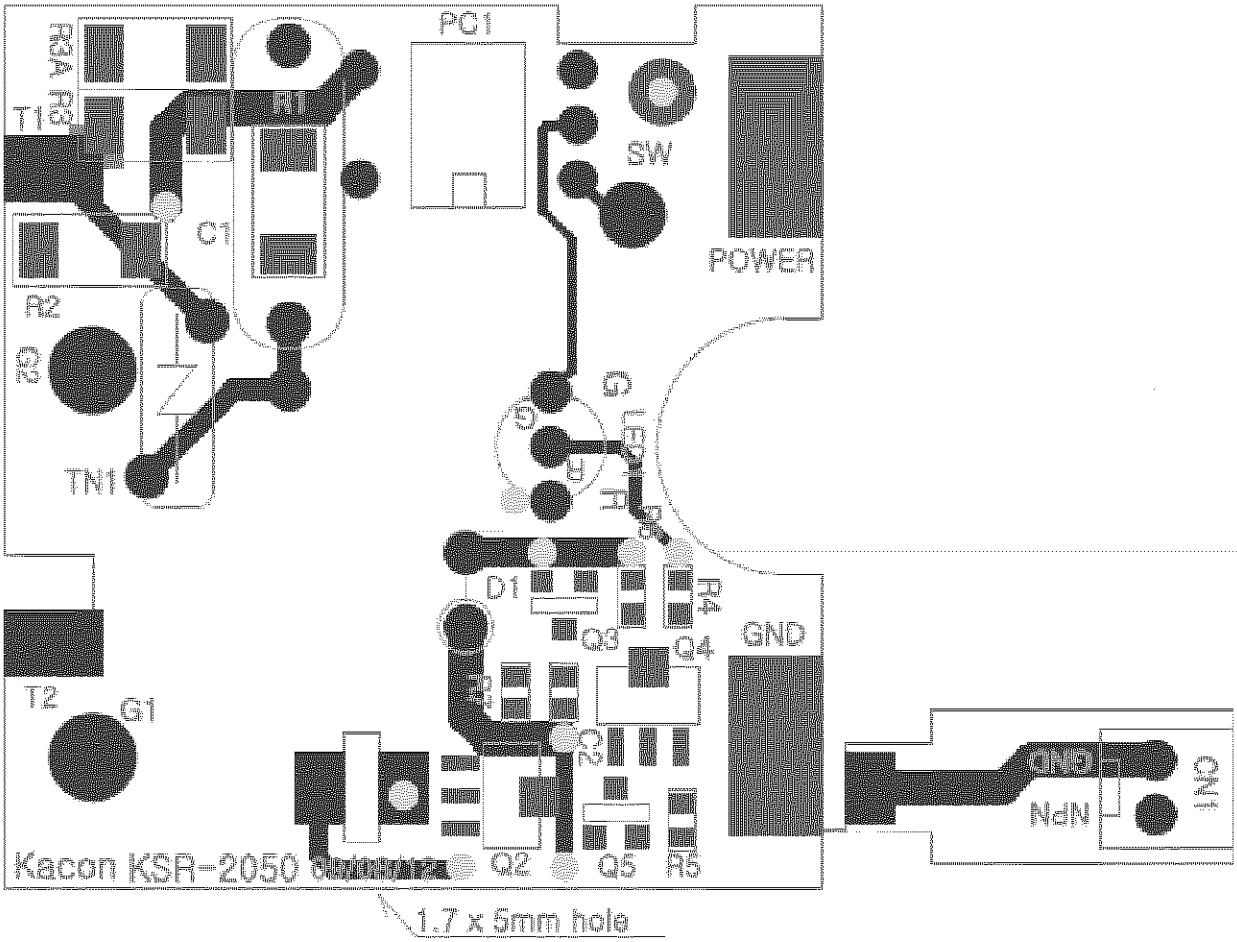
Output Terminal 2

KSR-2050ZDH、2060ZDH、2080ZDH
Schematic diagram, layout of PWB and electronic component list





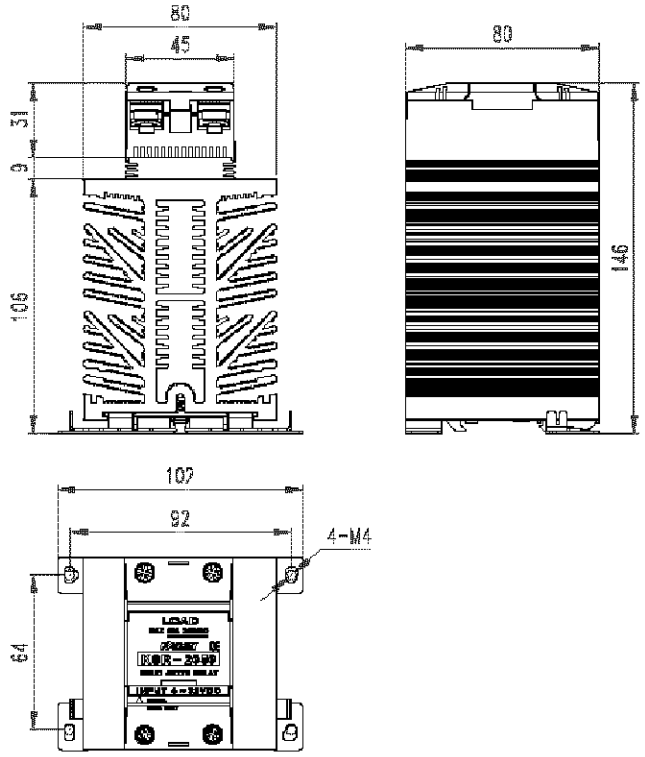
PWB layout (face side)



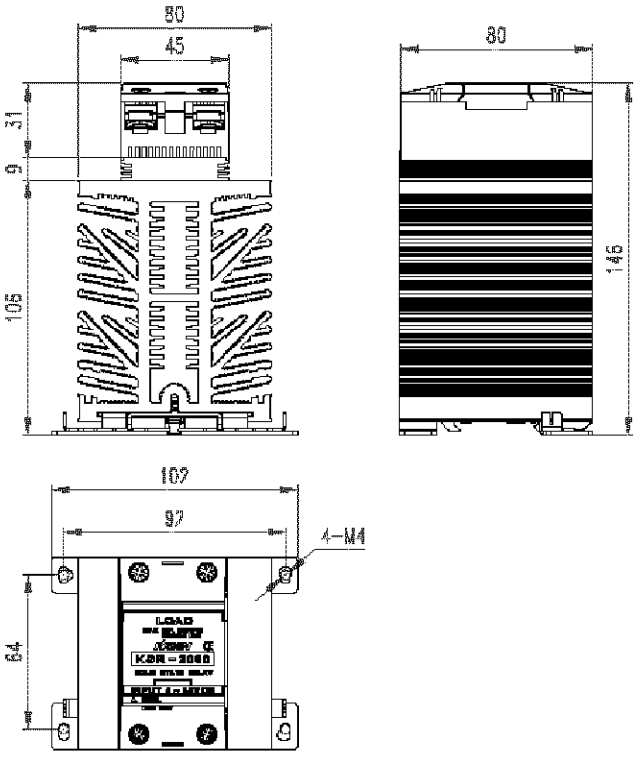
PWB layout (inverse side)

