Technical Data
Data Sheet N2797, Rev. A

RoHS Pb

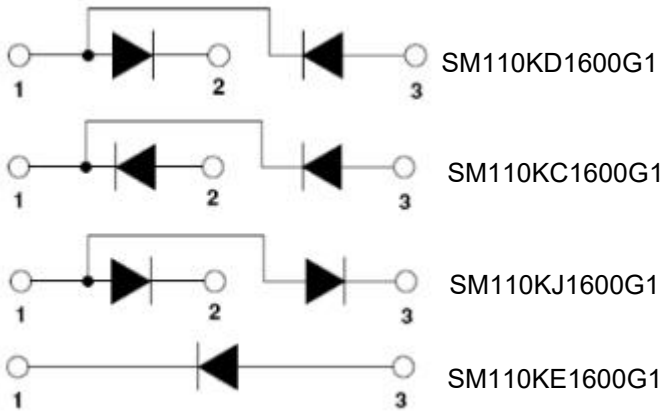
SM110KD1600G1 SM110KC1600G1 SM110KJ1600G1 SM110KE1600G1
Power Modules Standard Diodes

T1

Features

- Heat transfer through aluminum oxide DBC Ceramic isolated metal base plate
- Industrial standard package
- Thick copper base plate
- Plastic shell meets UL 94 V-0 flammability rating
- UL approved file E517293
- This is a Pb − Free Device
- Base plate: Nickel plated; Terminals: Nickel plated
- T1 Package compatible with JEDEC TO-240AA package
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

- Power Supplies
- AC&DC Motor Drivers
- Bridge Circuits
- Welders
- Battery Supplier

Maximum Ratings@T_J=25°C unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	1600	V
Maximum average forward current at case temperature	$I_{F(AV)}$	180°conduction, half sine wave T_C =112℃	110	A
Surge forward current	I_{FSM}	t=10mS T_J =45℃	2700	A
Maximum I^2t for fusing	I^2t	t=10mS T_J =45℃	36500	A^2s
Insulation Voltage	V_{isol}	Ac. 50Hz; R.M.S; 1min	2500	V
		Ac. 50Hz; R.M.S; 1sec	3500	V

Technical Data
Data Sheet N2797, Rev. A

Electrical Characteristics@T_J=25°C unless otherwise specified

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(per leg)*	V_{F1}	@ 110A, Pulse, T_J = 25 °C	0.97	1.2	V
Reverse Current(per leg)*	I_{R1}	@ V_R = rated V_R T_J = 25 °C	2.7	20	uA
	I_{R2}	@ V_R = rated V_R T_J = 150°C	-	5	mA

* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications@T_J=25°C unless otherwise specified

Characteristics	Symbol	Condition	Specification		Units
Junction Temperature	T_J	-	-40~+150		°C
Storage Temperature	T_{stg}	-	-40~+125		°C
Maximum internal thermal resistance, junction to case per leg	$R_{th(J-C)}$	DC operation	0.26		℃/W
Typical thermal resistance, case to heatsink per module	$R_{th(C-S)}$	-	0.1		℃/W
Mounting Torque ±15%	T_M	-	Mounting Torque(M6)	5	Nm
			Terminal Torque(M5)	4	
Module(Approximately)	Weight		100		g

