

Prüfbericht-Nr.: Test report no.:	CN22RKS0 002	Auftrags-Nr.: Order no.:	168470142	Seite 1 von 35 Page 1 of 35
Kunden-Referenz-Nr.: Client reference no.:	2026754	Auftragsdatum: Order date:	2024.02.02	
Auftraggeber: Client:	Guangzhou Sanjing Electric Co., Ltd. No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong P.R. China			
Prüfgegenstand: Test item:	Grid-Connected PV Inverter			
Bezeichnung / Typ-Nr.: Identification / Type no.:	C6-75K-T6, C6-100K-T9, C6-110K-T12, C6-125K-T12, C6-50K-T6-LV, C6-60K-T9-LV, C6-70K-T12-LV, C6-75K-T6-40, C6-100K-T9-40, C6-110K-T12-40, C6-125K-T12-40, C6-50K-T6-LV-40, C6-60K-T9-LV-40, C6-70K-T12-LV-40, C6-75K-T12-LV-40			
Auftrags-Inhalt: Order content:	TÜV Rheinland LVD CoC approval			
Prüfgrundlage: Test specification:	EN 62109-1: 2010, EN 62109-2: 2011			
Wareneingangsdatum: Date of sample receipt:	2024.02.03			
Prüfmuster-Nr.: Test sample no.:	A003670102-001			
Prüfzeitraum: Testing period:	2024.02.03 - 2024.02.26			
Ort der Prüfung: Place of testing:	Guangzhou Sanjing Electric Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
erstellt von: created by:	genehmigt von: authorized by:			
Datum: Date: 2024.03.21	 Mandy Min		 Eric Zeng	
Stellung / Position:	Project Engineer		Reviewer	
Sonstiges / Other:	Based on the original report CN22RKS0 001, add models C6-75K-T6-40, C6-100K-T9-40, C6-110K-T12-40, C6-125K-T12-40, C6-50K-T6-LV-40, C6-60K-T9-LV-40, C6-70K-T12-LV-40, C6-75K-T12-LV-40. Details see the report.			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende: P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet * Legend: P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.				

Prüfbericht-Nr.: CN22RKS0 002
Test report no.:

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Page 2 of 35

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
2	Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. Informationen zur Verifizierung der Authentizität unserer Dokumente erhalten Sie auf folgender Webseite: go.tuv.com/digital-signature <i>As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. For information on verifying the authenticity of our documents, please visit the following website: go.tuv.com/digital-signature</i>
3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

TEST REPORT
IEC 62109-1
Safety of Power Converter for use in Photovoltaic Power Systems
Part 1: General requirements

Report Number. : CN22RKS0 002

Date of issue : See cover page

Total number of pages : See cover page

**Name of Testing Laboratory
preparing the Report :** TÜV Rheinland (Shenzhen) Co., Ltd.

Applicant's name : Guangzhou Sanjing Electric Co., Ltd.

Address : No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone,
Guangdong, P.R.China

Test specification:

Standard : IEC/EN 62109-1:2010 (First Edition)

Test procedure..... : TÜV Rheinland LVD CoC approval

Non-standard test method..... : N/A

Test Report Form No. : IEC62109_1B

Test Report Form(s) Originator.... : VDE Testing and Certification Institute

Master TRF : Dated 2017-08

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General disclaimer:

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Test item description	Grid-connected PV Inverter	
Trade Mark.....		
Manufacturer	Same as client	
Model/Type reference.....	C6-75K-T6, C6-100K-T9, C6-110K-T12, C6-125K-T12, C6-50K-T6-LV, C6-60K-T9-LV, C6-70K-T12-LV, C6-75K-T6-40, C6-100K-T9-40, C6-110K-T12-40, C6-125K-T12-40, C6-50K-T6-LV-40, C6-60K-T9-LV-40, C6-70K-T12-LV-40, C6-75K-T12-LV-40	
Ratings.....	See copy of marking label and model list.	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ Testing Laboratory:	See cover page	
Testing location/ address	See page 5	
☐ Associated CB Testing Laboratory:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
☐ Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
☐ Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name + signature).....		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
☐ Testing procedure: CTF Stage 3:		
☐ Testing procedure: CTF Stage 4:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
Supervised by (name, function, signature) :		

List of Attachments (including a total number of pages in each attachment):

- ATTACHMENT 1 – Photo Documentation (4 pages excluding cover page)

Summary of testing:**Tests performed (name of test and test clause):**

4.2.2.6/4.2.2.7 electrical data
7.3.6.3.7 touch current measurement
7.3.7 clearance and creepage distance measurements
7.5 electric strength measurements

Testing location:

Guangzhou Sanjing Electric Co., Ltd.
No.9, Lizhishan Road, Science City, Guangzhou
High-tech Zone, Guangdong, P.R.China

Summary of compliance with National Differences (List of countries addressed):

N/A

☒ The product fulfils the requirements of IEC/EN 62109-1: 2010 and IEC/EN 62109-2: 2011.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBS that own these marks.

SAJ Guangzhou Sanjing Electric Co., Ltd.
Tel: +86 20 6660 8588 Fax: +86 20 6660 8589
Web: www.saj-electric.com E-mail: service@saj-electric.com

PV Grid-connected Inverter
Model: C6-75K-T6-40

PV Input	
Max. Input Voltage	1100V
MPPT Voltage Range	180-1000V
Max. Input Current	6*40A
Short Circuit Current	6*50A
AC Output	
Rated Output Voltage	3/N/PE 230/400V
Rated Output Current	3*108.3A
Max. Output Current	3*119.1A
Rated Output Frequency	50/60Hz
Rated Output Power	75000W
Max. Apparent Power	82500VA
Power Factor Range	0.8 Leading...0.8 Lagging
Operating Temperature Range: -30°C~60°C	
Protective Class: I	
Overvoltage Category: II (DC), III (AC)	
Ingress protection: IP66	
Inverter Topology: Non-isolated	
EN 50549-2, IEC/EN 62109-1/2, EN 61000-6-2/4, PPDS, RD1669, RD413, UNE 217001 IEC 62116, IEC 61727, G99, CEI 0-16, C10/11	


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SAJ Guangzhou Sanjing Electric Co., Ltd.
Tel: +86 20 6660 8588 Fax: +86 20 6660 8589
Web: www.saj-electric.com E-mail: service@saj-electric.com

PV Grid-connected Inverter
Model: C6-100K-T9-40

PV Input	
Max. Input Voltage	1100V
MPPT Voltage Range	180-1000V
Max. Input Current	9*40A
Short Circuit Current	9*50A
AC Output	
Rated Output Voltage	3/N/PE 230/400V
Rated Output Current	3*144.3A
Max. Output Current	3*158.8A
Rated Output Frequency	50/60Hz
Rated Output Power	100000W
Max. Apparent Power	110000VA
Power Factor Range	0.8 Leading...0.8 Lagging
Operating Temperature Range: -30°C~60°C	
Protective Class: I	
Overvoltage Category: II (DC), III (AC)	
Ingress protection: IP66	
Inverter Topology: Non-isolated	
EN 50549-2, IEC/EN 62109-1/2, EN 61000-6-2/4, PPDS, RD1669, RD413, UNE 217001 IEC 62116, IEC 61727, G99, CEI 0-16, C10/11	


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Tel: +86(20) 66608588 Fax: +86(20) 66608589
Web: www.saj-electric.com E-mail: service@saj-electric.com

PV Grid-connected Inverter

Model: C6-110K-T12-40

PV Input	
Max. Input Voltage	1100V
MPPT Voltage Range	180-1000V
Max. Input Current	12*40A
Short Circuit Current	12*50A
AC Output	
Rated Output Voltage	3N/PE 230/400V
Rated Output Current	3*158.8A
Max. Output Current	3*174.6A
Rated Output Frequency	50/60Hz
Rated Output Power	110000W
Max. Apparent Power	121000VA
Power Factor Range	0.8 Leading...0.8 Lagging
Operating Temperature Range: -30°C~60°C	
Protective Class: I	
Overvoltage Category: II (DC), III (AC)	
Ingress protection: IP66	
Inverter Topology: Non-isolated	
EN 50549-2, IEC/EN62109-1/2, EN61000-6-2/4, PPDS, RD1669, RD413, UNE217001	
IEC 62116, IEC61727, G99, CEI 0-16, C10/11	