PWB Component list

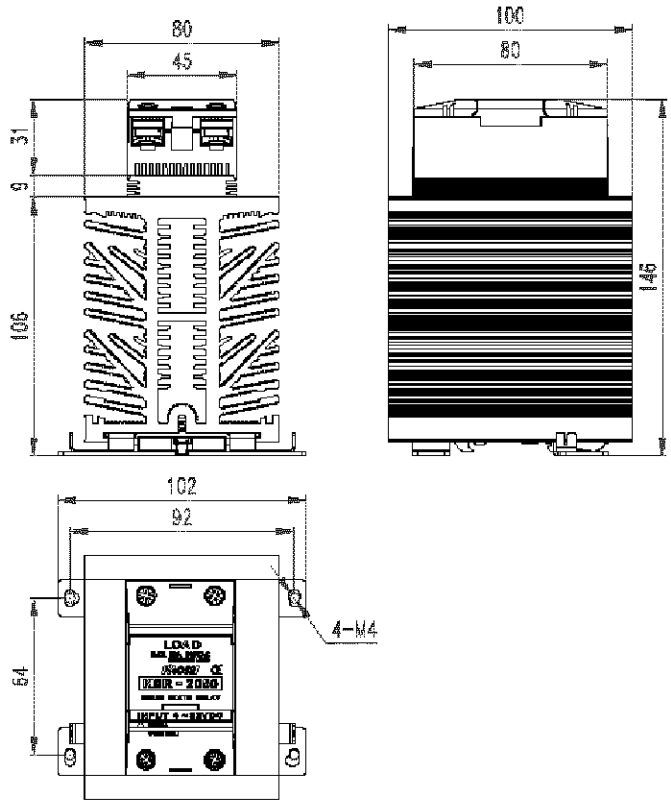
Code	Name	Model
C1	Capacitor	104 nF /630V
R1	Resistor	100 Ω
R2	Resistor	100 Ω
TN1	Thysistor	10D621



