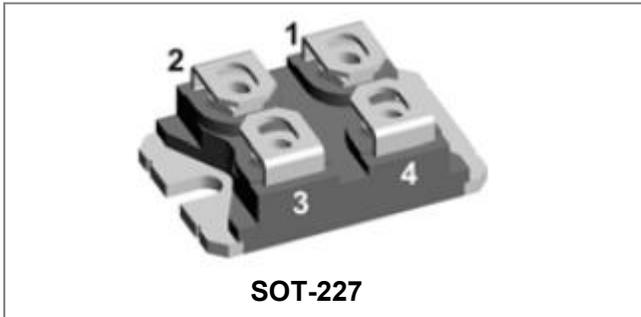


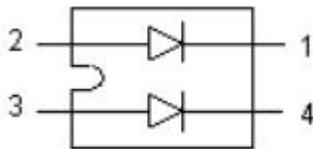
## SK2U240-200 Ultrafast Recovery Modules



### 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 (limiting values, $T_c = 25^\circ\text{C}$ unless otherwise specified)

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	$V_{isol}$	50/60 Hz, RMS $I_{isol} \leq 1 \text{ mA}$	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	0.99	1.10	V
	V <sub>F2</sub>	@ 120A, Pulse, T <sub>J</sub> = 150 °C	0.83	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	0.02	500	uA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	0.03	20	mA
Reverse recovery time	T <sub>rr</sub>	IF=500mA, IR=1A, I <sub>rm</sub> =250mA, T <sub>J</sub> = 25 °C	61	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

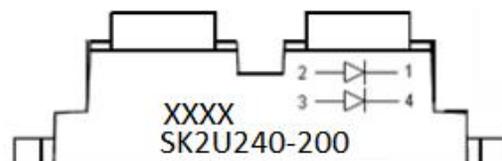
\* Pulse width < 300 μs, duty cycle < 2%

**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			

**Ordering Information**

Device	Package	Shipping
SKIS300-100	SOT-227 (Pb-Free)	36pcs /BULK

**Marking Diagram**


Where XXXX is YYWW

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

Remark: marking is as above from data code 2036.

**Ratings and Characteristics Curves**

Figure 1  
Typical Forward Characteristics

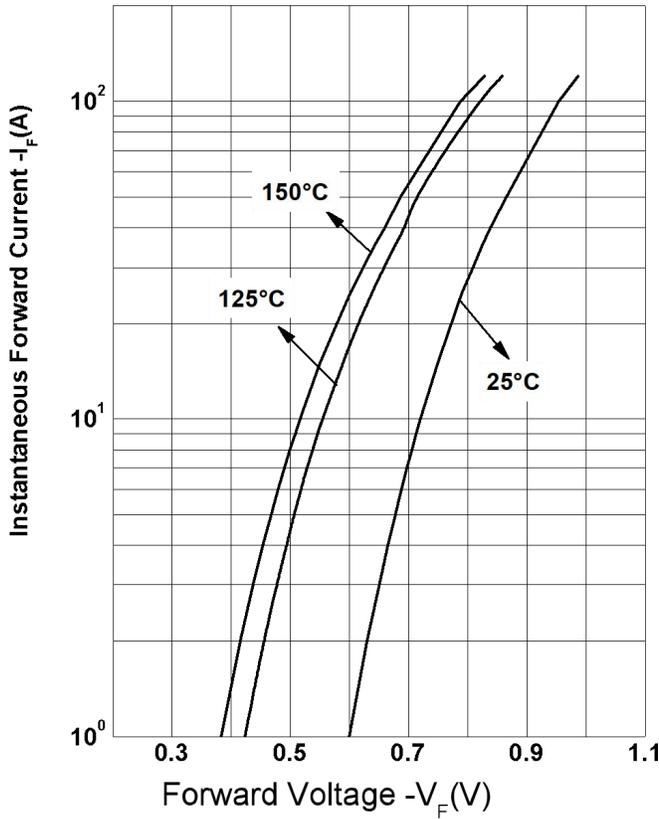


Figure 2  
Typical Reverse Characteristics

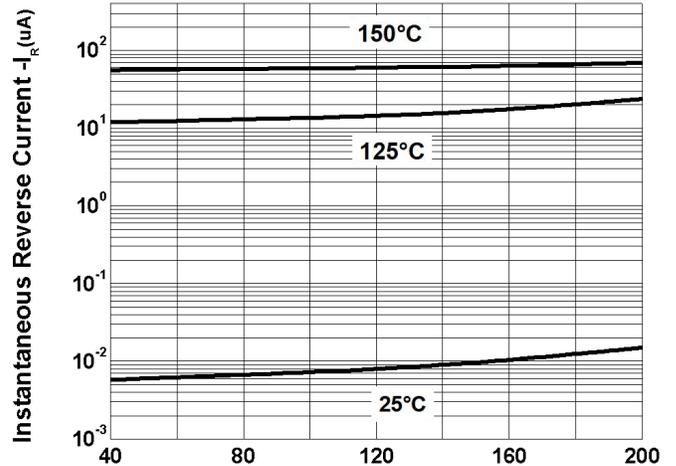
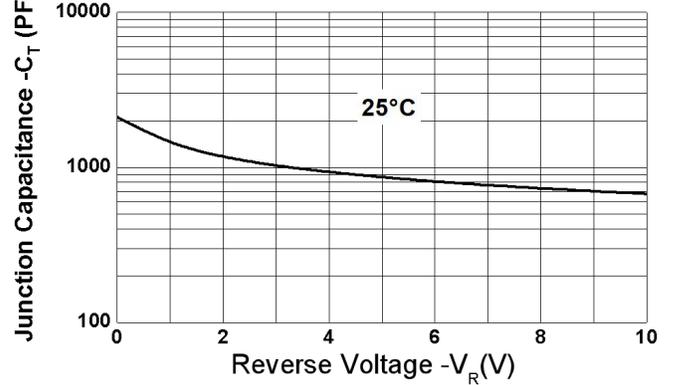


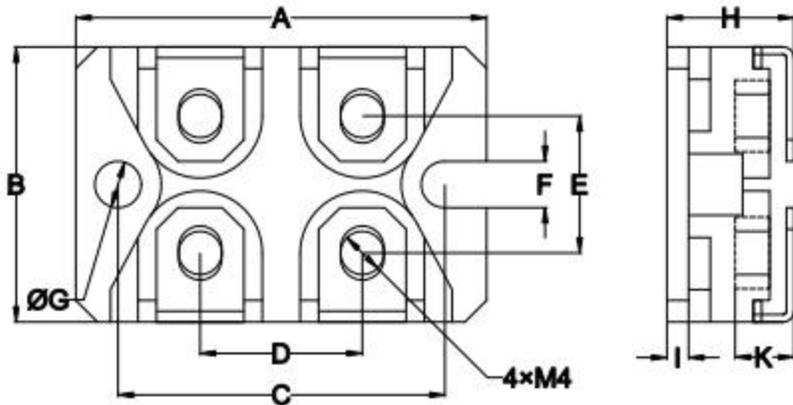
Figure 3  
Reverse Voltage  $-V_R$  (V)  
Typical Junction Capacitance



**Ordering Information**

Device	Package	Shipping
SK2U240-200	SOT-227 (Pb-Free)	36pcs / box

**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

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