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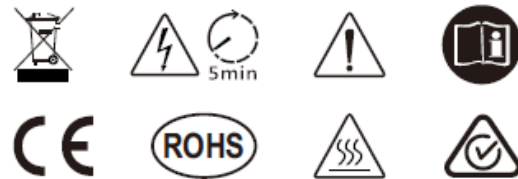
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Tel: +86(20) 66608588 Fax: +86(20) 66608589
Web: www.saj-electric.com E-mail: service@saj-electric.com

PV Grid-connected Inverter

Model: C6-125K-T12-40

PV Input	
Max. Input Voltage	1100V
MPPT Voltage Range	180-1000V
Max. Input Current	12*40A
Short Circuit Current	12*50A
AC Output	
Rated Output Voltage	3N/PE 230/400V
Rated Output Current	3*180.4A
Max. Output Current	3*180.4A
Rated Output Frequency	50/60Hz
Rated Output Power	125000W
Max. Apparent Power	125000VA
Power Factor Range	0.8 Leading...0.8 Lagging
Operating Temperature Range: -30°C~60°C	
Protective Class: I	
Overvoltage Category: II (DC), III (AC)	
Ingress protection: IP66	
Inverter Topology: Non-isolated	
EN 50549-2, IEC/EN62109-1/2, EN61000-6-2/4, PPDS, RD1669, RD413, UNE217001	
IEC 62116, IEC61727, G99, CEI 0-16, C10/11	



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 Guangzhou Sanjing Electric Co., Ltd. Tel: +86(20)-66608588 Fax: +86(20)-66608589 Web: www.saj-electric.com E-mail: service@saj-electric.com		 Guangzhou Sanjing Electric Co., Ltd. Tel: +86(20)-66608588 Fax: +86(20)-66608589 Web: www.saj-electric.com E-mail: service@saj-electric.com																																	
PV Grid-connected Inverter Model: C6-50K-T6-LV-40		PV Grid-connected Inverter Model: C6-60K-T9-LV-40																																	
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Web: www.saj-electric.com E-mail: service@saj-electric.com

PV Grid-connected Inverter

Model: C6-70K-T12-LV-40

PV Input	
Max. Input Voltage	1100V
MPPT Voltage Range	180-1000V
Max. Input Current	12*40A
Short Circuit Current	12*50A
AC Output	
Rated Output Voltage	3/N/PE 127/220V
Rated Output Current	3*183.7A
Max. Output Current	3*183.7A
Rated Output Frequency	50/60Hz
Rated Output Power	70000W
Max. Apparent Power	70000VA
Power Factor Range	0.8 Leading...0.8 Lagging
Operating Temperature Range: -30°C~60°C	
Protective Class: I	
Overvoltage Category: II (DC), III (AC)	
Ingress protection: IP66	
Inverter Topology: Non-Isolated	
IEC/EN62109-1/2, EN61000-6-2/4	



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PV Grid-connected Inverter

Model: C6-75K-T12-LV-40

PV Input	
Max. Input Voltage	1100V
MPPT Voltage Range	180-1000V
Max. Input Current	12*40A
Short Circuit Current	12*50A
AC Output	
Rated Output Voltage	3/N/PE 127/220V
Rated Output Current	3*196.8A
Max. Output Current	3*196.8A
Rated Output Frequency	50/60Hz
Rated Output Power	75000W
Max. Apparent Power	75000VA
Power Factor Range	0.8 Leading...0.8 Lagging
Operating Temperature Range: -30°C~60°C	
Protective Class: I	
Overvoltage Category: II (DC), III (AC)	
Ingress protection: IP66	
Inverter Topology: Non-Isolated	
IEC/EN62109-1/2, EN61000-6-2/4	



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Test item particulars..... :			
Equipment mobility	☐ movable ☒ fixed	☐ hand-held ☐ transportable	☐ stationary ☐ for building-in
Connection to the mains..... :	☐ pluggable equipment ☒ permanent connection		
	☐ direct plug-in ☐ for building-in		
Environmental category..... :	☒ outdoor	☐ indoor unconditional	☐ indoor conditional
Over voltage category Mains	☐ OVC I	☐ OVC II	☒ OVC III ☐ OVC IV
Over voltage category DC	☐ OVC I	☒ OVC II	☐ OVC III ☐ OVC IV
Mains supply tolerance (%)	According to the specified supply range		
Tested for power systems	TN		
IT testing, phase-phase voltage (V)..... :	---		
Class of equipment..... :	☒ Class I ☐ Class II ☐ Class III ☐ Not classified		
Mass of equipment (kg)	See model lists.		
Pollution degree..... :	☐ PD 1 ☐ PD 2 ☒ PD 3 (internal reduced to PD 2)		
IP protection class	IP66		
Possible test case verdicts:			
- test case does not apply to the test object.....: N/A			
- test object does meet the requirement.....: P (Pass)			
- test object was not evaluated for the requirement: N/E			
- test object does not meet the requirement.....: F (Fail)			
Testing..... :			
Date of receipt of test item See cover page			
Date (s) of performance of tests See cover page			

General remarks:								
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.								
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.								
Manufacturer's Declaration per sub-clause 4.2.5 of IEC62109-1:								
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided:					☐ Yes ☒ Not applicable			
When differences exist; they shall be identified in the General product information section.								
Name and address of factory (ies)					Guangzhou Sanjing Electric Co., Ltd. No. 9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong, P.R. China.			
History of amendments and modifications:								
Report No. CN22RKS0 001, dated 21th, Sep., 2022 (original report)								
Report No. CN22RKS0 002, dated 21th, Mar., 2024 (Add new models, add the alternative components and update PCB main power board)								
General product information:								
<u>Product Description:</u>								
See previous report CN22RKS0 001 for details.								
<u>Description of changes:</u>								
1. Add new models C6-75K-T6-40, C6-100K-T9-40, C6-110K-T12-40, C6-125K-T12-40, C6-50K-T6-LV-40, C6-60K-T9-LV-40, C6-70K-T12-LV-40, C6-75K-T12-LV-40.								
The new models C6-75K-T6-40, C6-100K-T9-40, C6-110K-T12-40, C6-125K-T12-40, C6-50K-T6-LV-40, C6-60K-T9-LV-40, C6-70K-T12-LV-40, C6-75K-T12-LV-40 are identical to the C6-75K-T6, C6-100K-T9, C6-110K-T12, C6-125K-T12, C6-50K-T6-LV, C6-60K-T9-LV, C6-70K-T12-LV, in terms of the construction and hardware. The difference is the PCB layout of main power board in order to get a better heat dissipation, the output voltage and output power are different with adjusted by software.								
Details can be found below:								
Model	C6-75K-T6-40	C6-100K-T9-40	C6-110K-T12-40	C6-125K-T12-40	C6-50K-T6-LV-40	C6-60K-T9-LV-40	C6-70K-T12-LV-40	C6-75K-T12-LV-40
Max. Input Current I _{MAX} [A]	6*40	9*40	12*40	12*40	6*40	9*40	12*40	12*40
Model	C6-75K-T6	C6-100K-T9	C6-110K-T12	C6-125K-T12	C6-50K-T6-LV	C6-60K-T9-LV	C6-70K-T12-LV	
Max. Input Current I _{MAX} [A]	6*30	9*30	12*30	12*30	6*30	9*30	12*30	
2. Add the alternative components in the CDF and update PCB main power board. See Table 14 and PD for details.								

Change	Testing	Comment
1	4.2.2.6/4.2.2.7, 7.3.6.3.7, 7.3.7, 7.5	Add new models, were considered for test.
2	N/A	Add the alternative components in the CDF and update PCB main power board, no additional test for necessary.