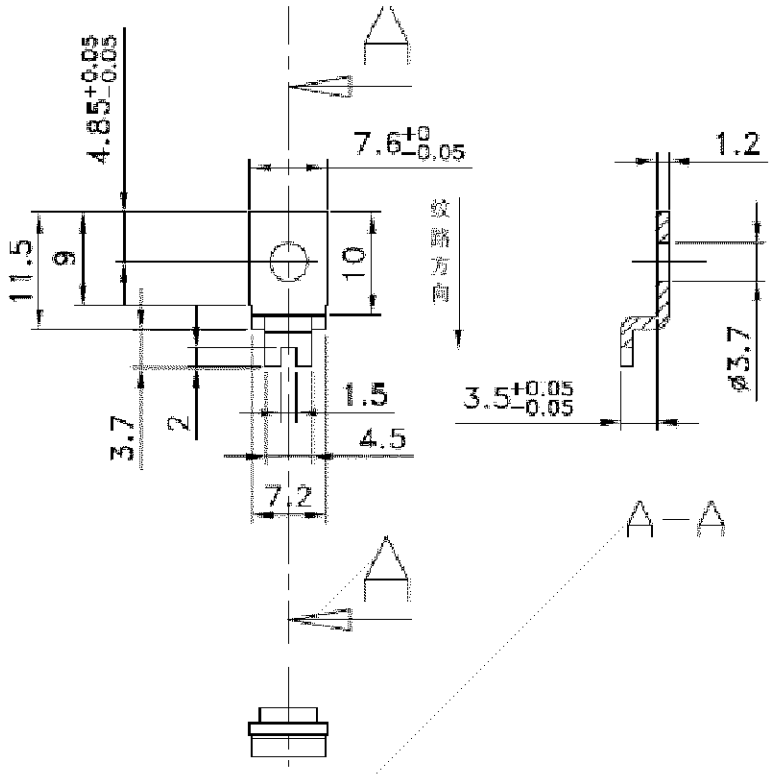
KSR-2050ZDH

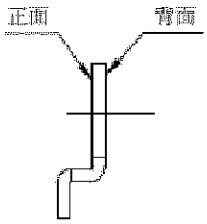


KSR-2060ZDH



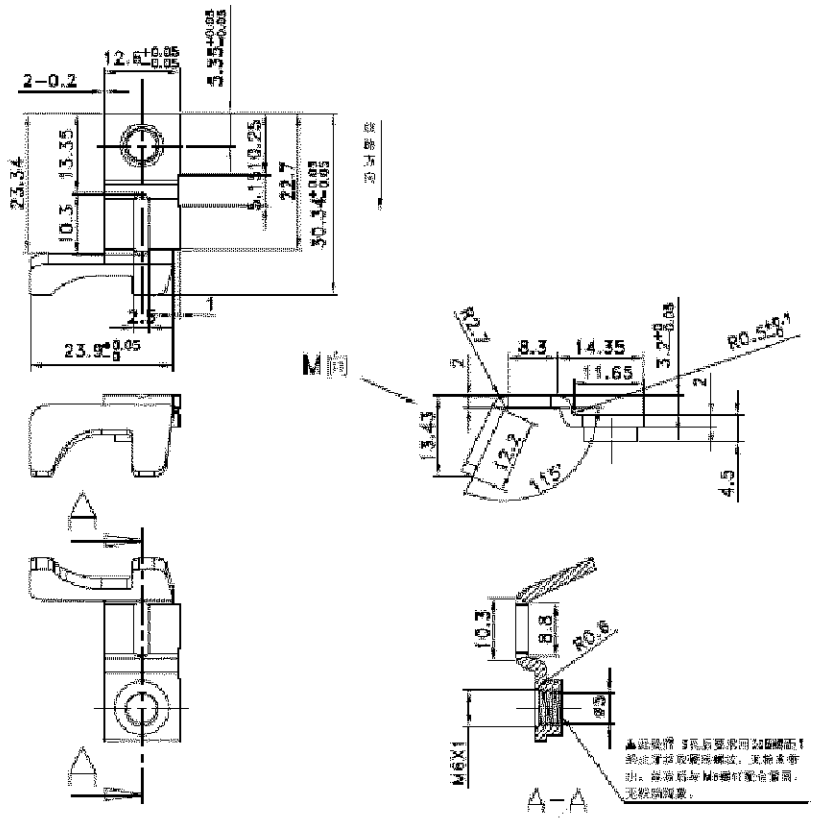
KSR-2080ZDH



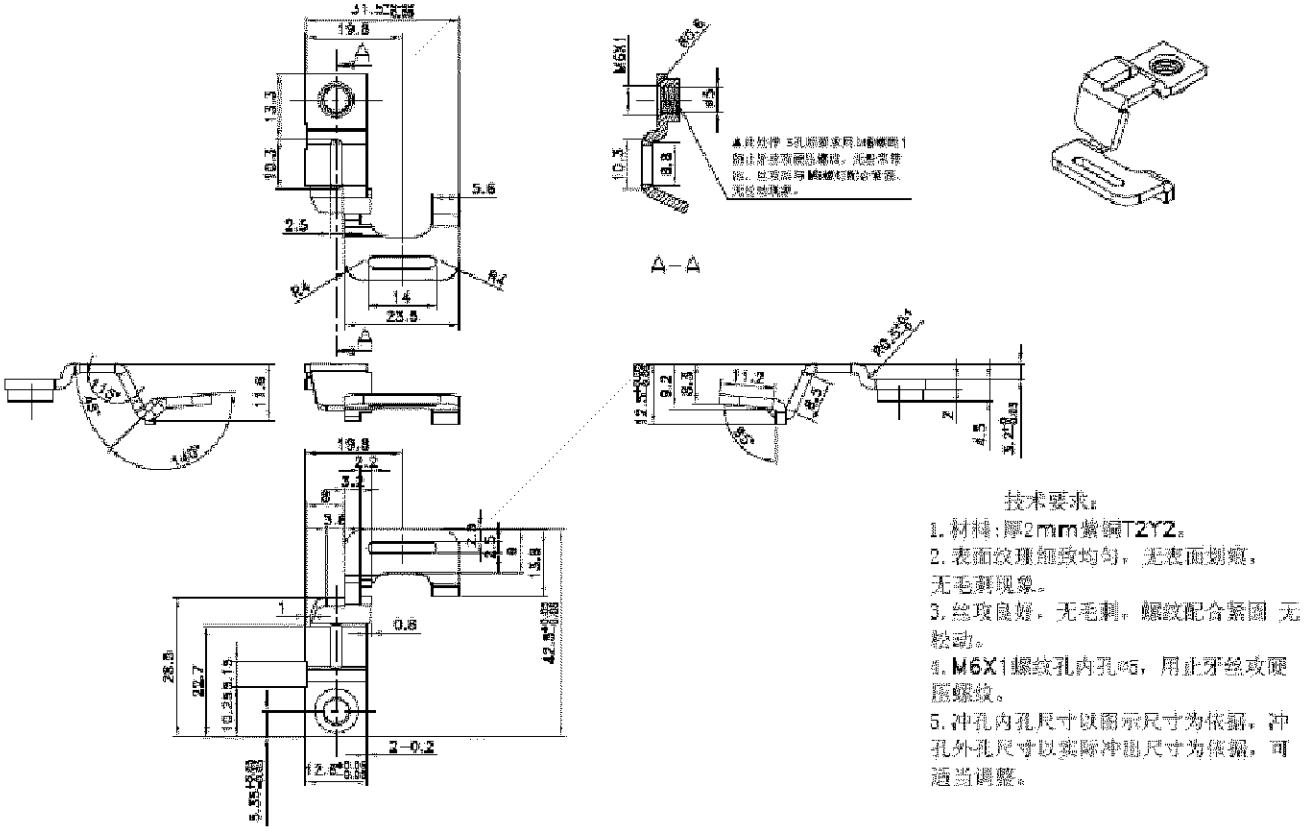


技术要求：
1. 材料：厚1.2mm锡青铜。
2. 表面纹理细致均匀，无表面划痕，无毛刺现象。

Power Terminals

