

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 175 °C junction temperature. Typical application are in switching Mode Power Supplies such as adaptators, DC/DC converters, free-wheeling and polarity protection diodes.

Features

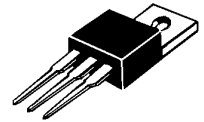
- * Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Guarantee Reverse Avalanche.
- * Guard-Ring for Stress Protection.
- * Low Power Loss & High efficiency.
- * 175 °C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O



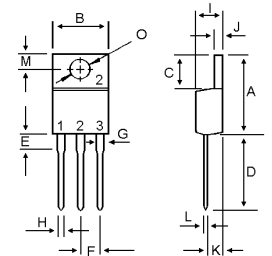
* In compliance with EU RoHs 2002/95/EC directives

SCHOTTKY BARRIER RECTIFIERS

**20 AMPERES
200 VOLTS**



TO-220AB



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	5.02	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	2.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.98
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

MAXIMUM RATINGS

Characteristic	Symbol	S20C200C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	V
Average Rectifier Forward Current (Per diode) Total Device (Rated V_R), $T_C=125$	$I_{F(AV)}$	10 20	A
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 halfware, single phase, 60Hz)	I_{FSM}	150	A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +175	

THERMAL RESISTANCES

Typical Thermal Resistance junction to case Per diode	$R_{\theta j-c}$	3.8	/w
Total		3.0	
Coupling	$R_{\theta c}$	2.8	

Where the diodes 1 and 2 are used simultaneously:

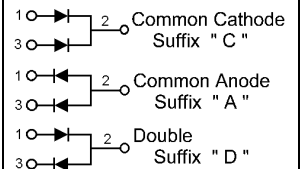
$$T_J(\text{diode 1}) = P(\text{diode 1}) \times R_{\theta(j-c)}(\text{Per diode}) + P(\text{ diode 2}) \times R_{\theta c}$$

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	S20C200C	Unit
Maximum Instantaneous Forward Voltage ($I_F=10$ Amp $T_C = 25$) ($I_F=10$ Amp $T_C = 125$)	V_F	0.95 0.85	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25$) (Rated DC Voltage, $T_C = 125$)	I_R	0.1 20	mA

To evaluation the conduction losses use the following equation:

$$P=0.65 \times I_{F(AV)} + 0.015 \times I_{F(RMS)}^2$$



S20C200C

FIG-1 FORWARD CURRENT DERATING CURVE

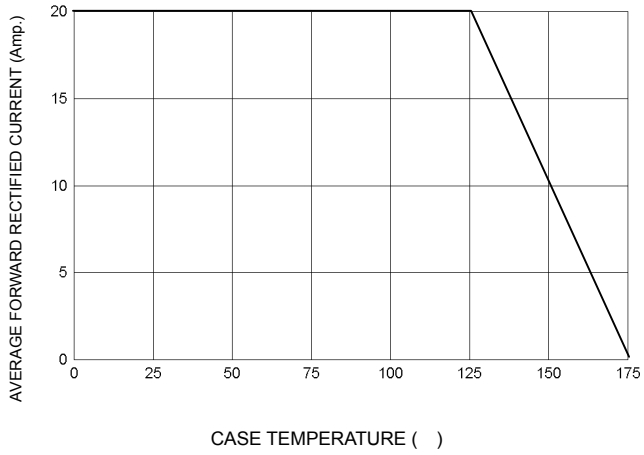


FIG-2 TYPICAL FORWARD CHARACTERISTICS

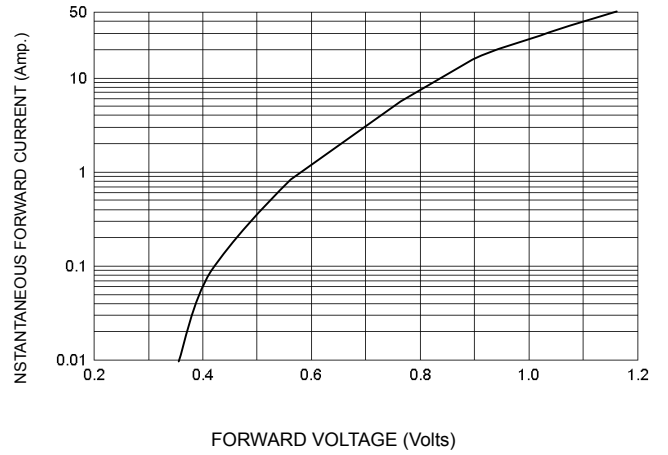


FIG-3 TYPICAL REVERSE CHARACTERISTICS

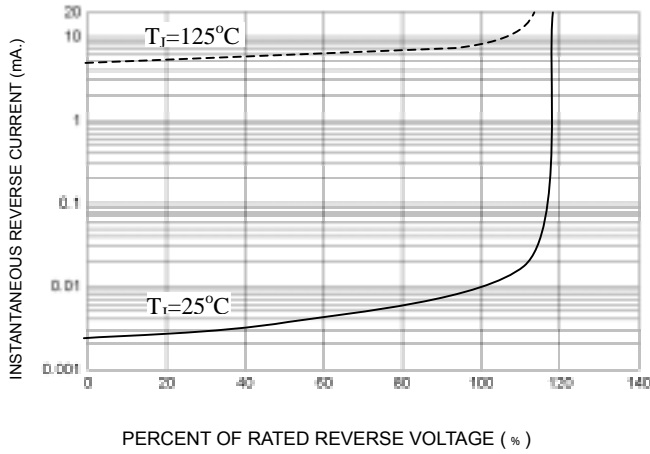


FIG-4 TYPICAL JUNCTION CAPACITANCE

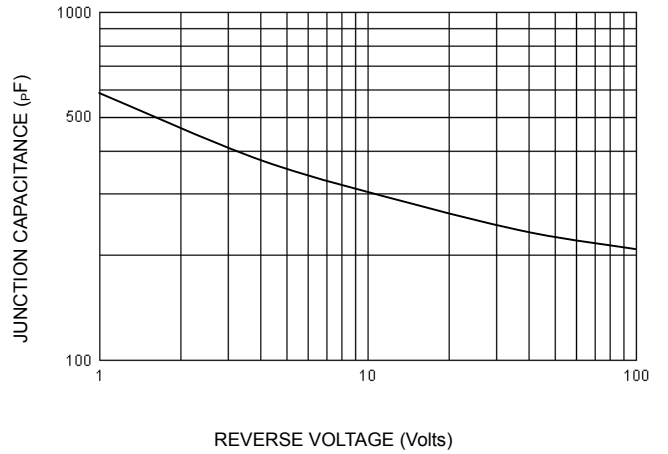


FIG-5 PEAK FORWARD SURGE CURRENT