Technical Data
Data Sheet N2797, Rev. A

RoHS

Ratings and Characteristics Curves

Figure1 Typical Forward Characteristics

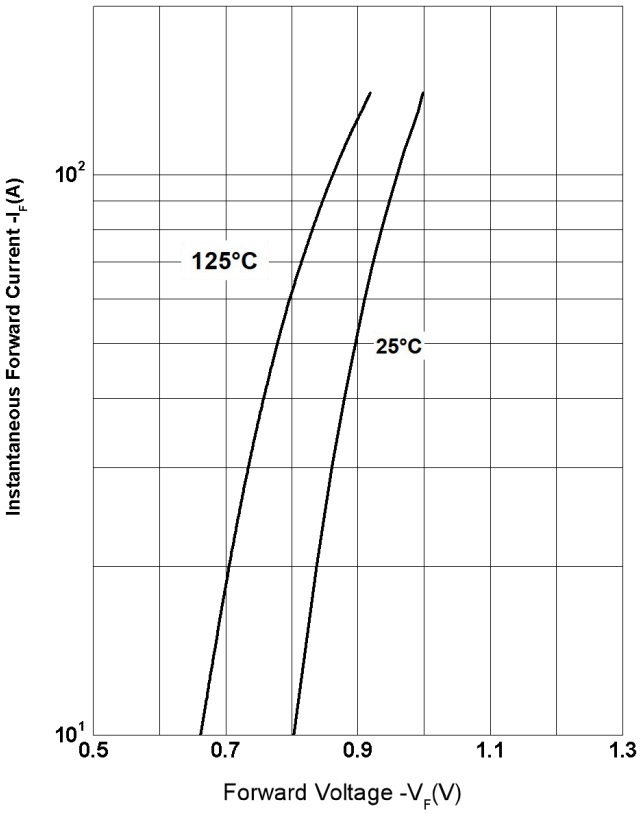


Figure 2 Typical Reverse Characteristics

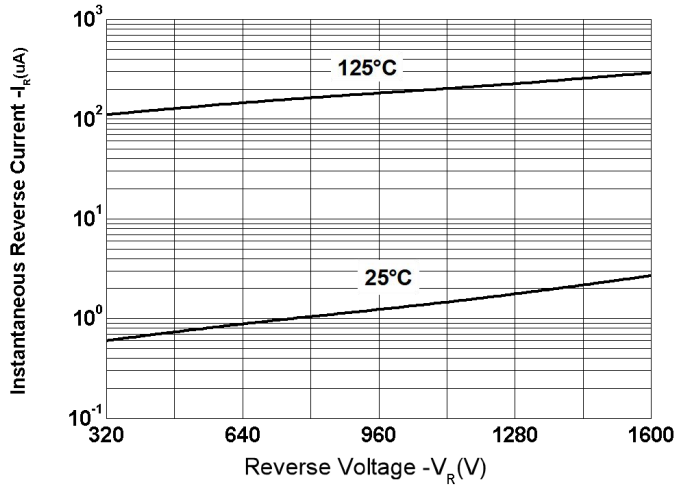
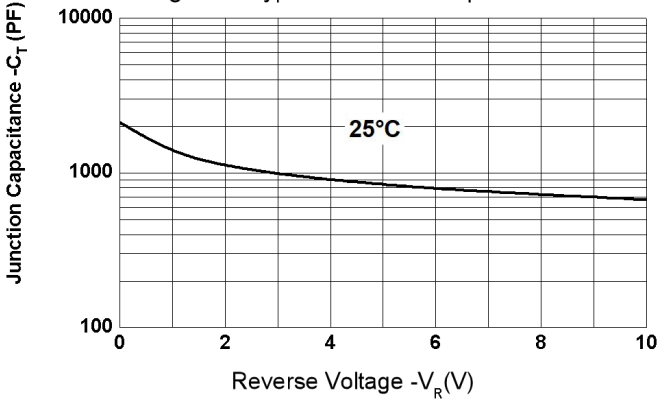


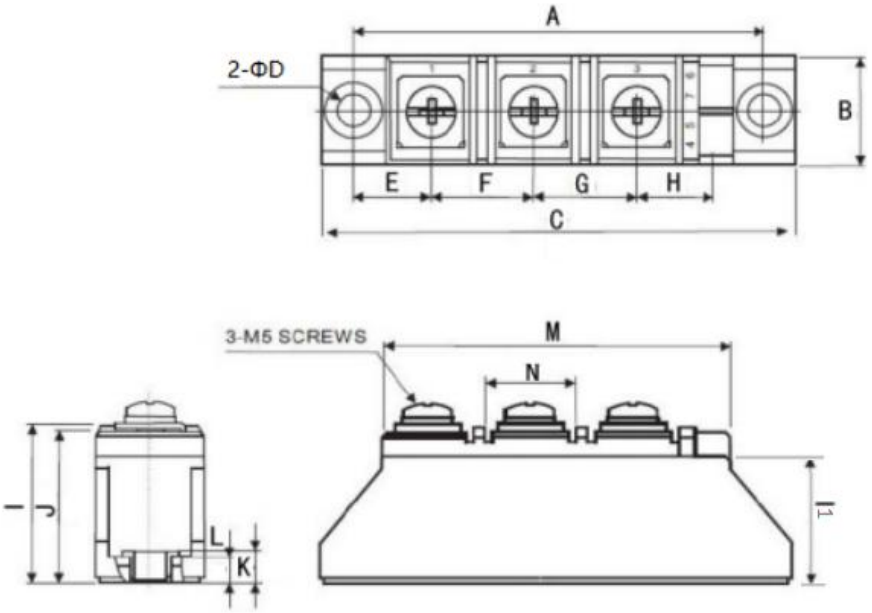
Figure 3 Typical Junction Capacitance



SM110KD1600G1
SM110KC1600G1
SM110KJ1600G1
SM110KE1600G1

Technical Data
Data Sheet N2797, Rev. A

Mechanical Dimensions T1 (Millimeters)

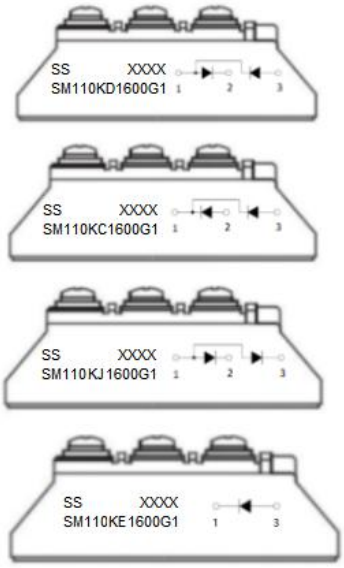


SYMBOL	Millimeters	
	Min.	Max.
A	79.5	80.5
B	20.8	21.2
C	91.35	92.75
ΦD	6.1	6.5
E	14.5	15.5
F	19.5	20.5
G	19.5	20.5
H	14.5	15.5
I	30.5	31.5
I1	24	25
J	29	30
K	5.7	6.3
L	4.7	5.3
M	67.5	68.5
N	17.5	18.5

Ordering Information

Device	Package	Shipping
SM110KD1600G1 SM110KC1600G1 SM110KJ1600G1 SM110KE1600G1	T1	14pcs/ box

Marking Diagram



Where XXXX is YYWW

SM110KD1600G1 = Part name
SM110KC1600G1 = Part name
SM110KJ1600G1 = Part name
SM110KE1600G1 = Part name
SS = SS
YY = Year
WW = Week
L = Lot Number

Technical Data
Data Sheet N2797, Rev. A

RoHS

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC Diode Solutions sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment , and safety equipment) , safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement .

3- In no event shall SMC Diode Solutions be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC Diode Solution assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall SMC Diode Solutions be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC Diode Solutions.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC Diode Solutions.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..