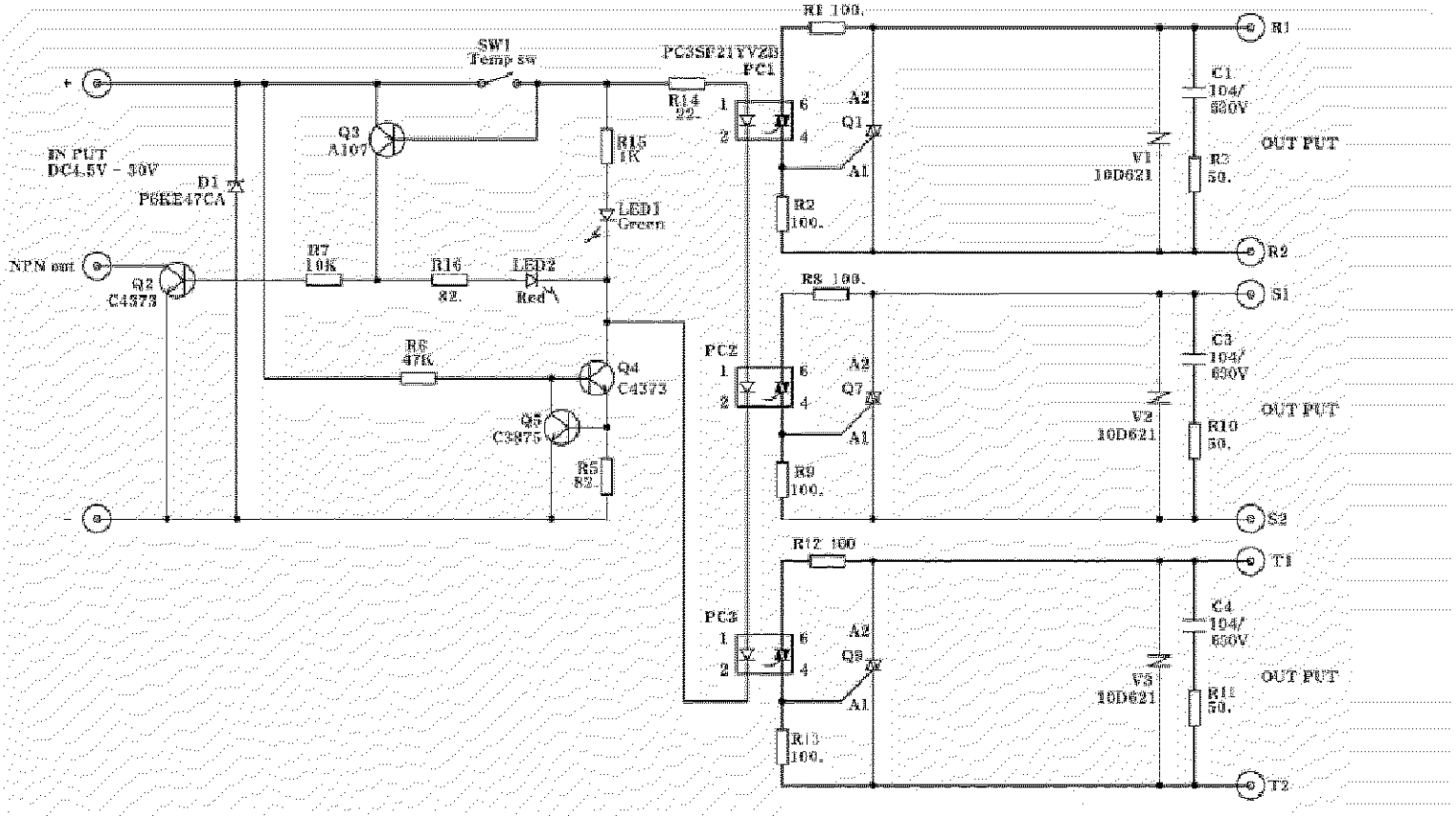


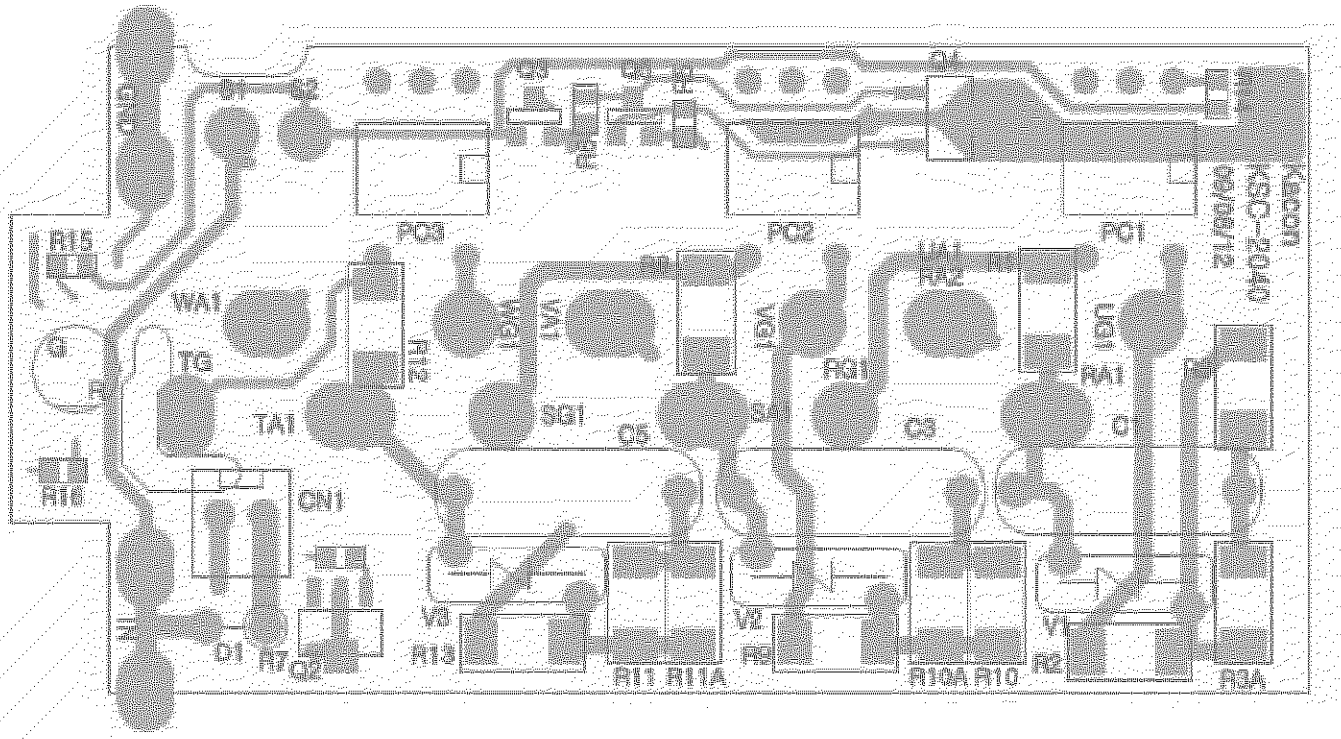
Output Terminal 1



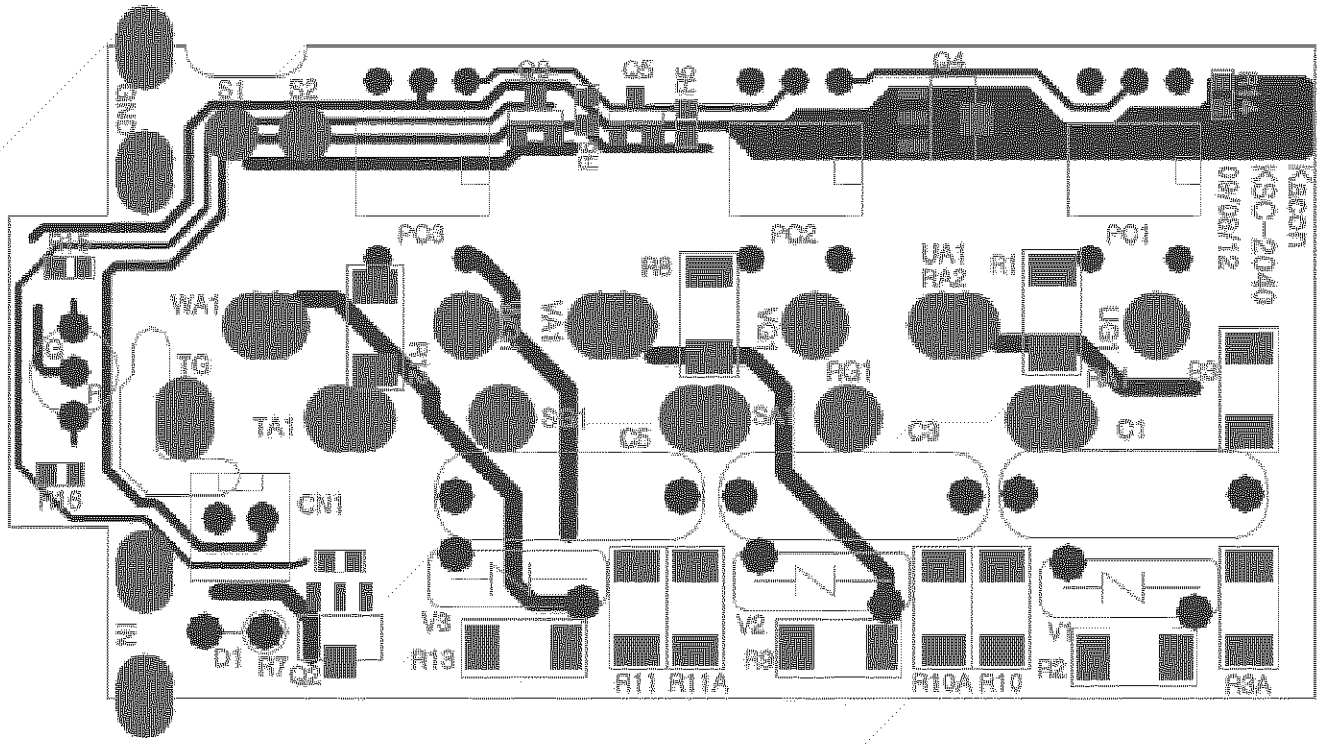
Output Terminal 2

KSC-2015ZDH、2030ZDH、2040ZDH
schematic diagram, layout of PWB and electronic component list