MODELS LIST

MODELS LIST					
MODELS LIST		C6-75K-T6-40	C6-100K-T9-40	C6-110K-T12-40	C6-125K-T12-40
PV INPUT	V _{MAX} PV [Vdc]	1100			
	I _{SC} PV [A]	6*50	9*50	12*50	
	MPPT Voltage Range V _{MPP} [Vdc]	180-1000			
	Max. Input Current I _{MAX} [A] (A/B) (each MPPT if more than 1)	6*40	9*40	12*40	
	Number of MPPT	2			
	Overvoltage Category (OVC)	II			
AC Side	Rated Output Voltage Ur [Vac]	3L+N+PE, 230/400			
	Rated Output Frequency F _{NETZ} [Hz]	50/60			
	Rated Output Power P _E [kW]	75	100	110	125
	Max. Output Power P _E [kVA]	82.5	110	121	125
	Rated Output Current Ir [A]	108.3	144.3	158.8	180.4
	Max. Output Current Imax [A]	119.1	158.8	174.6	180.4
	Power Factor cosφ [λ]	0.8 leading~0.8 lagging			
	THD [V / I] (100% full power)	<3%			
	Acoustic Noise [dB]	<60			
	Overvoltage Category (OVC)	III			
CONSTRUCTION	Type of inverter	Non-isolated			
	Type of NS Protection	Integrated			
	Separated by	Transformerless			
	Hardware [Version]	Control board:V1.2, IO board:V1.2, Main power board:V1.0, Boost drive board:V1.0,			

		INV drive broad:V1.0 ARM broad:V1.4, PV Input broad:V1.4, AC output broad:V1.4, Electric capacity broad:V1.2, Lightning protection broad:V1.3, Communication broad: V1.1, Display broad:V1.3			
	Firmware [Version]	V0.082			
	Protective Class	Class I			
	Enclosure Protection (IP)	IP66			
	Operating Temperature Range [°C]	-30°C to +60°C(>45 derating)			
	Pollution degree (PD)	PD3			
	Altitude [m]	4000m(>3000m derating)			
	Size [mm]	1045*660*364			
	Weight [kg]	93		98	
Notes:					
MODELS LIST		C6-50K-T6-LV-40	C6-60K-T9-LV-40	C6-70K-T12-LV-40	C6-75K-T12-LV-40
PV INPUT	V _{MAX} PV [Vdc]	1100			
	I _{SC} PV [A]	6*50	9*50	12*50	
	MPPT Voltage Range V _{MPP} [Vdc]	180-1000			
	Max. Input Current I _{MAX} [A] (A/B) (each MPPT if more than 1)	6*40	9*40	12*40	
	Number of MPPT	2			
	Overvoltage Category (OVC)	II			
AC Side	Rated Output Voltage Ur [Vac]	3L+N+PE, 127/220			
	Rated Output Frequency F _{NETZ} [Hz]	50/60			
	Rated Output Power P _E [kW]	50	60	70	75
	Max. Output Power P _E [kVA]	55	60	70	75
	Rated Output Current Ir [A]	131.2	157.5	183.7	196.8
	Max. Output Current Imax [A]	144.3	157.5	183.7	196.8

	Power Factor $\cos\phi$ [λ]	0.8 leading~0.8 lagging	
	THD [$\sqrt{I} / I$] (100% full power)	<3%	
	Acoustic Noise [dB]	<60	
	Overvoltage Category (OVC)	III	
CONSTRUCTION	Type of inverter	Non-isolated	
	Type of NS Protection	Integrated	
	Separated by	Transformerless	
	Hardware [Version]	Control board:V1.2, IO board:V1.2, Main power board:V1.0, Boost drive board:V1.0, INV drive board:V1.0 ARM board:V1.4, PV Input board:V1.4, AC output board:V1.4, Electric capacity board:V1.2, Lightning protection board:V1.3, Communication board: V1.1, Display board:V1.3	
	Firmware [Version]	V0.082	
	Protective Class	Class I	
	Enclosure Protection (IP)	IP66	
	Operating Temperature Range [°C]	-30°C to +60°C(>45 derating)	
	Pollution degree (PD)	PD3	
	Altitude [m]	4000m(>3000m derating)	
	Size [mm]	660*1045*361	
	Weight [kg]	93	98
	Notes:		

IEC 62109-1			
Clause	Requirement – Test	Result – Remark	Verdict
4	GENERAL TESTING REQUIREMENTS		P
4.2.2.6	Mains supply a) Voltage: b) Frequency: c) Polarity: d) Earthing: e) Over-current Protection:	(see appended table 4.2.2.6)	P
7	PROTECTION AGAINST ELECTRIC SHOCK AND ENERGY HAZARDS		
7.3.7.4	Clearance distances	(see appended table 7.3.7)	P
7.3.7.5	Creepage distances	(see appended table 7.3.7)	P
7.5	Electrical tests related to shock hazard	(see appended table 7.5)	P
7.5.2	Voltage test (dielectric strength test)		P
7.5.4	Touch current measurement (type test)	(see appended table 7.3.6.3.7)	P
14	COMPONENTS		P
14.1	General	(see appended table 14)	P
	Where safety is involved, components shall be used in accordance with their specified RATINGS unless a specific exception is made. They shall conform to one of the following:		P
	a) applicable safety requirements of a relevant IEC standard. Conformity with other requirements of the component standard is not required. If necessary for the application, components shall be subjected to the test of this standard, except that it is not necessary to carry out identical or equivalent tests already performed to check conformity with the component standard;		P
	b) the requirements of this standard and, where necessary for the application, any additional applicable safety requirements of the relevant IEC component standard;		P
	c) if there is no relevant IEC standard, the requirements of this standard;		P
	d) applicable safety requirements of a non-IEC standard which are at least as high as those of the applicable IEC standard, provided that the component has been approved to the non-IEC standard by a recognized testing authority,		P
	Components such as optocouplers, capacitors, transformers, and relays connected across basic, supplemental, reinforced, or double insulation shall comply with the requirements applicable for the grade of insulation being bridged, and if not		P

IEC 62109-1			
Clause	Requirement – Test	Result – Remark	Verdict
	previously certified to the applicable component safety standard shall be subjected to the voltage test of 7.5.2 as routine test.		

IEC 62109-1						
Clause	Requirement – Test			Result – Remark		Verdict
4.2.2.6/4.2.2.7	TABLE: : electrical data Output side (Grid connection)					P
DC side			AC side			
U (V)	I (A)	P (W)	U (V)	I (A)	P (W)	PF
C6-50K-T6-LV-40						
test at 50Hz						
180	81.50	14198.6	127.15	35.38	13480.4	0.9998
			127.03	35.41		
			127.08	35.43		
550	97.15	52561.0	127.23	131.10	49986.0	1.0000
			127.10	130.97		
			127.26	131.34		
850	61.66	52303.0	127.23	131.53	50091.0	1.0000
			126.97	131.33		
			127.13	131.80		
1000	21.38	21238.0	127.14	53.61	20390.0	0.9999
			126.93	53.56		
			127.04	53.67		
test at 60Hz						
180	136.66	24379.8	127.14	60.59	23113.0	0.9999
			127.14	60.62		
			127.06	60.74		
550	179.63	52615.0	127.20	131.13	50006.0	1.0000
			127.20	130.98		
			127.26	131.41		
850	61.63	52280.0	127.25	131.47	50083.0	1.0000
			127.00	131.35		
			127.12	131.81		
1000	21.40	21243.0	127.17	53.61	20395.0	0.9999
			126.99	53.55		
			127.02	53.67		
C6-60K-T9-LV-40						
test at 50Hz						
180	180.25	32325.2	127.17	80.60	30727.0	1.0000
			127.03	80.56		

