

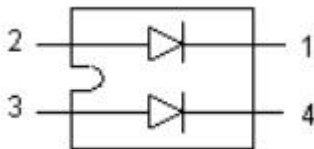
SK2U200-1200 Ultrafast Recovery Modules



Features

- Two fully independent diodes
- Fully insulated package
- Ultrafast, soft reverse recovery, with high operation
- Low forward voltage drop
- Optimized for power conversion: welding and industrial
- SMPS applications
- Easy to use and parallel
- Industry standard outline
- Designed and qualified for industrial level
- Base plate: Nickel plated; Terminals: Nickel plated

Circuit Diagram



Maximum Ratings (limiting values, $T_C = 25^\circ\text{C}$ unless otherwise specified)

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V_{RRM}	-	1200	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Rectified Forward Current	I_F	$T_C = 45^\circ\text{C}$, In DC	100(Per Leg) 200(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current (Per Leg)	I_{FSM}	10 ms, half Sine pulse	800	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V _{F1}	@ 100A, Pulse, pin3->4, T _J = 25 °C	-	1.87	V
	V _{F2}	@ 100A, Pulse, pin2->1, T _J = 25 °C	-	1.87	V
	V _{F1} - V _{F2}	@100A, T _J = 25 °C	-	0.10	V
	V _{F3}	@ 100A, Pulse, T _J = 125 °C	1.47	1.75	V
Reverse Current(Per Leg)*	I _{R1}	@V _R = rated V _R , T _J = 25 °C	0.07	100	uA
	I _{R2}	@V _R = rated V _R , T _J = 125 °C	0.03	5	mA
Reverse recovery time(Per Leg)	t _{rr}	I _F =500mA, I _R =1A, and I _{rr} =250mA, T _J = 25 °C	131	150	ns
Isolation Breakdown Voltage(R.M.S)	Visol	Ac.50Hz, R.M.S; 1min, T _J = 25 °C	-	2500	V
		Ac.50Hz, R.M.S; 1sec, T _J = 25 °C	-	3500	

* 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	0.74	°C/W
Maximum Thermal Resistance Junction to Case(per package)	R _{θJC}	DC operation	0.42	°C/W
Mounting torque(M4)	M _D	-	1.1-1.5/9-13	Nm/ lb.in.
Terminal connection torque(M4)			1.1-1.5/9-13	
Typical Approximate Weight	wt	-	30	g
Case Style	SOT-227			

Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

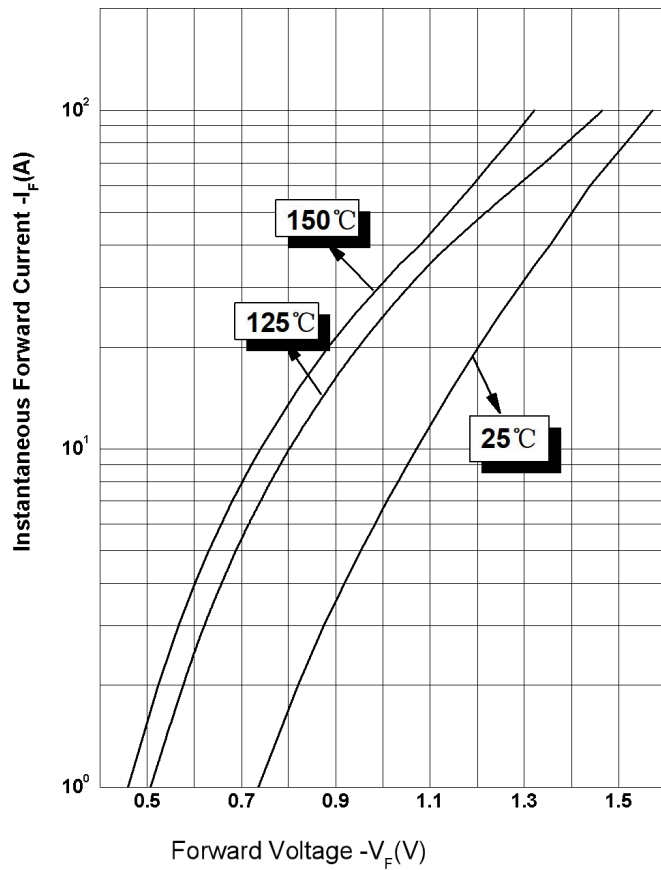


Figure 2 Typical Reverse Characteristics

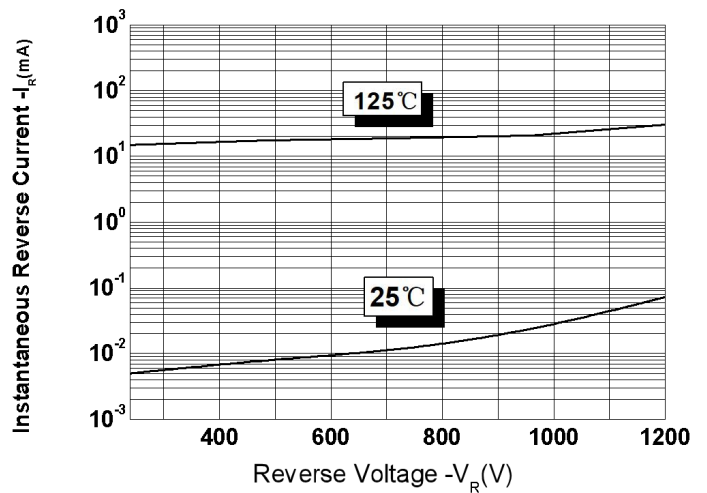
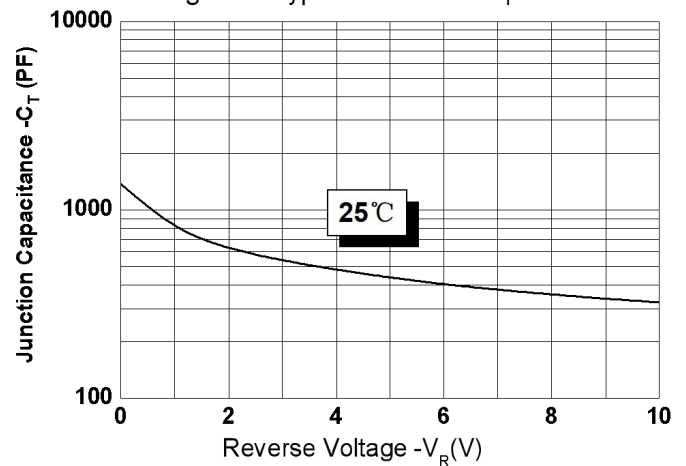


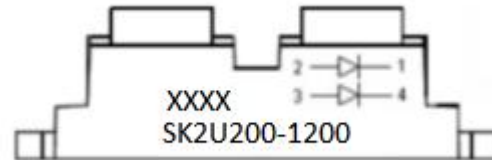
Figure 3 Typical Junction Capacitance



Ordering Information

Device	Package	Shipping
SK2U200-1200	SOT-227 (Pb-Free)	36pcs /BULK

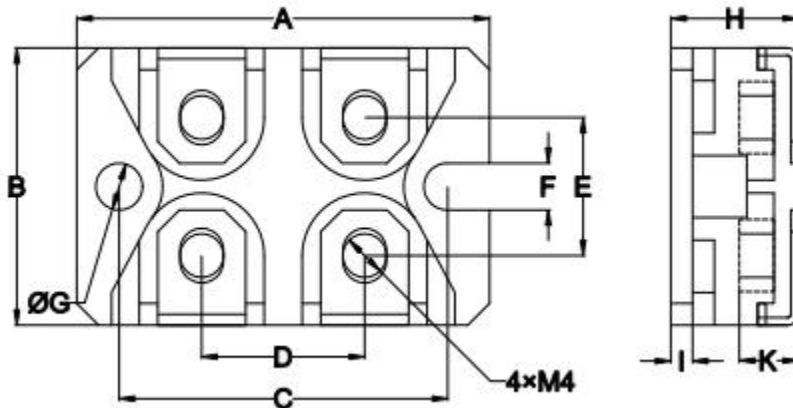
Marking Diagram



Where XXXX is YYWW

- S = SMC's Power Module
- K = SOT-227 Package
- 2 = Circuit Configuration
- U = Ultrafast Rectifier
- 200 = Forward Current (200A)
- 1200 = Reverse Voltage (1200V)
- YY = Year
- WW = Week

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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