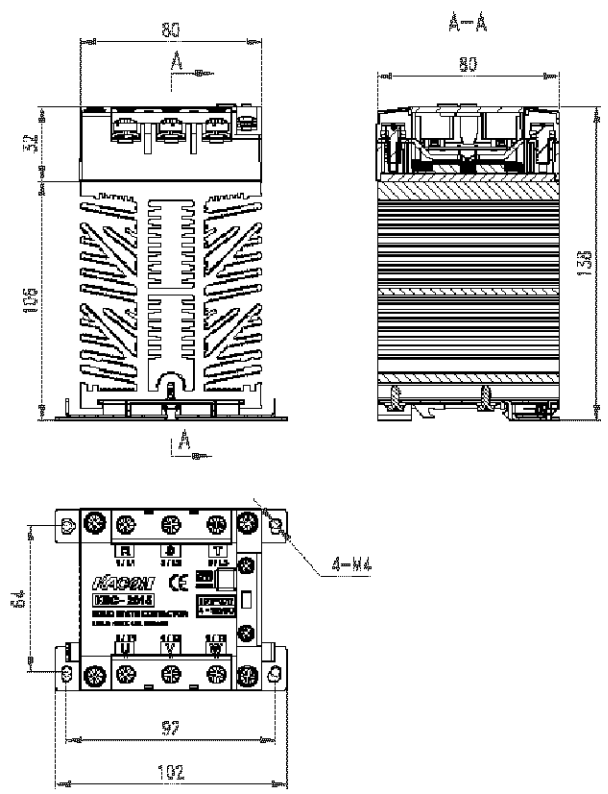
PWB layout (face side)



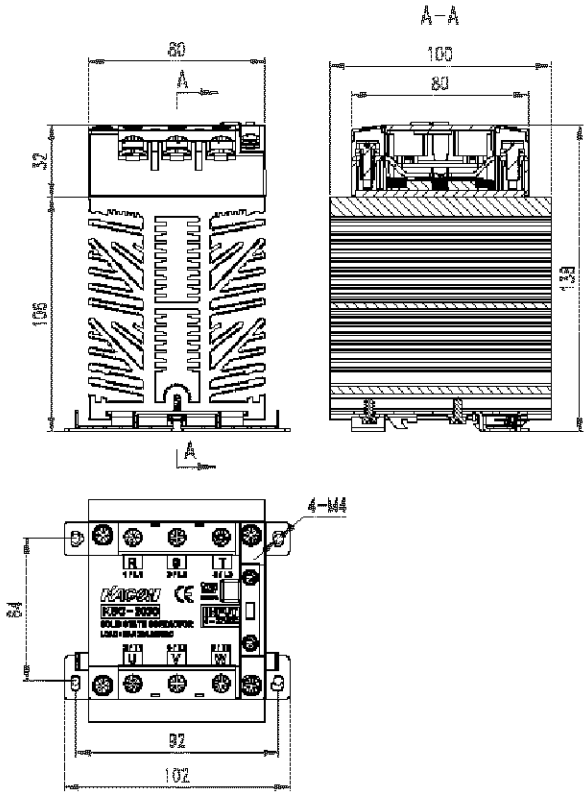
PWB layout (inverse side)

PWB Component list

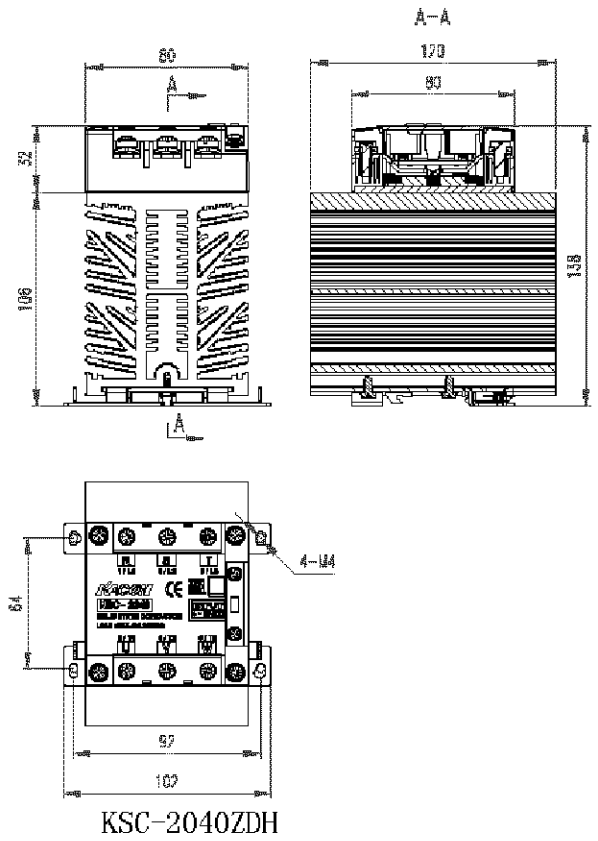
Code	Name	Model
C1	Capacitor	104 nF /630V
C3	Capacitor	104 nF /630V
R1	Resistor	100 Ω
R2	Resistor	100 Ω
R8	Resistor	100 Ω
R9	Resistor	100 Ω
R12	Resistor	100 Ω
R13	Resistor	100 Ω
V1	Thysistor	10D621
V2	Thysistor	10D621
V3	Thysistor	10D621