IEC 62109-1						
Clause	Requirement – Test			Result – Remark		Verdict
			127.09	80.79		
550	116.22	63211.0	127.25	157.25	59972.0	1.0000
			127.14	157.12		
			127.27	157.59		
850	73.41	62230.0	127.14	155.75	59336.0	1.0000
			127.14	155.49		
			127.06	155.94		
1000	24.86	24577.5	127.10	61.98	23585.0	1.0000
			127.15	62.02		
			127.14	62.11		
test at 60Hz						
180	176.16	31594.9	127.17	78.77	30045.0	1.0000
			127.10	78.79		
			127.08	79.01		
550	116.39	63248.0	127.28	157.27	59976.0	1.0000
			127.16	157.10		
			127.29	157.31		
850	73.52	62294.0	127.27	155.76	59373.0	1.0000
			127.11	155.59		
			127.28	156.09		
1000	19.49	19168.0	127.15	48.32	18391.0	0.9999
			127.14	48.39		
			127.15	48.41		
C6-70K-T12-LV-40						
test at 50Hz						
180	202.78	36476.3	127.19	90.61	34537.0	1.00
			127.03	90.57		
			127.11	90.80		
550	135.96	73990.0	127.26	183.43	69985.0	1.00
			127.13	183.51		
			127.32	183.90		
850	86.21	72854.0	127.29	181.68	69262.0	1.00
			127.09	181.52		
			127.36	182.09		

IEC 62109-1						
Clause	Requirement – Test			Result – Remark		Verdict
1000	29.25	28599.2	127.21	72.13	27437.0	1.00
			127.12	72.13		
			127.21	72.27		
test at 60Hz						
180	239.74	43057.4	127.20	106.89	40781.0	1.00
			127.13	106.94		
			127.10	107.26		
550	137.12	74036.6	127.33	183.56	69999.0	1.00
			127.21	183.29		
			127.33	183.88		
850	86.23	72917.0	127.31	181.85	69329.0	1.00
			127.17	181.73		
			127.37	182.15		
1000	29.40	28762.4	127.17	72.43	27579.0	1.00
			127.18	72.51		
			127.19	72.70		
C6-75K-T12-LV-40						
test at 50Hz						
180	153.44	27265.0	127.18	68.06	25942.0	1.00
			127.02	68.03		
			127.08	68.17		
550	150.3	79176.0	127.32	196.62	75002.0	1.00
			127.13	196.33		
			127.34	196.93		
850	92.34	77999.0	127.31	194.48	74116.0	1.00
			127.10	194.01		
			127.33	194.71		
1000	32.42	31797.6	127.19	80.07	30506.0	1.00
			127.14	80.00		
			127.21	80.20		
test at 60Hz						
180	168.16	29887.7	127.21	74.30	28323.0	1.00
			127.04	74.21		
			127.14	74.40		

IEC 62109-1						
Clause	Requirement – Test			Result – Remark		Verdict
550	162.0	79167.0	127.35	196.54	74990.0	1.00
			127.20	196.32		
			127.30	196.92		
850	93.23	78921.0	127.33	196.58	74958.0	1.00
			127.17	196.26		
			127.35	196.86		
1000	32.49	31831.1	127.23	80.08	30514.0	1.00
			127.16	80.02		
			127.20	80.24		
C6-75K-T6-40						
test at 50Hz						
180	73.88	10786.1	230.19	14.85	10080.0	0.9891
			230.20	14.94		
			230.21	14.87		
550	144.88	77500.0	230.30	108.69	75034.0	1.00
			230.15	108.71		
			230.29	108.74		
850	90.67	76981.0	230.29	108.62	75042.0	1.00
			230.16	108.78		
			230.31	108.83		
1000	31.38	31285.0	230.22	44.08	30399.0	0.9996
			230.16	44.28		
			230.22	44.27		
test at 60Hz						
180	82.22	13182.5	230.23	18.15	12382.0	0.9901
			230.27	18.24		
			230.23	18.22		
550	145.02	77540.0	230.35	108.69	75067.0	0.9999
			230.16	108.71		
			230.30	108.88		
850	90.74	77029.0	230.33	108.74	75096.0	0.9999
			230.20	108.77		
			230.34	108.96		
1000	31.43	31289	230.25	44.18	30425.0	0.9993

IEC 62109-1						
Clause	Requirement – Test			Result – Remark		Verdict
			230.20	44.33		
			230.29	44.33		
C6-100K-T9-40						
test at 50Hz						
180	90.55	14958.4	230.21	20.57	14090.0	0.9948
			230.19	20.69		
			230.21	20.62		
550	191.91	103495.0	230.36	144.74	100080.0	1.0000
			230.15	144.99		
			230.39	145.15		
850	121.08	102805.0	230.36	145.02	100100.0	1.0000
			230.13	145.01		
			230.37	145.13		
1000	41.77	41633.0	230.22	58.69	40561.0	0.9998
			230.18	58.97		
			230.26	58.84		
test at 60Hz						
180	145.24	25676.8	230.26	35.25	24317.0	0.9982
			230.14	35.44		
			230.32	35.50		
550	191.61	103450.0	230.47	144.79	100030.0	1.0000
			230.19	144.78		
			230.37	145.07		
850	121.05	102761.0	230.43	144.86	100050.0	1.0000
			230.20	144.83		
			230.40	145.15		
1000	41.81	41643.0	230.28	58.74	40565.0	0.9996
			230.22	58.92		
			230.25	58.92		
C6-110K-T12-40						
test at 50Hz						
180	153.15	26978.2	230.26	37.06	25591.0	0.9989
			230.13	37.25		
			230.29	37.30		

IEC 62109-1						
Clause	Requirement – Test			Result – Remark		Verdict
550	210.14	113806.0	230.40	159.29	109950.0	1.0000
			230.18	159.30		
			230.36	159.28		
850	133.08	112925.0	230.40	159.20	109890.0	1.0000
			230.19	159.28		
			230.41	159.22		
1000	45.99	45755.3	230.30	64.58	44592.0	0.9998
			230.20	64.75		
			230.29	64.65		
test at 60Hz						
180	193.54	34297.2	230.30	47.17	32535.0	0.9993
			230.18	47.16		
			230.29	47.20		
550	210.93	113877.0	230.42	159.16	110020.0	1.0000
			230.24	159.40		
			230.38	159.55		
850	133.31	113087.0	230.44	159.31	110020.0	1.0000
			230.20	159.29		
			230.39	159.71		
1000	46.05	45766.9	230.32	64.57	44627.0	0.9997
			230.23	64.84		
			230.31	64.77		
C6-125K-T12-40						
test at 50Hz						
180	112.56	18797.6	230.22	25.81	17760.0	0.9970
			230.15	25.97		
			230.21	25.90		
550	238.60	129499.0	230.40	180.94	124950.0	1.0000
			230.15	180.77		
			230.44	181.29		
850	150.46	127659.0	230.41	179.85	124090.0	1.0000
			230.15	179.95		
			230.42	180.01		
1000	50.42	50157.0	230.32	70.84	48909.0	0.9999

IEC 62109-1						
Clause	Requirement – Test			Result – Remark		Verdict
			230.13	71.01		
			230.28	70.93		
test at 60Hz						
180	144.51	25834.0	230.21	35.39	24452.0	0.9983
			230.23	35.67		
			230.23	35.71		
550	239.43	129551.0	230.48	180.90	124990.0	1.0000
			230.15	181.04		
			230.43	181.24		
850	151.60	128617.0	230.45	180.98	125010.0	1.0000
			230.23	180.97		
			230.45	181.43		
1000	50.45	50167.0	230.32	70.85	48920.0	0.9997
			230.25	70.99		
			230.32	70.99		
			127.8	73.0		
			127.8	72.4		
Supplementary information:						

7.3.6.3.7	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
PE to Metal Enclosure	AC 0.162 / DC 0.034	AC 3.5 / DC10	--	
Supplementary information: No failure of the protective earthing conductor.				

