

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 adaptors, DC/DC converters, free-wheeling and polarity protection diodes.

Features

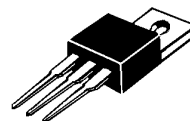
- * Low Forward Voltage.
- * Low Switching noise.
- * High Current Capacity
- * Guarantee Reverse Avalanche.
- * Guard-Ring for Stress Protection.
- * Low Power Loss & High efficiency.
- * 175°C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used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

MAXIMUM RATINGS

Characteristic	Symbol	MBR20200CL	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), $T_C=125^\circ\text{C}$	$I_{F(AV)}$	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	°C

THERMAL RESISTANCES

Typical Thermal Resistance junction to case (per device)	$R_{\theta jc}$	3.6	°C/w
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ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MBR20200CL			Unit
Maximum Instantaneous Forward Voltage (per diode) ($I_F=0.1$ Amp $T_C = 25^\circ\text{C}$) ($I_F = 5$ Amp $T_C = 25^\circ\text{C}$) ($I_F=10$ Amp $T_C = 25^\circ\text{C}$)	V_F	Min --- --- ---	Typ 0.31 0.85 0.95	Max 0.38 0.90 0.98	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	0.08 10	0.1 30		mA

FIG-1 FORWARD CURRENT DERATING CURVE

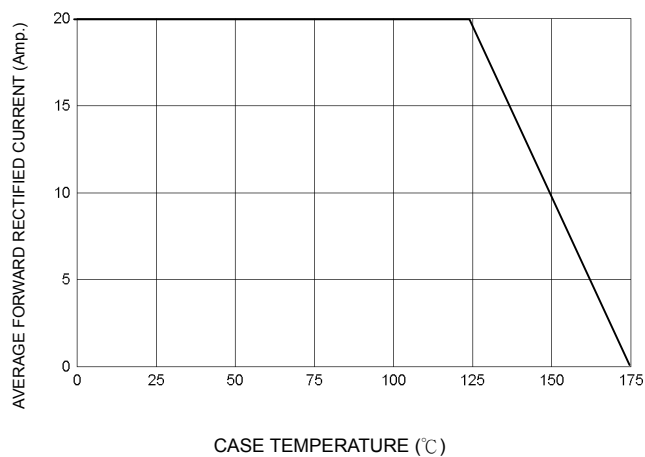


FIG-2 TYPICAL FORWARD CHARACTERISTICS

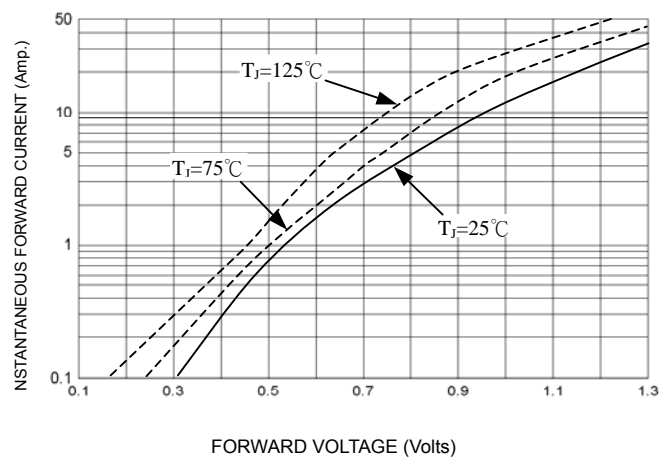


FIG-3 TYPICAL REVERSE CHARACTERISTICS

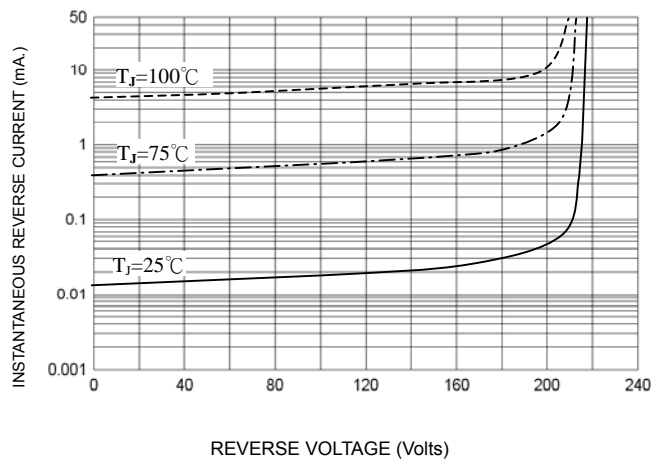


FIG-4 TYPICAL JUNCTION CAPACITANCE

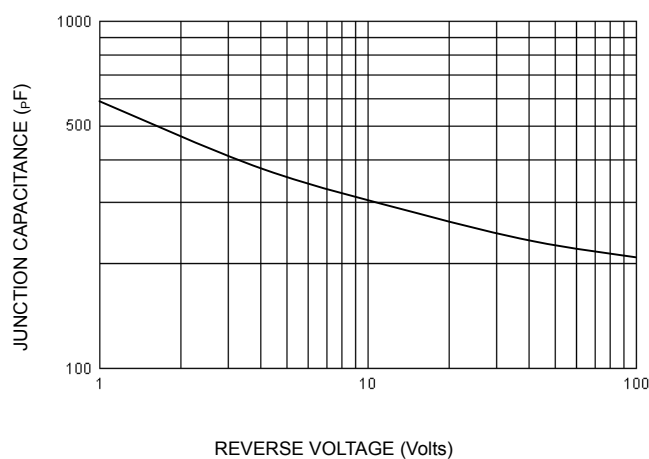


FIG-5 PEAK FORWARD SURGE CURRENT