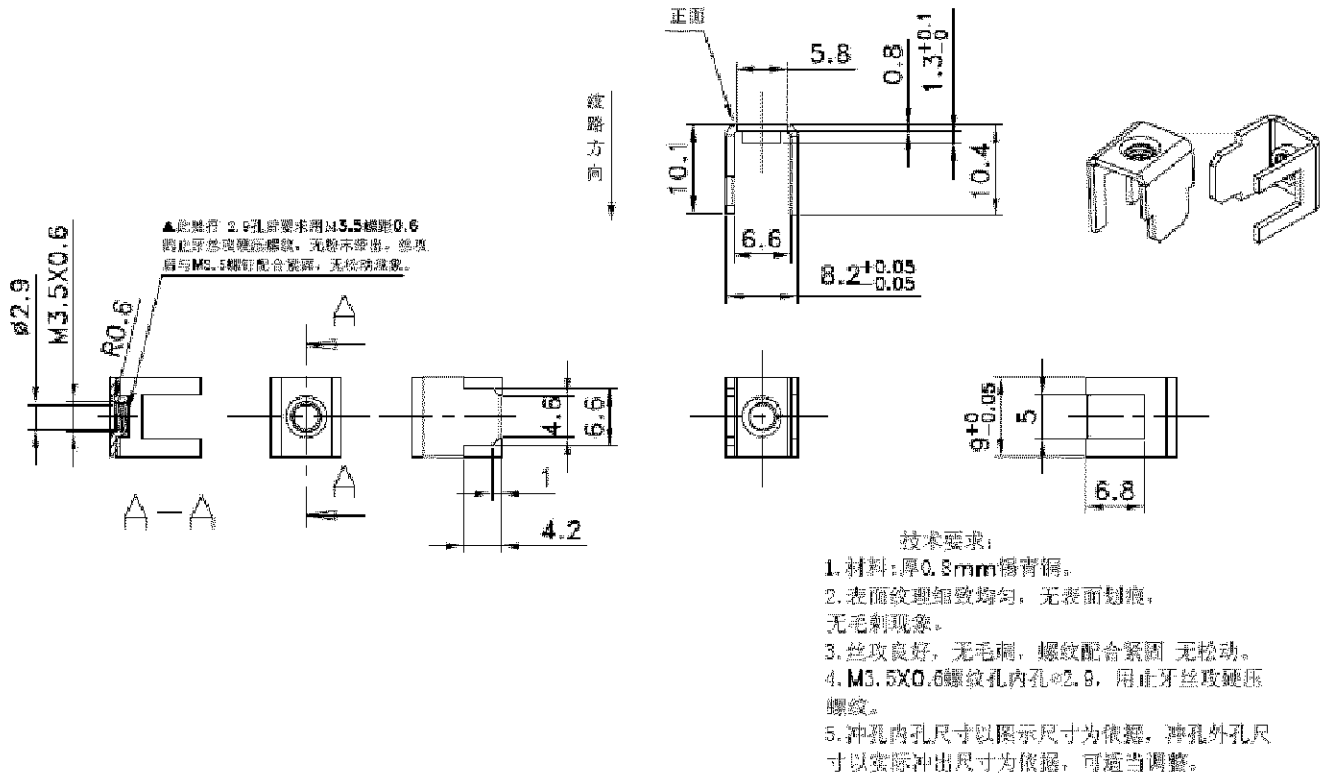
KSC-2015ZDH



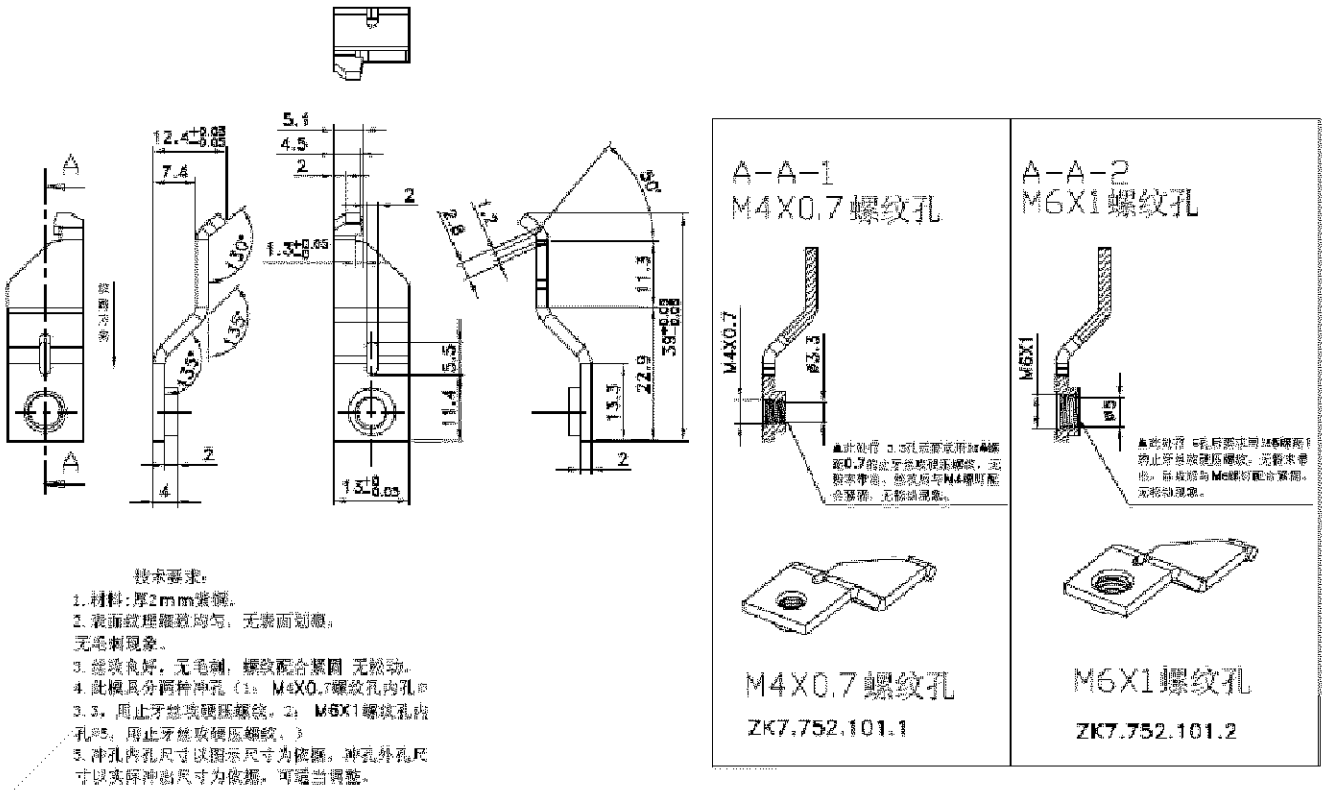
KSC-2030ZDH



KSC-2040ZDH



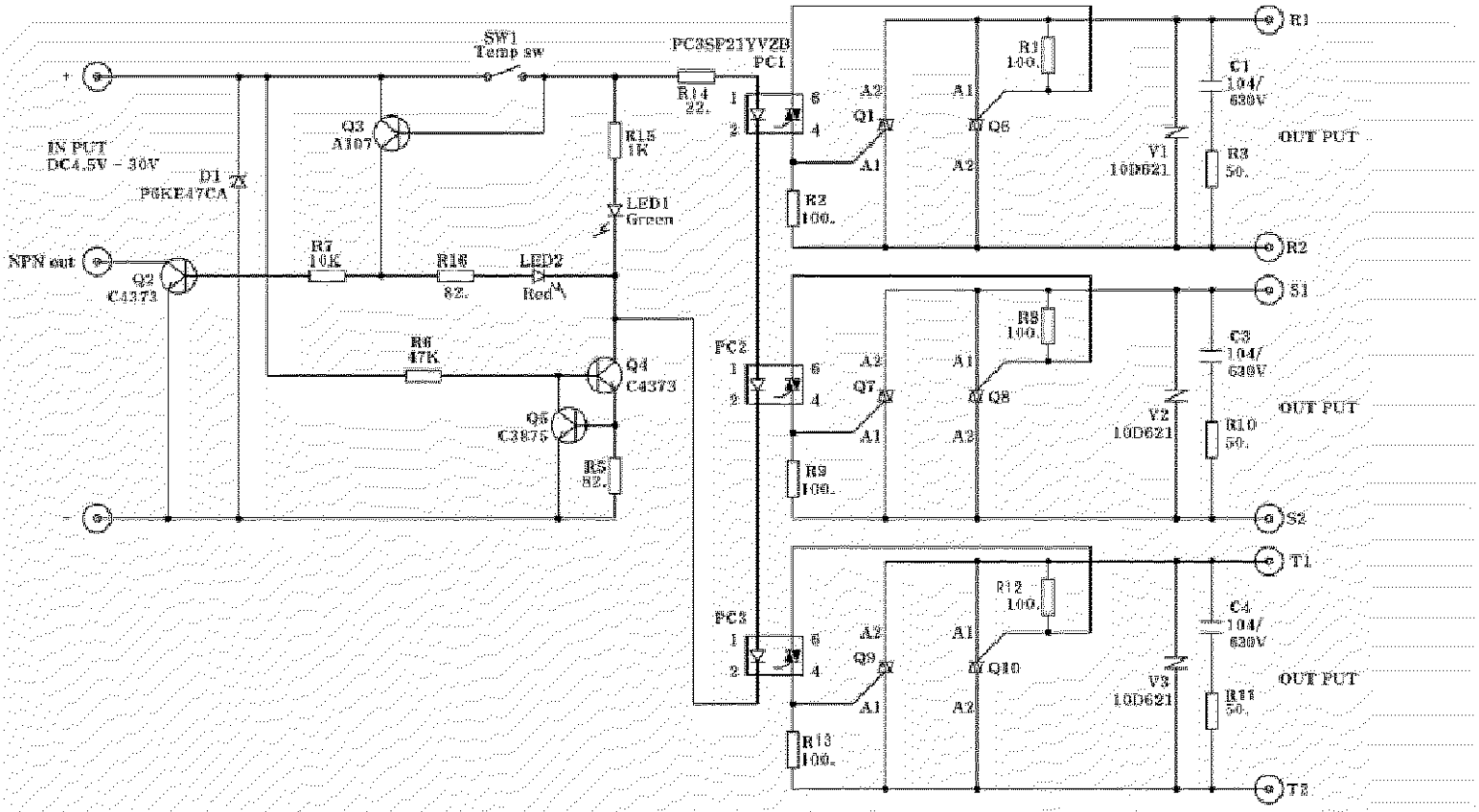
Power Terminal