IEC 62109-1			
Clause	Requirement – Test	Result – Remark	Verdict

7.3.7	TABLE: clearance and creepage distance measurements					P
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
MPB board of C6-100K-T9-40						
M1(B*)	1100	230	4.0	7.0	5.5	7.0
M2(B*)	1100	230	4.0	7.1	5.5	7.1
M3(B*)	1100	230	4.0	7.5	5.5	7.5
M4(B*)	1100	230	4.0	7.5	5.5	7.5
M13(B*)	1100	230	4.0	7.8	5.5	7.8
M12(B*)	1100	230	4.0	8.5	5.5	8.5
M6(B*)	1100	230	4.0	7.8	5.5	7.8
M14(B*)	1100	230	4.0	8.3	5.5	8.3
M11(B*)	1100	230	4.0	7.1	5.5	7.1
M5(B*)	1100	230	4.0	7.0	5.5	7.0
M9(B*)	1100	230	4.0	7.0	5.5	7.0
M10(B*)	1100	230	4.0	7.2	5.5	7.2
M7(B*)	1100	230	4.0	13.9	5.5	13.9
M8(B*)	1100	230	4.0	14.0	5.5	14.0
Note(s): * F=functional insulation, B=basic insulation, S=supplementary insulation, R=reinforced insulation. 1) For the inner layer of the PCB, pollution I was considered. 2) U42, U43, U44, U45, U32, U30 and surrounding PCB board were coated, pollution 1 was considered. 3) For IGBT ceramic, the creepage distance equal the associated clearance. When determine the clearance: For DC input circuits: Overvoltage Category II applied(impulse withstand voltage 4772V) For AC output circuits (connected to AC mains): Overvoltage Category III applied (impulse withstand voltage 4000V, temporary overvoltage 2120Vpeak considered.) Interpolation is used. Due to the max. altitude is 2000m, limit of clearance by the correction factor 1.0 considered. Pollution 2 was considered. Requirement about creepage distances for the distance to the metal enclosure come from columns 7 and 8 of Table 11. Requirement about creepage distances for other parts come from column 3 of table 11. PCB with min. CTI 175 used. Triple insulated wire used for insulation between pri. and sec. of transformer T1.						

7.5	TABLE: electric strength measurements, impulse voltage test and partial discharge test				P
test voltage applied between:		test voltage (V)	impulse withstand voltage (V)	partial discharge extinction voltage (V)	result
DC to PE		2120 d.c	--	--	P
AC to PE		1500 a.c.	--	--	P
Note(s):					

IEC 62109-1			
Clause	Requirement – Test	Result – Remark	Verdict

14	TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity1)	
Whole unit						
Face cover	--	--	744.5*560*19.5	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance	
	--	--	311*560*17	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance	
Heat-sink	--	--	510*340*98	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance	
DC terminal	Staubli Electrical Connectors AG	PV-KST4/6II-UR PV-KBT4/6II-UR	1250VDC, 39 A, 85°C, IP65	IEC 62852:2014	TUV RH R 60127190	
alternative	Dongguan Vaconn Electronic Technology Co.,Ltd.	VP-D4B-PHSF0 VP-D4B-PHSM0	1100V,30A, 85°C, IP65	EN 62852: 2015 IEC 62852: 2014	TUV RH R 50396796	
AC side connector	SHENZHEN CONNECTION ELECTRONIC CO LTD	DRTB100-R	1200V 200A	UL 60062	UL E304128	
DC Switch	Beijing People's Electric Plant Co.,Ltd.	GHX5-32P	1000V 32A 6P, 70°C	EN 60947-3:2009+A1+A2	TUV RH R 50439884	
alternative	Beijing People's Electric Plant Co.,Ltd.	GHX5-55P	1000V 55A 6P, 70°C	EN 60947-3:2009+A1+A2	TUV RH R 50439884	
alternative	ProJoy Electric Co., Ltd.	PEDS150R-HM32-6	1500V 32A 6P, 85°C	EN 60947-3:2009+A1+A2	TUV RH R 50494197	
alternative	ProJoy Electric Co., Ltd.	PEDS150R-HM55-6	1500V 55A 6P, 85°C	EN 60947-3:2009+A1+A2	TUV RH R 50494197	
alternative	Santon	XBE+3610-2-D	1100V 25A 6P, 70°C	EN 60947-3:2009+A1+A2	TUV RH R 50423069	
Internal wire	3Q WIRE & CABLE CO LTD	UL10269	12AWG,105°C, 1000V	UL758	UL E341104	
	GUANGDONG HAE RKN NEW ENERGY CO LTD	UL10269	12AWG,105°C, 1000V	UL758	UL E300956	
	AHO WIRE & CABLE CO LTD	UL10269	12AWG,105°C, 1000V	UL758	UL E509117	
	3Q WIRE & CABLE CO LTD	UL10269	10AWG,105°C, 1000V	UL758	UL E341104	
	GUANGDONG HAE RKN NEW ENERGY CO LTD	UL10269	10AWG,105°C, 1000V	UL758	UL E300956	
	AHO WIRE &	UL10269	10AWG,105°C,	UL758	UL E509117	

IEC 62109-1					
Clause	Requirement – Test		Result – Remark		Verdict
	CABLE CO LTD		1000V		
	AHO WIRE & CABLE CO LTD	UL11627	4AWG,105°C, 2000V	UL758	UL E509117
	3Q WIRE & CABLE CO LTD	UL11627	2AWG,105°C, 2000V	UL758	UL E341104
	3Q WIRE & CABLE CO LTD	UL11627	4AWG,105°C, 2000V	UL758	UL E341104
	AHO WIRE & CABLE CO LTD	UL11627	2AWG,105°C, 2000V	UL758	UL E509117
Fan	MinebeaMitsumi Inc.	09238DE-24P-CUE-1	24VDC, 1.5A	UL 507	UL E89936
alternative	MinebeaMitsumi Inc.	12038VA-24Q-FUE-1	24VDC, 1.4A	UL 507	UL E89936
alternative	DONGGUAN PROTECHNIC ELECTRIC CO LTD	MGT9224Y B-W38 E	24VDC, 1.5A	UL507	UL E187236
alternative	DONGGUAN PROTECHNIC ELECTRIC CO LTD	MGT12024Z B-W38 J	24VDC, 1.4A	UL507	UL E187236
PCBs	JIANGMEN BENLIDA PRINTED CIRCUIT CO.,LTD	BLD	130°C, V-0	UL 796	UL E203640
alternative	HUIZHOU GLORYSKY ELECTRONICS CO.,LTD	GS-M	130°C, V-0	UL 796	UL E257384
alternative	Ganzhou KINGSUN Technology Co., Ltd.	KS-D1	130°C, V-0	UL 796	UL E465853
Boost inductor	CHINA AMORPHOUS TECHNOLOGY CO.,LTD	100-136KW BOOST	590uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Huizhou Baohui Electronics Technology Co., Ltd.	100-136KW BOOST	590uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Qingdao Yunlu New Energy Technology Co., Ltd.	100-136KW BOOST	590uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Daxin Electronics Industry Co., Ltd.	100-136KW BOOST	590uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Eaglerise Electric & Electronic (China) Co., Ltd.	100-136KW BOOST	590uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
INV. Inductor	CHINA AMORPHOUS TECHNOLOGY CO.,LTD	100-136KW INV	105uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Huizhou Baohui Electronics	100-136KW INV	105uH±10%, Class B	IEC/EN62109-1: 2010	Tested with appliance

