

### 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.

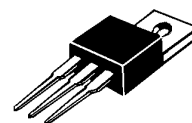
#### Features

- \* 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



**SCHOTTKY BARRIER  
RECTIFIERS**

**20 AMPERES  
150 VOLTS**



**TO-220AB**

\* *In compliance with EU RoHS 2002/95/EC directives*

### MAXIMUM RATINGS

Characteristic	Symbol	MBR20150CL	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	150	V
RMS Reverse Voltage	$V_{R(RMS)}$	105	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 halfwave, 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 device )	$R_{\theta jc}$	3.6	/w
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### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MBR20150CL	Unit
Maximum Instantaneous Forward Voltage ( per diode ) ( $I_F=0.1$ Amp $T_C = 25$ ) ( $I_F=5.0$ Amp $T_C = 25$ ) ( $I_F=10$ Amp $T_C = 25$ )	$V_F$	--- 0.29 0.35 --- 0.77 0.86 --- 0.91 0.95	V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C = 25$ ) ( Rated DC Voltage, $T_C = 125$ )	$I_R$	0.08 0.1 10 30	mA

FIG-1 FORWARD CURRENT DERATING CURVE

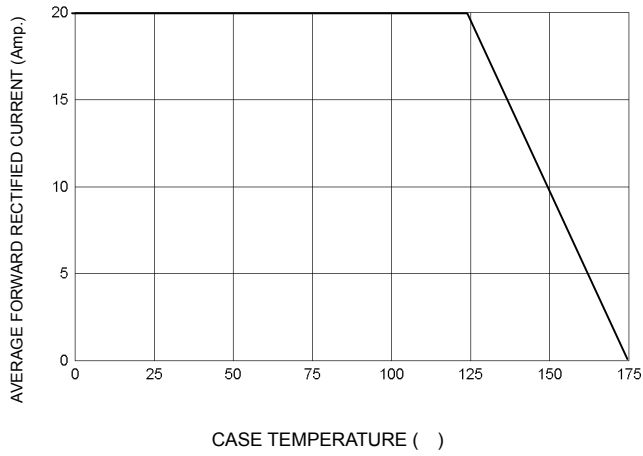


FIG-2 TYPICAL FORWARD CHARACTERISTICS

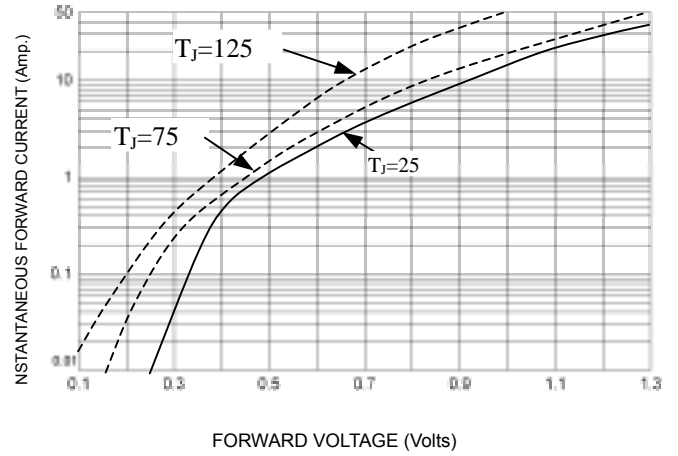


FIG-3 TYPICAL REVERSE CHARACTERISTICS

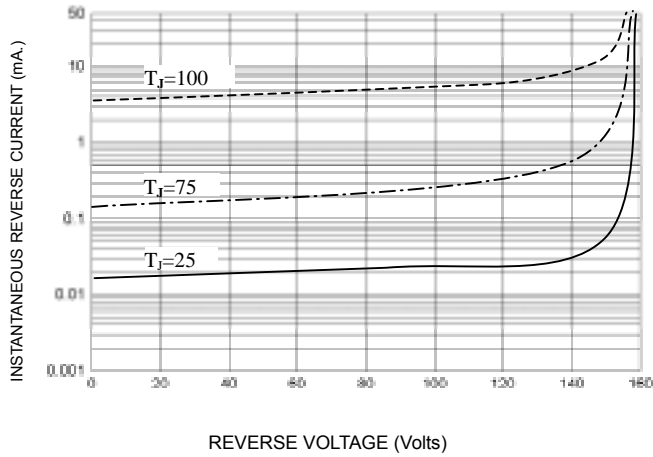


FIG-4 TYPICAL JUNCTION CAPACITANCE

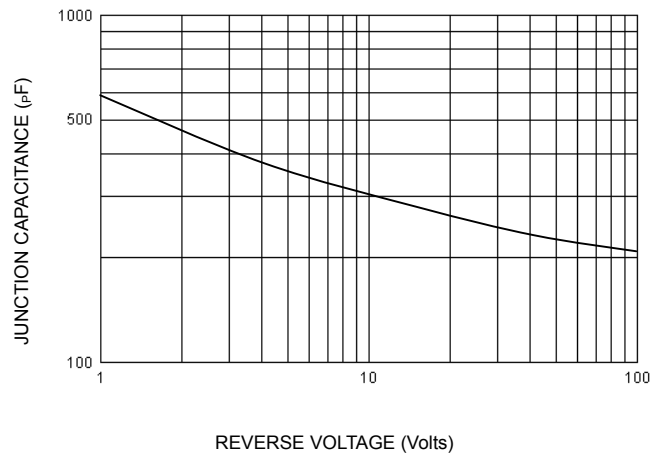


FIG-5 PEAK FORWARD SURGE CURRENT

