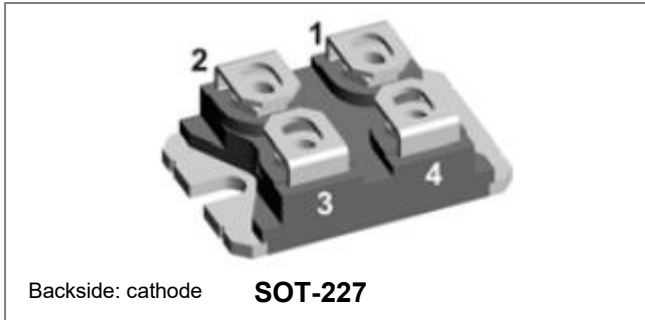


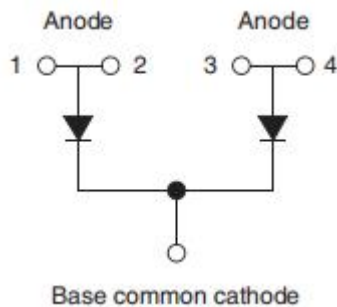
SKMU300-600 Power Module Ultrafast Rectifier



Features

- Non Isolated package
- Ultrafast reverse recovery
- Ultrasoft reverse recovery current shape
- Optimized for power conversion: welding and industrial SMPS applications
- Compatible with industry SOT-227 packages
- Easy to assemble
- Direct mounting to heatsink
- Designed and qualified for industrial level
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Cathode to anode voltage	V_R	-	600	V
Continuous forward current In DC	I_F	$T_C = 97^\circ\text{C}$	150(Per Leg)	A
			300(Per Device)	
Single pulse forward current (per leg)	I_{FSM}	10 ms, half Sine pulse, $T_C = 25^\circ\text{C}$	1080	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg) *	V _{F1}	@ 100A, Pulse, T _J = 25 °C	1.22	1.70	V
		@ 150A, Pulse, T _J = 25 °C	1.31	1.85	
	V _{F2}	@ 100A, Pulse, T _J = 25 °C	1.02	1.65	V
		@ 150A, Pulse, T _J = 125 °C	1.13	1.75	
Reverse Current (per leg) *	I _{R1}	@V _R = rated V _R , T _J = 25 °C	0.07	200	μA
	I _{R2}	@V _R = rated V _R , T _J = 125 °C	50	1000	μA
Reverse recovery time	T _{rr}	I _F =500mA, I _R =1A, and I _{rm} =250mA, T _J = 25 °C	79	100	nS

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

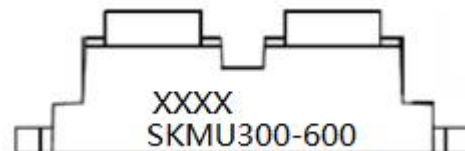
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T _J	-	-55 to +150	°C
Storage Temperature	T _{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case(per leg)	R _{θJC}	DC operation	0.19	°C/W
Maximum Thermal Resistance Junction to Case(per package)	R _{θJC}	DC operation	0.095	°C/W
Typical Case to heatsink	R _{θJS}	Flat, greased surface	0.07	°C/W
Typical Mounting Torque	T _M	-	1.3	Nm
Typical Approximate Weight	wt	-	30	g

Ordering Information

Device	Package	Shipping
SKMU300-600	SOT-227 (Pb-Free)	36pcs /BULK

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram


Where XXXX is YYWW

S	= SMC's Power Module
K	= SOT-227 Package
M	= Circuit Configuration
U	= Ultrafast Rectifier
300	= Forward Current (300A)
600	= Reverse Voltage (600V)
YY	= Year
WW	= Week

Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

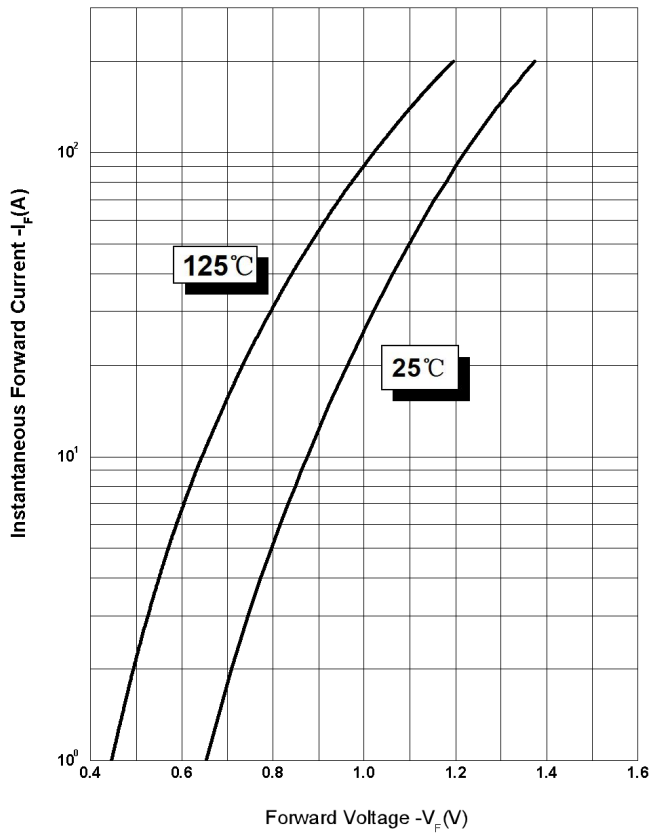


Figure 2 Typical Reverse Characteristics

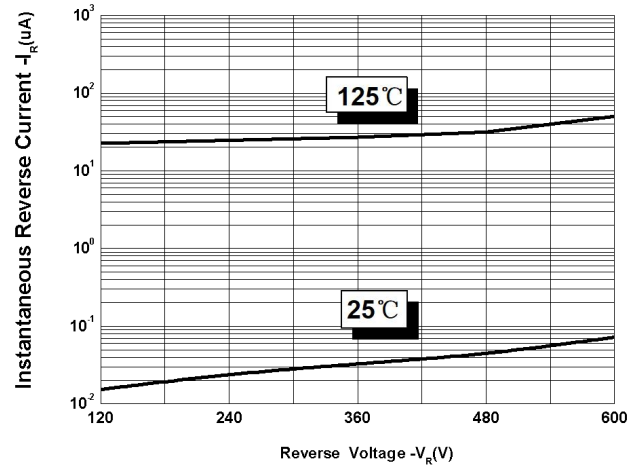
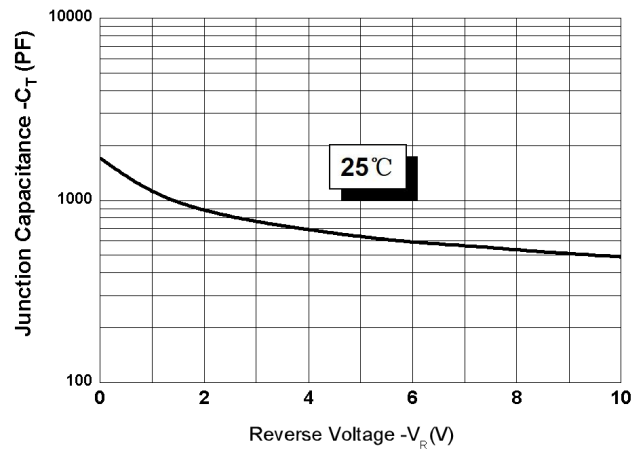
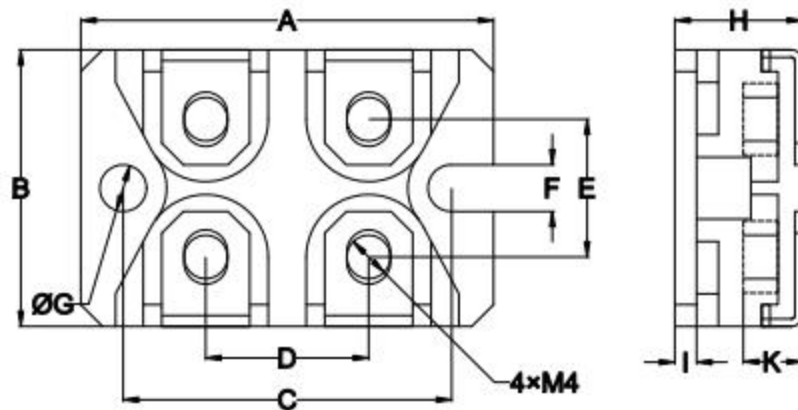


Figure 3 Typical Junction Capacitance



Mechanical Dimensions SOT-227(Millimeters)



SYMBOL	Dimensions in millimeters	
	Min.	Max.
A	37.8	38.2
B	24.8	25.21
C	29.9	30.55
D	14.5	15.5
E	12.2	13.45
F	4.1	4.31
G	φ4.1	φ4.31
H	11	12.5
I	1.9	2.1
K	4.3	6.5

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..