IEC 62109-1					
Clause	Requirement – Test		Result – Remark		Verdict
	Technology Co., Ltd.			IEC/EN62109-2: 2011	
alternative	Qingdao Yunlu New Energy Technology Co., Ltd.	100-136KW INV	105uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Daxin Electronics Industry Co., Ltd.	100-136KW INV	105uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Eaglerise Electric & Electronic (China) Co., Ltd.	100-136KW INV	105uH±10%, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
Input board					
DC filter inductor (L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12)	CHINA AMORPHOUS TECHNOLOGY CO.,LTD	CA01-12446	1.8mH, 1.2mΩ, Class B	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
Surge Protector (U1, U2, U3, U4, U5, U6, U7, U8, U9, U10, U11, U12, U13, U14, U15)	Shenzhen Haipengxin Electronics Co., Ltd	PV20K-670	Ucpv:DC670V, In:10kA, I _{max} .: 20kA, 85°C	EN 61643-11:2012	TUV RH R 50316472
alternative	HUNAN ZHONGPU TECHNOLOGY CO.,LTD.	DXH06-FD821 ZP	Ucpv:DC670V, In:10kA, I _{max} .: 20kA, 85°C	EN 50539-11:2013+A1	TUV RH R 50383393
Y Cap. (C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24)	VISHAY Electronic GmbH	VY1	500VAC, 102K, 110°C	IEC 60384-14:2013	VDE 40012673
alternative	TDK (Zhuhai FTZ) Co., Ltd.	Y1, B81123	500Vac, 102K, 110°C	IEC 60384-14:2013	VDE 40005566
alternative	JYH HSU (JEC) ELECTRONICS LTD.	Y1, JD	400VAC, 4.7nF, 125°C	IEC 60384-14:2013	VDE 40038642
DC side current sensor	SINOMAGS TECHNOLOGY CO.,LTD	STK-25CTS/P1	85°C, 4kV, 25A	EN 62477-1:2012+A11+A1+A12	TUV RH R 50516777

IEC 62109-1					
Clause	Requirement – Test		Result – Remark		Verdict
(H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12)				EN 62368-1:2014+A11 EN 61010-2-030:2010 EN 61010-1:2010+A1	
Output board					
Surge Protector (U1, U2, U3, U4)	Shenzhen Haipengxin Electronics Co., Ltd	PV20K-670	Ucpv:DC670V, In:10kA, I _{max} : 20kA, 85°C	EN 61643-11:2012	TUV RH R 50316472
alternative	HUNAN ZHONGPU TECHNOLOGY CO.,LTD.	DXH06-FD821 ZP	Ucpv:DC670V, In:10kA, I _{max} : 20kA, 85°C	EN 50539-11:2013+A1	TUV RH R 50383393
Y Cap. (C1, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14)	VISHAY Electronic GmbH	VY1	500VAC, 102K, 110°C	IEC 60384-14:2013	VDE 40012673
alternative	TDK (Zhuhai FTZ) Co., Ltd.	Y1, B81123	500Vac, 102K, 110°C	IEC 60384-14:2013	VDE 40005566
alternative	JYH HSU (JEC) ELECTRONICS LTD.	Y1, JD	400VAC, 4.7nF, 125°C	IEC 60384-14:2013	VDE 40038642
AC filter inductor (L1)	CHINA AMORPHOUS TECHNOLOGY CO.,LTD	100-136KW inductor	420uHmin, 130°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Huizhou Baohui Electronics Technology Co., Ltd.	100-136KW inductor	420uHmin, 130°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Qingdao Yunlu New Energy Technology Co., Ltd.	100-136KW inductor	420uHmin, 130°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Daxin Electronics Industry Co., Ltd.	100-136KW inductor	420uHmin, 130°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Eaglerise Electric & Electronic (China) Co., Ltd.	100-136KW inductor	420uHmin, 130°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
AC filter inductor (L2)	CHINA AMORPHOUS TECHNOLOGY CO.,LTD	100-136KW inductor	712uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance

IEC 62109-1					
Clause	Requirement – Test			Result – Remark	Verdict
alternative	Huizhou Baohui Electronics Technology Co., Ltd.	100-136KW inductor	712uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Qingdao Yunlu New Energy Technology Co., Ltd.	100-136KW inductor	712uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Daxin Electronics Industry Co., Ltd.	100-136KW inductor	712uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Eaglerise Electric & Electronic (China) Co., Ltd.	100-136KW inductor	712uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
Power frequency inductor (L3)	CHINA AMORPHOUS TECHNOLOGY CO.,LTD	100-136KW inductor	7uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Huizhou Baohui Electronics Technology Co., Ltd.	100-136KW inductor	7uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Qingdao Yunlu New Energy Technology Co., Ltd.	100-136KW inductor	7uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Daxin Electronics Industry Co., Ltd.	100-136KW inductor	7uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Eaglerise Electric & Electronic (China) Co., Ltd.	100-136KW inductor	7uHmin, 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
Varistor (U1, U2, U3, U4)	Hongzhi Enterprises Ltd.	20D821K	820VAC, In:6.5kA, I _{max} : 12kA, 85°C	DIN EN 61051-1:200	VDE 40037512
ARM Board					
Capacitor (C50)	Panasonic	EECF5R5H 105	1.0F, 5.5V, 85°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
MCU (U4)	Renesas Microcontrollers	R7FA6M4A D3CFP	-40 to +105°C, 8-bit bus	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
SPD board					
Bus Cap. (C1, C2, C3, C4, C5, C6, C7, C8, C9,	Dongguan Hongfarad Electronics Co., Ltd.	DPB	8uF±10% 1100VDC, 85°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance

IEC 62109-1					
Clause	Requirement – Test		Result – Remark		Verdict
C10, C11, C12)					
alternative	GUANGDONG FENGMIN ELECTRONIC TECH CO LTD	DPB	8uF±10% 1100VDC, 85°C	UL810	UL E215893
Communication board					
Thermistor (RT1, RT2, RT3, RT4, RT5, RT6)	SHENZHEN AMPRON TECHNOLOGY CO LTD	MZ23-50RM075	600V/10A, 85°C	UL60730-1	UL E243011
DSP (U3, U4)	Texas Instruments Incorporated	TMS320F28374SPTP S	Level-3-260C-168 HR -40°C to 125°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
C6-75K-T6, C6-50K-T6-LV, C6-100K-T9, and C6-60K-T9-LV, C6-75K-T6-40, C6-50K-T6-LV-40, C6-100K-T9-40, and C6-60K-T9-LV-40 Main Power board					
DC side current (HCT1, HCT2, HCT3, HCT4, HCT5, HCT6, HCT7, HCT8, HCT9,)	SINOMAGS TECHNOLOGY CO.,LTD	STK-PL	105°C, 4kV, 32A	EN 62368-1:2014+A11 EN IEC 61010-2-030:2021 EN 61010-1:2010+A1	TUV RH R 50543721
alternative	SINOMAGS TECHNOLOGY CO.,LTD	STK-PL	105°C, 4kV, 55A	EN 62368-1:2014+A11 EN IEC 61010-2-030:2021 EN 61010-1:2010+A1	TUV RH R 50543721
alternative	LEM SWITZERLAND S A	HLSR-P	105°C, 4kV, 32A	UL508: 2010	UL E189713
alternative	LEM SWITZERLAND S A	HLSR-P	105°C, 4kV, 55A	UL508: 2010	UL E189713
Bus Cap. (C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51)	Dongguan Hongfarad Electronics Co., Ltd.	HDPB	50uF±10% 600VDC, 105°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	GUANGDONG FENGMIN ELECTRONIC TECH CO LTD	BM	50uF±10% 600VDC, 105°C	UL810	UL E215893
INV IGBT module (U5, U6, U7)	INFINEON	F3L400R07W3S5_B59	650 V , 200A, 175°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
Boost IGBT	INFINEON	IKW40N12	1200V, 40A,	IEC/EN62109-	Tested with

