

Schottky Barrier Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of 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, DC/DC converters, free-wheeling and polarity protection diodes.

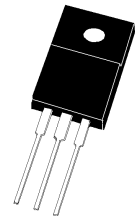
Features.

- * Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Guarantee Reverse Avalanche.
- * Guard-Ring for Stress Protection.
- * Low Power Loss & High efficiency.
- * High 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*

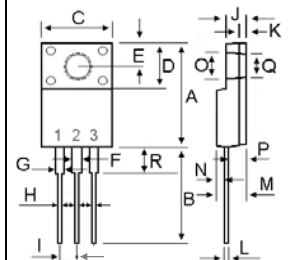


SCHOTTKY BARRIER RECTIFIERS

**20 AMPERES
300 VOLTS**



TO-220AC



DIM	MILLIMETERS	
	MIN	MAX
A	14.80	16.10
B	12.65	13.80
C	9.85	10.36
D	4.60	6.80
E	2.50	3.50
F	1.00	1.45
G	1.00	1.45
H	0.30	0.90
I	2.40	2.70
J	2.34	3.30
K	0.55	1.30
L	0.36	0.80
M	4.20	4.90
N	1.10	1.80
O	2.90	3.50
P	2.50	3.15
Q	2.90	3.50
R	3.10	4.85

MAXIMUM RATINGS

Characteristic	Symbol	S20M300F	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	300	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	210	V
Average Rectifier Forward Current (per diode)	$I_{F(AV)}$	10	A
Total Device (Rated V_R , $T_C=125^\circ\text{C}$)		20	
Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz)	I_{FM}	20	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	I_{FSM}	180	A
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta jc}$	3.8	$^\circ\text{C}/\text{W}$
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ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage (per diode) ($I_F=10$ Amp $T_C=25^\circ\text{C}$) ($I_F=10$ Amp $T_C=125^\circ\text{C}$)	V_F	---	0.86	0.95	V
		---	0.75	---	
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C=25^\circ\text{C}$) (Rated DC Voltage, $T_C=125^\circ\text{C}$)	I_R	---	0.1	10	μA
		---	9.0	---	

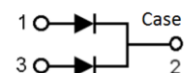


FIG-1 FORWARD CURRENT DERATING CURVE

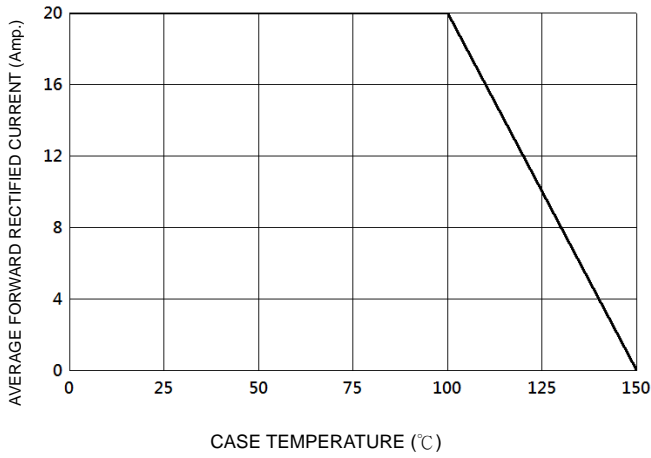


FIG-2 TYPICAL FORWARD CHARACTERISTICS

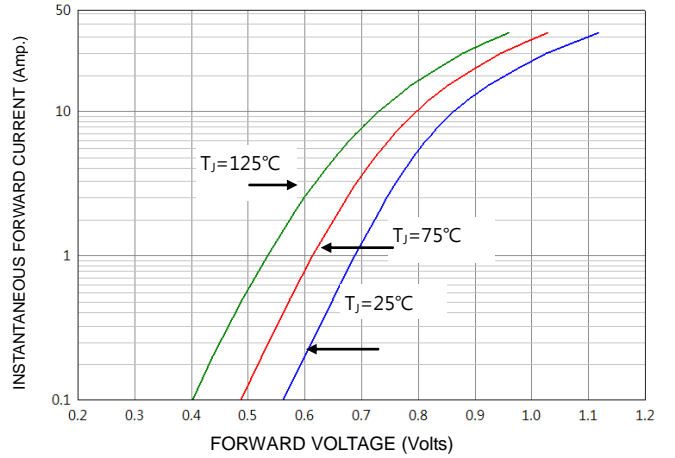


FIG-3 TYPICAL REVERSE CHARACTERISTICS

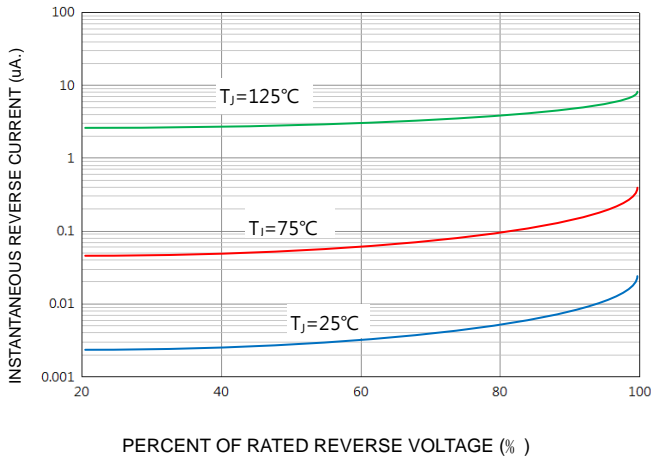


FIG-4 TYPICAL JUNCTION CAPACITANCE

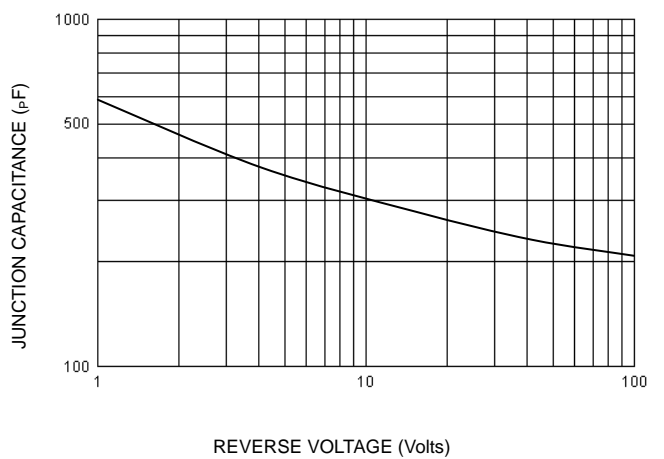
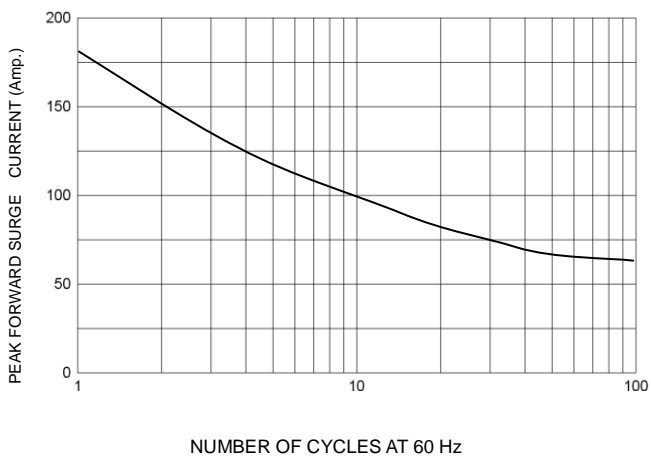


FIG-5 PEAK FORWARD SURGE CURRENT



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