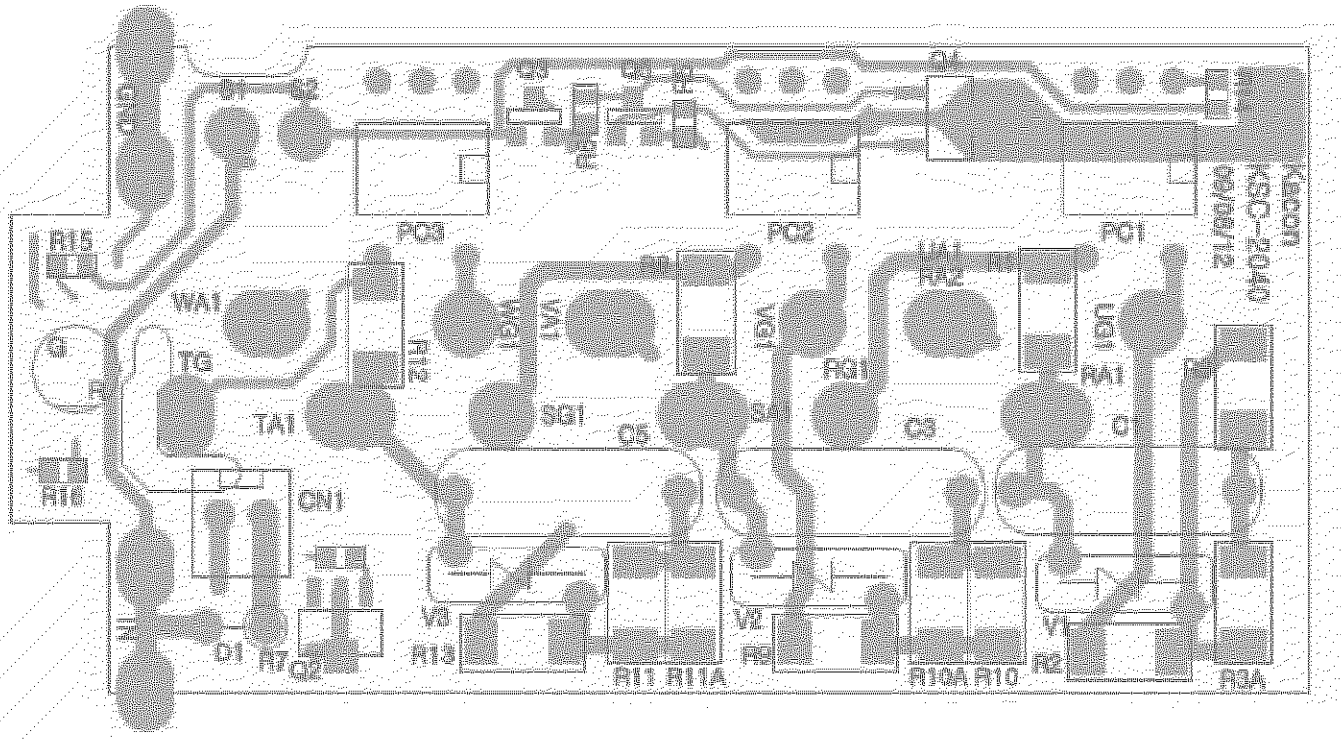


技术要求：
1.材料：厚2mm紫铜。
2.表面纹理细致均匀，无表面划痕，无毛刺现象。
3.丝攻良好，无毛刺，螺纹配合紧固 无松动。
4.此模具分两种冲孔（1：M4X0.7螺纹孔内孔Ø3.3，用止牙丝攻铆压螺纹。2：M6X1螺纹孔内孔Ø5，用止牙丝攻铆压螺纹。）
5.冲孔内孔尺寸以图示尺寸为依据，冲孔外孔尺寸以实际冲出尺寸为依据，可适当调整。