IEC 62109-1					
Clause	Requirement – Test		Result – Remark		Verdict
(Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20)		OH3	175°C	1: 2010 IEC/EN62109-2: 2011	appliance
Transformer (T1)	Daxin Electronics Industry Co., Ltd.	EE19	Class B, 130°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
--WIRE	HUIZHOU GOLDEN OCEAN MAGNET WIRE FACTORY	XUEW-F MW79C	155°C	UL 1446	UL E225143
alternative	HOI LUEN ELECTRICAL MFR CO.,LTD	XUEW-F MW79C	155°C	UL 1446	UL E164409
--Winding tape	HUIZHOU YA HUA STICKING TAPE CO.,LTD	CT	130°C	UL 510A	UL E165111
--BOBBIN	CHANG CHUN PLASTICS CO.,LTD	PHENOLIC T375HF	150°C	UL 746C	UL E59481
-- TUBE	DONGGUAN LING FREE HARDWARE PLASTTCS PROUCE CO.,LTD	LING FREE PTFE TUBE	200°C	UL94	UL E352366
C6-70K-T12-LV, C6-110K-T12, C6-125K-T12, C6-70K-T12-LV-40, C6-75K-T12-LV-40, C6-110K-T12-40, C6-125K-T12-40 Main Power board					
DC side current (HCT1, HCT2, HCT3, HCT4, HCT5, HCT6, HCT7, HCT8, HCT9, HCT10, HCT11, HCT12)	SINOMAGS TECHNOLOGY CO.,LTD	STK-PL	105°C, 4kV, 32A	EN 62368-1:2014+A11 EN IEC 61010-2-030:2021 EN 61010-1:2010+A1	TUV RH R 50543721
alternative	SINOMAGS TECHNOLOGY CO.,LTD	STK-PL	105°C, 4kV, 55A	EN 62368-1:2014+A11 EN IEC 61010-2-030:2021 EN 61010-1:2010+A1	TUV RH R 50543721
Bus Cap. (C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51)	Dongguan Hongfarad Electronics Co., Ltd.	HDPB	50uF±10% 600VDC, 105°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance

IEC 62109-1					
Clause	Requirement – Test		Result – Remark		Verdict
alternative	GUANGDONG FENGMING ELECTRONIC TECH CO LTD	BM	50uF±10% 600VDC, 105°C	UL810	UL E215893
INV IGBT module (U5, U6, U7)	ON	NXH450N6 5L4Q2F2S 1G	650 V, 167A, 175°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Vincotech	30- FT07NIA45 0S501- PD68F58	650 V, 167A, 175°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
Boost IGBT module (U1, U2, U3, U4)	Vincotech	10- PG123BA0 80SH11- LN68L33T	1200V, 80A, 175°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Vincotech	10- PG123BA0 80SH21- LN68L18T	1200V, 80A, 175°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	ON	PCNXH240 B120H3Q1 S1G	1200V, 68A, 150°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
Y Cap. (C55,C56)	VISHAY Electronic GmbH	VY1	500VAC, 102K, 110°C	IEC 60384-14:2013	VDE 40012673
alternative	TDK (Zhuhai FTZ) Co., Ltd.	Y1, B81123	500Vac, 102K, 110°C	IEC 60384-14:2013	VDE 40005566
alternative	JYH HSU (JEC) ELECTRONICS LTD.	Y1, JD	400VAC,4.7nF, 125°C	IEC 60384-14:2013	VDE 40038642
IO board					
Y Cap. (C6, C7, C8, C177, C69, C70, C39, C74, C188, C199, C503, C504)	VISHAY Electronic GmbH	VY1	500VAC, 102K, 110°C	IEC 60384-14:2013	VDE 40012673
alternative	TDK (Zhuhai FTZ) Co., Ltd.	Y1, B81123	500Vac, 102K, 110°C	IEC 60384-14:2013	VDE 40005566
alternative	JYH HSU (JEC) ELECTRONICS LTD.	Y1, JD	400VAC,4.7nF, 125°C	IEC 60384-14:2013	VDE 40038642
Relay (JK1, JK2, JK3, JK4, JK5, JK6)	Zettler Relay (Xiamen) Co., Ltd.	AZSR1200	200A, 920VAC, 12VDC, 85°C	EN 61810-1:2015	TUV SUD B 088793 0013
alternative	Xiamen Hongfa Electroacoustic Co., Ltd.	HF167F-200	200A, 800VAC, 12VDC, 85°C	EN 61810-1:2015	TUV RH R 50360703
alternative	Dongguan Churod Electronics Co., Ltd.	CHAR-112A200C	200A, 100VAC, 12VDC, 85°C	EN 61810-1:2015	TUV RH R 50499133

IEC 62109-1					
Clause	Requirement – Test			Result – Remark	Verdict
AC side current sensor (H1, H2, H3)	SINOMAGS TECHNOLOGY CO.,LTD	STB-200LA/ZN	105°C, 4kV, 200A	EN IEC 61010-2-030: 2021 EN 62477-1: 2012+A11+A1+A12 EN 62368-1: 2014+A11 EN 61010-1: 2010+A1	TUV RH R 50531220
alternative	LEM SWITZERLAND S A	LZSR 200-P/SP1	105°C, 4kV, 200A	UL508: 2010	UL E189713
GFCT current sensor (H1)	SINOMAGS TECHNOLOGY CO.,LTD	SFG-2.0P-P1	105°C, 5kV, 32A	EN 61326-1: 2013 EN 61000-6-4: 2007+A1 EN 61000-6-3: 2007+A1 EN 61000-6-1: 2007 EN 61000-6-2: 2005	TUV RH R 50543721
alternative	LEM SWITZERLAND S A	CTSR 3-TP/SP19	110°C, 5kV, 32A	UL 508: 2013.	UL E189713
Optocouplers (U43, 44, U45)	Suzhou Novosense Microelectronics Co.,Ltd	NSi8241W	SOP16 2.5V to 5.5V -40°C ~125°C	VDE V 0884-11: 2017-01	VDE 40052820
Optocouplers (U42)	Suzhou Novosense Microelectronics Co.,Ltd	NSi8221W 1-DSWVR	SOW8 2.5V to 5.5V - 55°C~125°C	VDE V 0884-11: 2017-01	VDE 40052820
Optocouplers (U32, U30)	Lite-On Technology Corporation	LTV-816S	-55°C to 110°C	VDE V 0884-11: 2017-01	VDE 40015248
Glue(Coating Varnish)	YIK SHING TAT INDUSTRIAL CO LTD	PU1030-40S-LF	-40~130°C, V-0	UL746E	UL E484037
Transformer (T1)	Daxin Electronics Industry Co., Ltd.	PQ40-40	Class B, 130°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
--COPPER WIRE	HUIZHOU GOLDEN OCEAN MAGNET WIRE FACTORY	XUEW-F MW79C	155°C	UL 1446	UL E225143
alternative	HOI LUEN ELECTRICAL MFR CO.,LTD	XUEW-F MW79C	155°C	UL 1446	UL E164409
--TRIPLE WIRE	SHENZHEN DARUN SCIENCE AND TECHNOLOGY CO LTD	DRTIW-B	130°C	UL 1446	UL E349174
--EPOXY	DONGGUAN	HCJ800	V-0	UL 746	UL E504240

IEC 62109-1					
Clause	Requirement – Test		Result – Remark		Verdict
	HONGCHUANGEL ELECTRONICTECHN OLOGY CO.,LTD				
--Winding tape	JINGJIANG YA HUA PRESSURE SENSITIVE GLUE CO.,LTD	PF-301	180° C	UL 510A	UL E165111
--MARGIN TAPE	HUIZHOU YA HUA STICKING TAPE CO.,LTD	WF	130° C	UL 510A	UL E165111
--BUSHING	DONGGUAN LING FREE HARDWARE PLASTTCS PROUCE CO.,LTD	LING FREE PTFE TUBE	200° C	UL 224	UL E352366
--VARNISH	SUZHOU TAIHU INSULATING MATERIAL CO LTD	T-4260(a)	130°C	UL1446	UL E228349
--BOBBIN	CHANG CHUN PLASTICS CO.,LTD	PHENOLIC S T375HF	150°C	UL94	UL E59481
Transformer (T2)	Daxin Electronics Industry Co., Ltd.	PQ50-50	Class B, 130°C	IEC/EN62109- 1: 2010 IEC/EN62109- 2: 2011	Tested with appliance
--BOBBIN	CHANG CHUN PLASTICS CO.,LTD	PHENOLIC S T375HF	150°C	UL94	UL E59481
--COPPER WIRE	HUIZHOU GOLDEN OCEAN MAGNET WIRE FACTORY	XUEW-F MW79C	155° C	UL 1446	UL E225143
alternative	HOI LUEN ELECTRICAL MFR CO.,LTD	XUEW-F MW79C	155°C	UL 1446	UL E164409
--Winding tape	JINGJIANG YA HUA PRESSURE SENSITIVE GLUE CO.,LTD	PF-301	180°C	UL 510A	UL E165111
--MARGIN TAPE	HUIZHOU YA HUA STICKING TAPE CO.,LTD	WF	130°C	UL 510A	UL E165111
--Winding tape	JINGJIANG YA HUA PRESSURE SENSITIVE GLUE CO.,LTD	PF-301	180°C	UL 510A	UL E165111
--MARGIN TAPE	HUIZHOU YA HUA STICKING TAPE CO.,LTD	WF	130°C	UL 510A	UL E165111
--BUSHING	DONGGUAN LING FREE HARDWARE PLASTTCS PROUCE CO.,LTD	LING FREE PTFE TUBE	200° C	UL 224	UL E352366

