

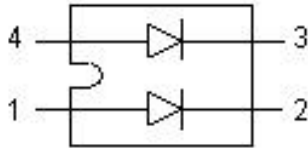
## SK2U240-200 Ultrafast Recovery Modules



### Features

- International standard package miniBLOC (ISOTOP compatible)
- Isolation voltage 2500 V~
- 2 independent FRED in 1 package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low IRM-values
- Soft recovery behaviour
- 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	$V_R$	-	200	V
Continuous forward current per diode	$I_{F(1)}$	50% duty cycle @ $T_C = 70^\circ\text{C}$ , rectangular wave form	123	A
Single pulse forward current per diode	$I_{FSM}$	8.3 ms, half Sine pulse, $T_C = 25^\circ\text{C}$	1300	A
RMS isolation voltage	$V_{\text{Isol}}$	50/60 Hz, RMS $I_{\text{Isol}} \leq 1 \text{ mA}$	2500	V~

Note: (1)  $I_F$  rating includes reverse blocking losses at  $T_{JM}$ ,  $V_R = 0.8 V_{RRM}$ , duty cycle  $d = 0.5$  Data according to IEC 60747

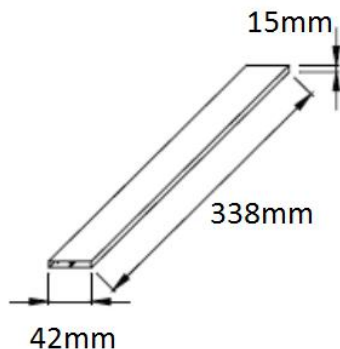
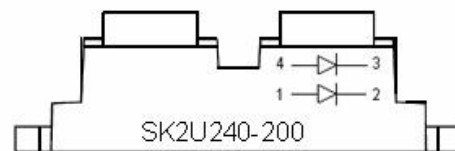
**Electrical Characteristics:**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg) *	V <sub>F1</sub>	@ 120A, Pulse, T <sub>J</sub> = 25 °C	1.04	1.10	V
	V <sub>F2</sub>	@ 120A, Pulse, T <sub>J</sub> = 150 °C	0.89	0.95	V
Reverse Current (per leg) *	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	0.06	500	µA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	-	20	mA
Reverse recovery time	T <sub>rr</sub>	IF=500mA, IR=1A, I <sub>rm</sub> =250mA, T <sub>J</sub> = 25 °C	70	90	nS
Reverse recovery time	T <sub>rr</sub>	IF=1.0A, dIF/dt=400A/µS, VR=30V, T <sub>J</sub> = 25 °C	35	50	nS
Peak recovery current	I <sub>RM</sub>	IF=100A, dIF/dt=200A/µS, VR=100V, T <sub>J</sub> = 100 °C	12	15	A

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

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-40 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-40 to +150	°C
Maximum Thermal Resistance Junction to Case	R <sub>θJC</sub>	DC operation	0.5	K/W
Mounting torque	M <sub>D</sub>	-	1.5/13	Nm/ lb.in.
Terminal connection torque(M4)			1.5/13	
Typical Approximate Weight	wt	-	30	g
Case Style	SOT-227			

**Tube Specification**

**Marking Diagram**


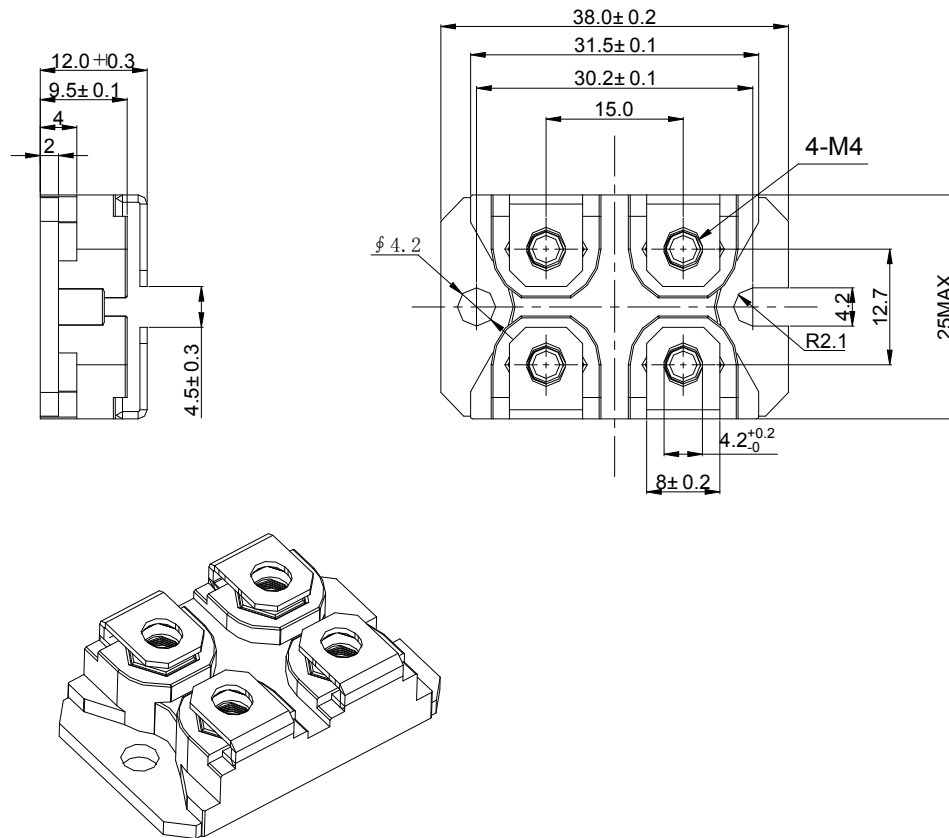
S = SMC's Power Module  
 K = SOT-227 Package  
 2 = Circuit Configuration  
 U = Ultrafast Rectifier  
 240 = Forward Current (240A)  
 200 = Reverse Voltage (200V)

**Ordering Information**

Device	Package	Shipping
SK2U240-200	SOT-227 (Pb-Free)	10pcs / tube

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

**Mechanical Dimensions SOT-227(Millimeters)**



**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 - Sangdest Microelectronics (Nanjing) Co., Ltd 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 - Sangdest Microelectronics (Nanjing) Co., Ltd 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 - Sangdest Microelectronics (Nanjing) Co., Ltd 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 - Sangdest Microelectronics (Nanjing) Co., Ltd 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 - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 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..