

Switchmode Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 150°C junction temperature. Typical application are in switching Mode Power Supplies such as adaptors, Photovoltaic Solar cell protection, free-wheeling and polarity protection diodes.

Features

- * Ultra Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Low Power Loss & High efficiency.
- * 150°C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used Carries Underwriters Laboratory
- * Flammability Classification 94V-O
- * *Pb free*
- * *In compliance with EU RoHs directives*



SCHOTTKY BARRIER RECTIFIERS

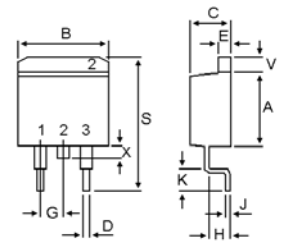
**60 AMPERES
60 VOLTS**



TO-263

MAXIMUM RATINGS

Characteristic	Symbol	S60SM60C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	42	V
Average Rectifier Forward Current (per diode) Total Device (Rated V_R),	$I_{F(AV)}$	30 60	A
Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz)	I_{FM}	60	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	350	A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +150	°C



DIM	MILLIMETERS	
	MIN	MAX
A	8.30	9.20
B	9.80	10.40
C	4.30	4.80
D	0.65	0.95
E	1.17	1.43
G	2.39	2.69
H	2.68	3.32
J	0.35	0.65
K	2.29	2.90
S	14.60	15.88
V	1.10	1.50
X	---	2.00

THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta jc}$	8.8	°C/w
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ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage ($I_F = 30.0$ Amp $T_C = 25^\circ\text{C}$) ($I_F = 30.0$ Amp $T_C = 125^\circ\text{C}$)	V_F	---	0.58 0.60	0.65 ---	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ\text{C}$) (Rated DC Voltage, $T_C = 125^\circ\text{C}$)	I_R	---	0.12 40	0.30 ---	mA

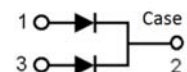


FIG-1 FORWARD CURRENT DERATING CURVE

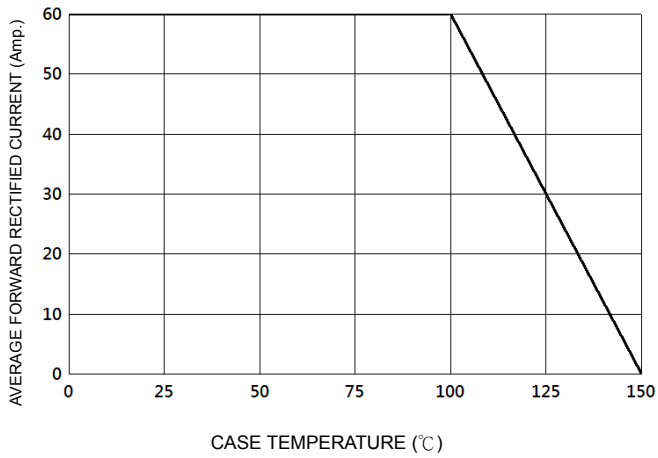


FIG-2 TYPICAL FORWARD CHARACTERISTICS

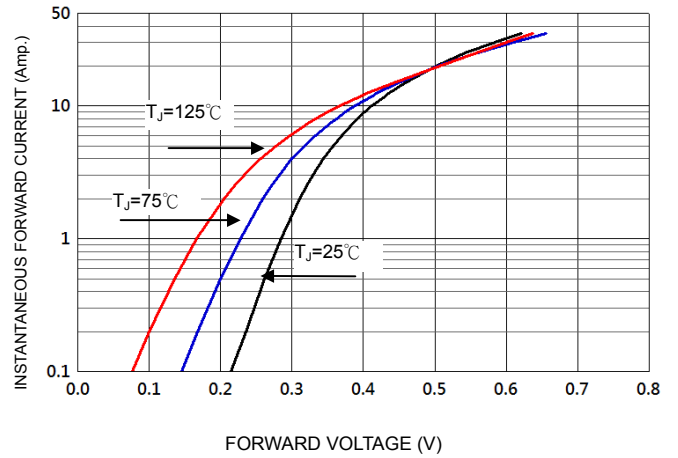


FIG-3 TYPICAL REVERSE CHARACTERISTICS

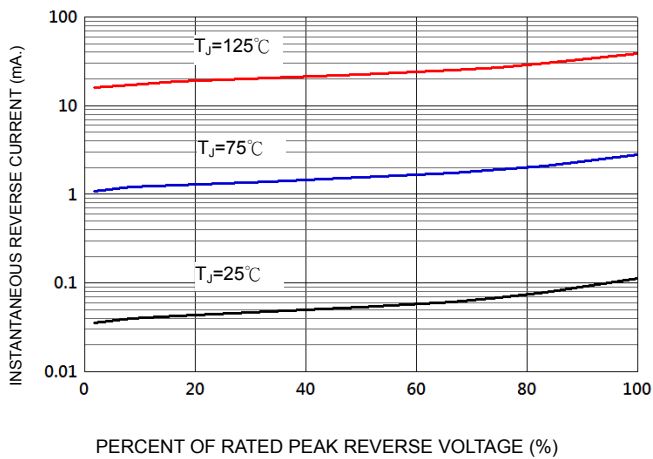


FIG-4 TYPICAL JUNCTION CAPACITANCE

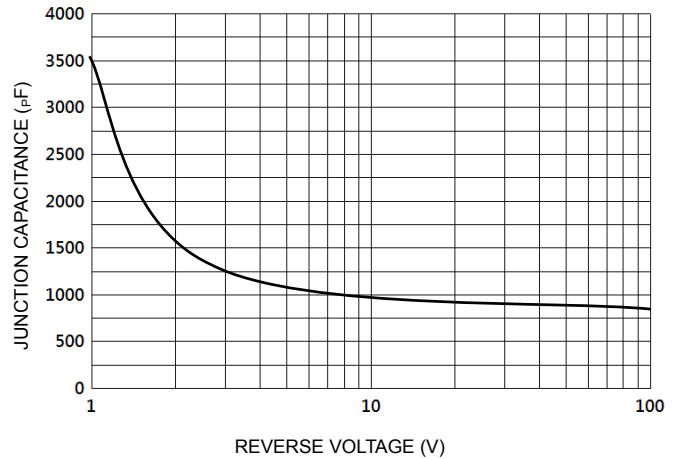
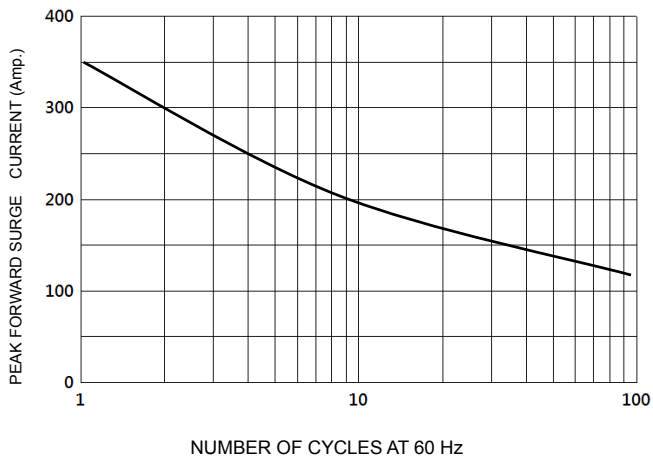


FIG-5 PEAK FORWARD SURGE CURRENT



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