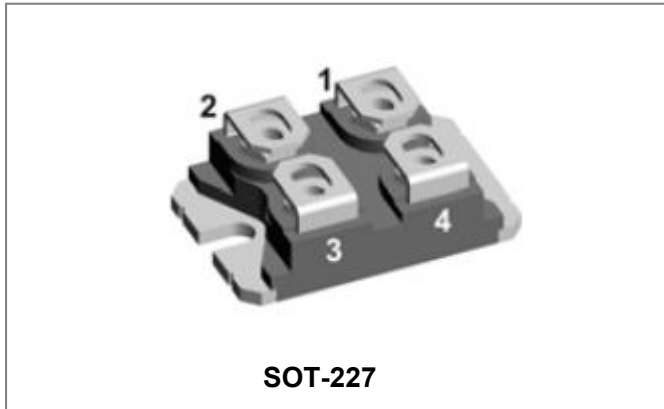


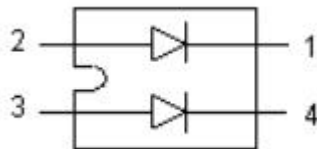
SK2D160-1200 Power Module Insulated Standard Recovery Rectifier, 160 A



Features

- Two fully independent diodes
- Fully insulated package
- 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
- These Devices are Pb-Free and are RoHS Compliant
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Maximum Ratings(limiting values, $T_C = 25^\circ\text{C}$ 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	-	1200	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 100^\circ\text{C}$, rectangular wave form	80(Per Leg) 160(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current (Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	1200	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V_{F1}	@ 80A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	1.06	1.20	V
	V_{F2}	@ 80A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.99	1.10	V
Reverse Current(Per Leg)*	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25\text{ }^\circ\text{C}$	0.23	10	μA
	I_{R2}	@ $V_R = \text{rated } V_R, T_J = 150\text{ }^\circ\text{C}$	0.05	1.5	mA
Isolation Voltage	V_{ISOL}	Ac.50Hz; R.M.S;1min, $T_J = 25\text{ }^\circ\text{C}$	-	2500	V
		Ac.50Hz; R.M.S;1sec, $T_J = 25\text{ }^\circ\text{C}$	-	3500	

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case(Per Leg)	$R_{\theta JC}$	DC operation	0.56	$^\circ\text{C/W}$
Thermal Resistance Junction to Case(Peg Device)	$R_{\theta JC}$	DC operation	0.28	$^\circ\text{C/W}$
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

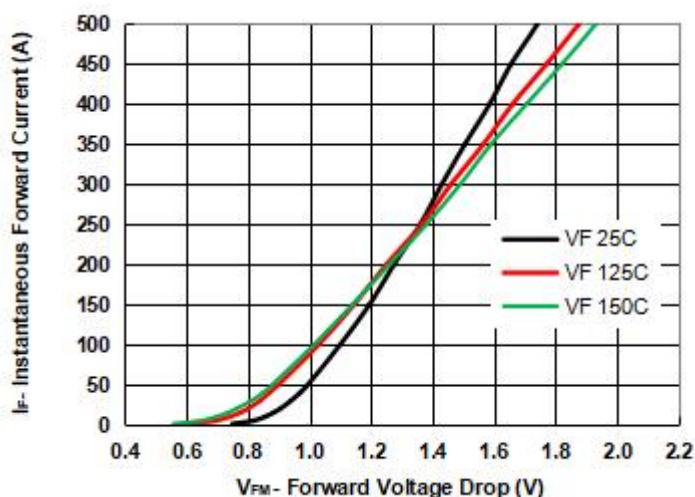
Ratings and Characteristics Curves


Fig. 1 - Typical Forward Characteristics

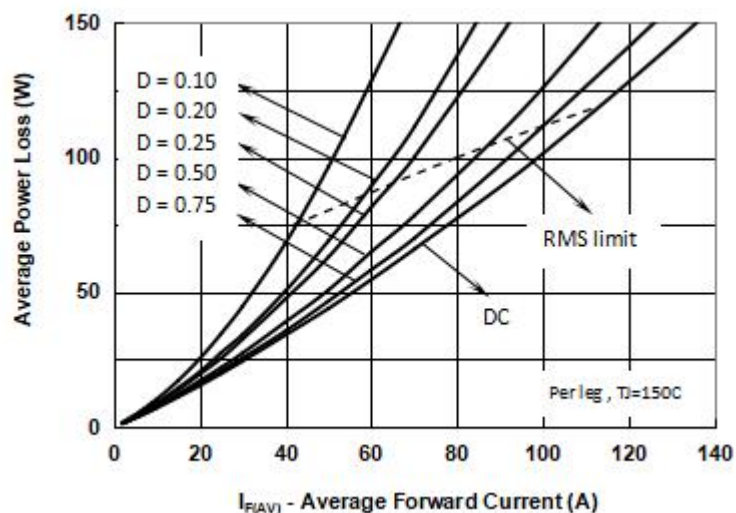
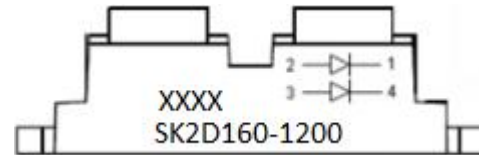


Fig. 2- Forward Power Loss Characteristics (Per Leg)

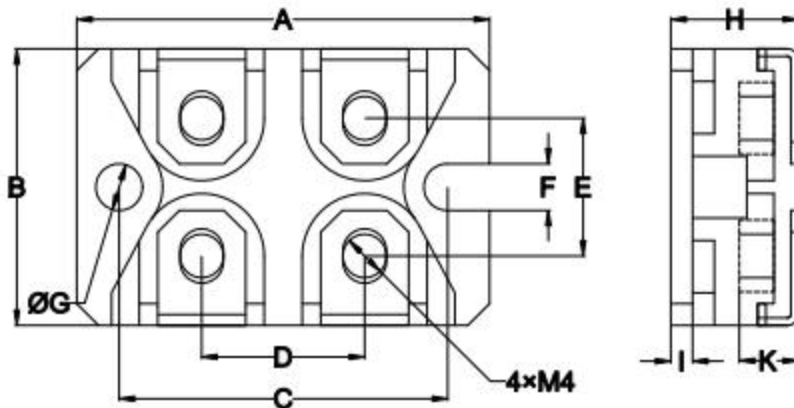
Ordering Information

Device	Package	Shipping
SK2D160-1200	SOT-227 (Pb-Free)	36pcs /BULK

Marking Diagram


Where XXXX is YYWW

S = SMC's Power Module
 K = SOT-227 Package
 2 = Circuit Configuration
 D = Standard Recovery Rectifier
 160 = Forward Current (160A)
 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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