IEC 62109-1					
Clause	Requirement – Test		Result – Remark		Verdict
--EPOXY	DONGGUAN HONGCHUANGEL ELECTRONICTECHNOLOGY CO.,LTD	HCJ800	V-0	UL 746	UL E504240
--VARNISH	SUZHOU TAIHU INSULATING MATERIAL CO LTD	T-4260(a)	130°C	UL1446	UL E228349
CAP board					
BUS Cap. (C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24)	Nantong Jianghai Capacitor Co.,Ltd.	CD297	550V, 470uF, 105°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
alternative	Rubycon	CE692	550V, 470uF, 105°C	IEC/EN62109-1: 2010 IEC/EN62109-2: 2011	Tested with appliance
1)an asterisk indicates a mark which assures the agreed level of surveillance					

--End of the report--

PHOTO DOCUMENTATION

CN22RKS0 002 ATTACHMENT 1

for

Grid-connected PV Inverter

C6-75K-T6, C6-100K-T9, C6-110K-T12, C6-125K-T12,
C6-50K-T6-LV, C6-60K-T9-LV, C6-70K-T12-LV, C6-
75K-T6-40, C6-100K-T9-40, C6-110K-T12-40, C6-125K-
T12-40, C6-50K-T6-LV-40, C6-60K-T9-LV-40, C6-70K-
T12-LV-40, C6-75K-T12-LV-40

Guangzhou Sanjing Electric Co., Ltd.



This documentation consists of 4 pages (excluding this cover page)

Model: as cover page



Figure 1. view of main power board for
C6-75K-T6, C6-100K-T9, C6-50K-T6-LV, C6-60K-T9 LV



Figure 2. Back view of main power board for
C6-75K-T6, C6-100K-T9, C6-50K-T6-LV, C6-60K-T9 LV

Model: as cover page



Figure 3. view of main power board for
C6-75K-T6-40, C6-100K-T9-40, C6-50K-T6-LV-40, C6-60K-T9 LV-40

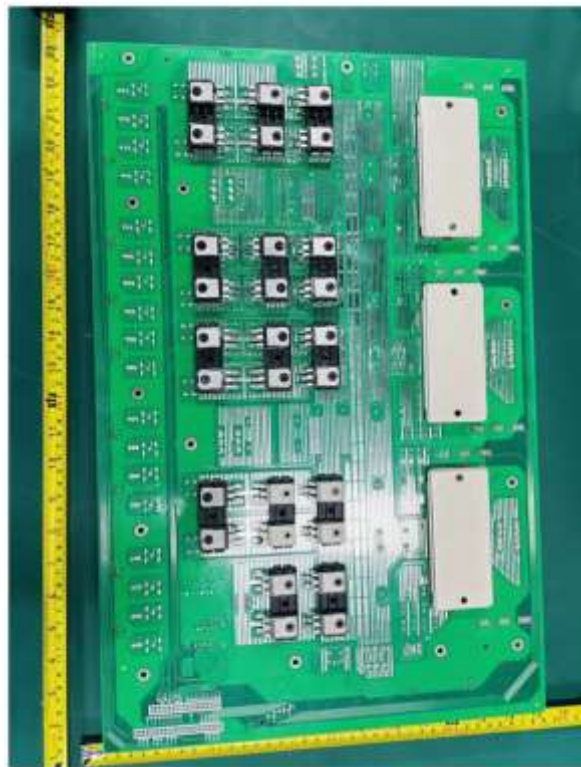


Figure 4. Back view 1 of main power board for
C6-75K-T6-40, C6-100K-T9-40, C6-50K-T6-LV-40, C6-60K-T9 LV-40

Model: as cover page

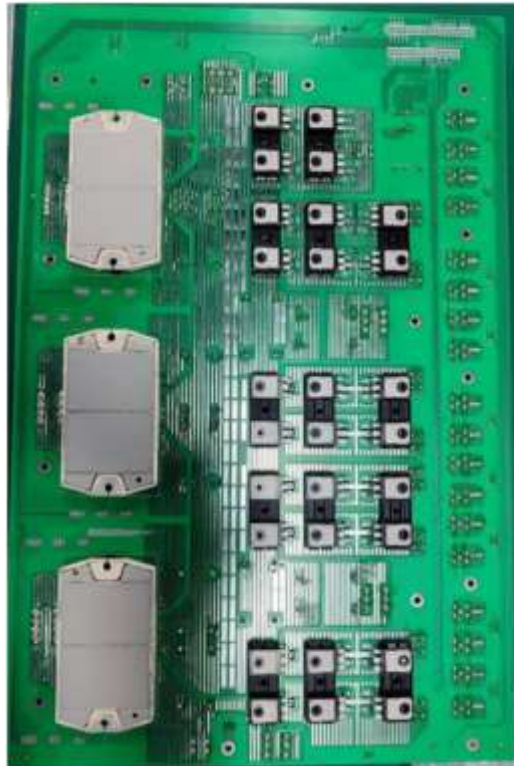


Figure 5. Back view 2 of main power board for
C6-75K-T6-40, C6-100K-T9-40, C6-50K-T6-LV-40, C6-60K-T9 LV-40



Figure 6. view of main power board for
C6-110K-T12, C6-125K-T12, C6-110K-T12-40, C6-125K-T12-40,
C6-70K-T12-LV, C6-70K-T12-LV-40, C6-75K-T12-LV-40

Model: as cover page

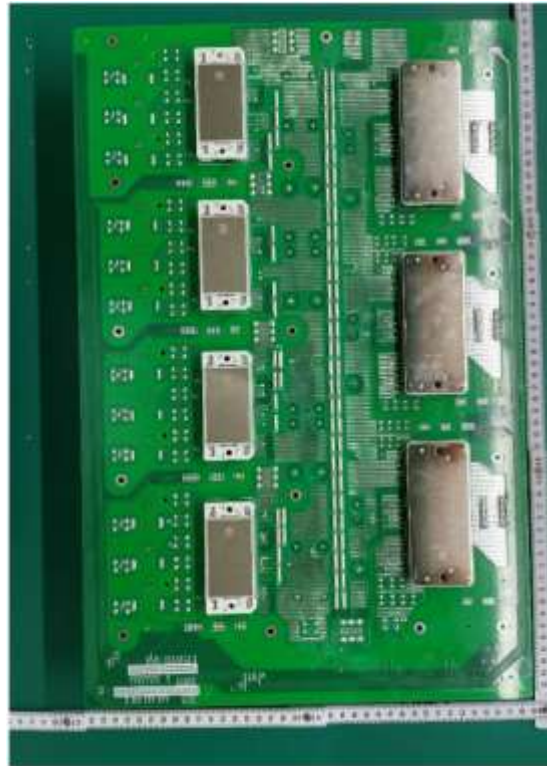


Figure 7. Back view of main power board for
C6-110K-T12, C6-125K-T12, C6-110K-T12-40, C6-125K-T12-40,
C6-70K-T12-LV, C6-70K-T12-LV-40, C6-75K-T12-LV-40