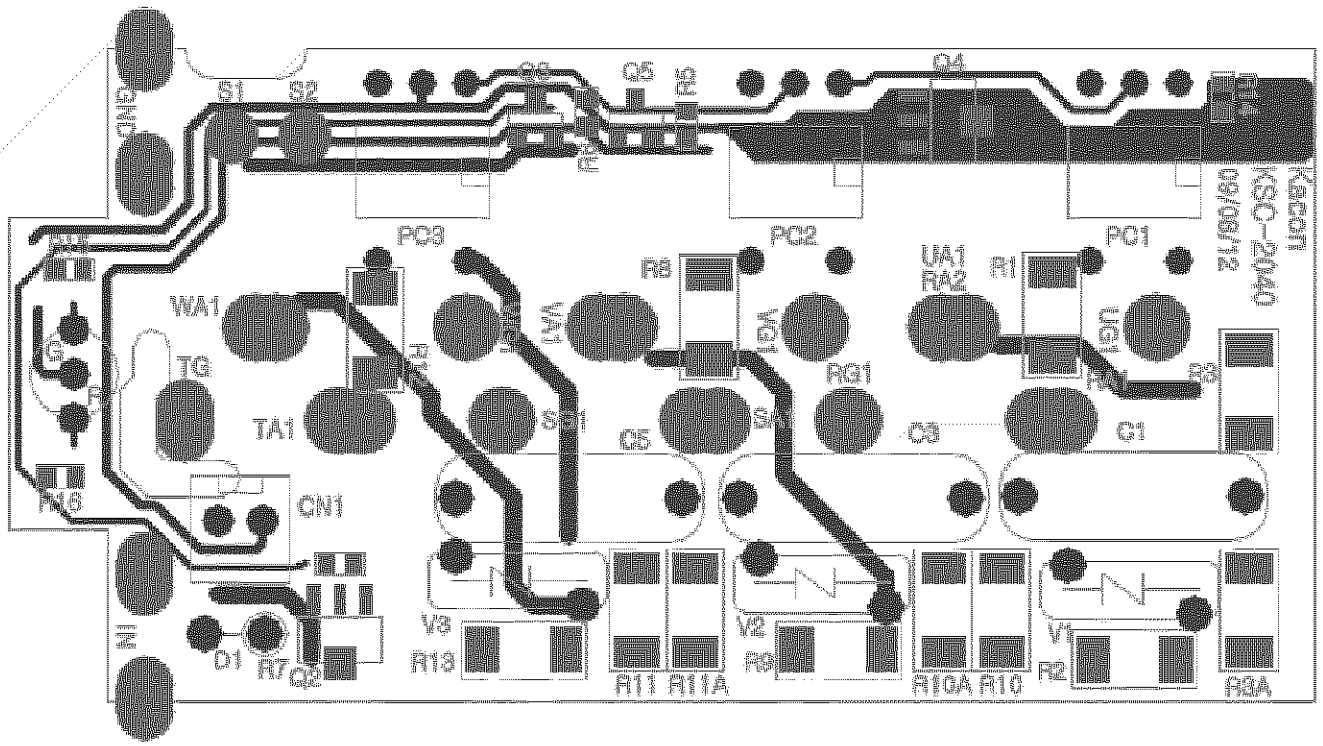
Output Terminals

KSC-2050ZDH、2060ZDH
schematic diagram, layout of PWB and electronic component list





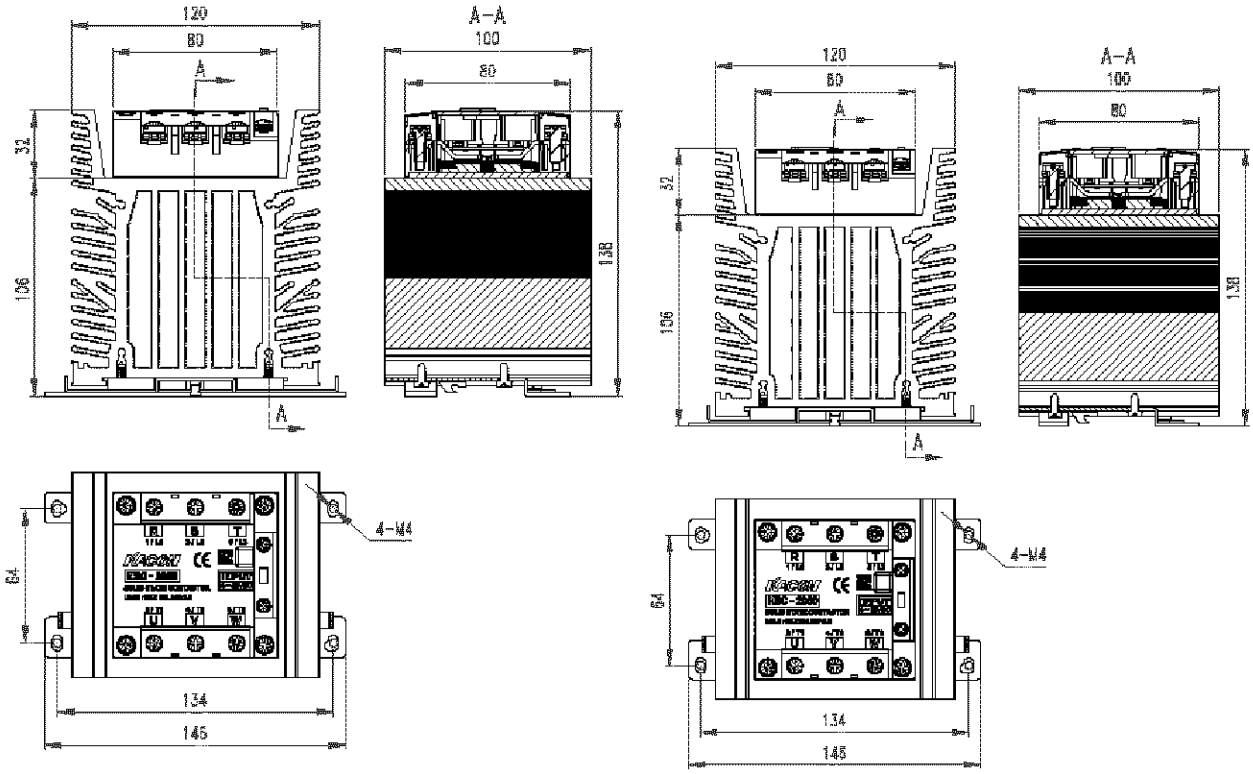
PWB layout (face side)



PWB layout (inverse side)

PWB Component list

Code	Name	Model
C1	Capacitor	104 nF /630V
C3	Capacitor	104 nF /630V
R1	Resistor	100 Ω
R2	Resistor	100 Ω
R8	Resistor	100 Ω
R9	Resistor	100 Ω
R12	Resistor	100 Ω
R13	Resistor	100 Ω
V1	Thysistor	10D621
V2	Thysistor	10D621
V3	Thysistor	10D621



KSC-2050ZDH

KSC-2060ZDH