

### 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.

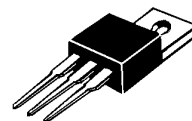
#### Features

- \* 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  
100 VOLTS**



TO-220AB

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

### MAXIMUM RATINGS

Characteristic	Symbol	MBR20100CL	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	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 )	$R_{\theta j-c}$	3.4	/w
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### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage ( per diode ) ( $I_F = 0.1$ Amp $T_C = 25$ °C ) ( $I_F = 5.0$ Amp $T_C = 25$ °C ) ( $I_F = 10$ Amp $T_C = 25$ °C )	$V_F$	---	0.29 0.60 0.78	0.35 0.66 0.85	V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C = 25$ °C ) ( Rated DC Voltage, $T_C = 125$ °C )	$I_R$	--	0.08 15	0.1 30	mA

FIG-1 FORWARD CURRENT DERATING CURVE

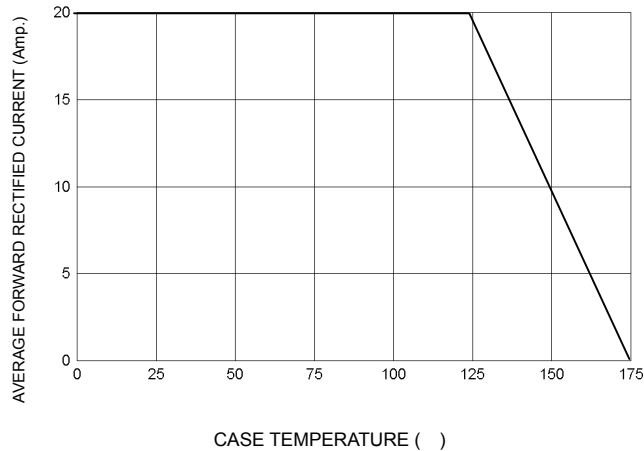


FIG-2 TYPICAL FORWARD CHARACTERISTICS

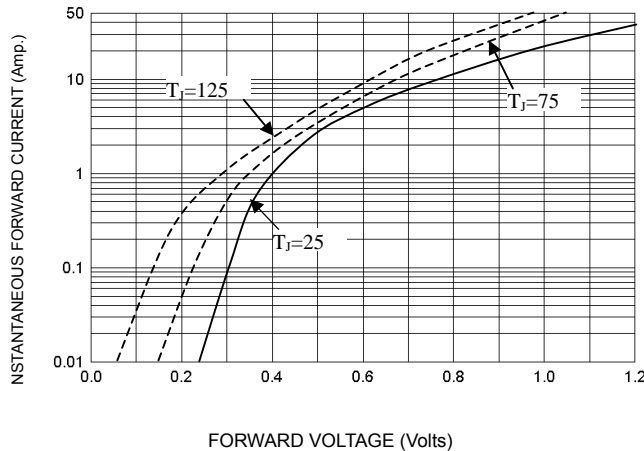


FIG-3 TYPICAL REVERSE CHARACTERISTICS

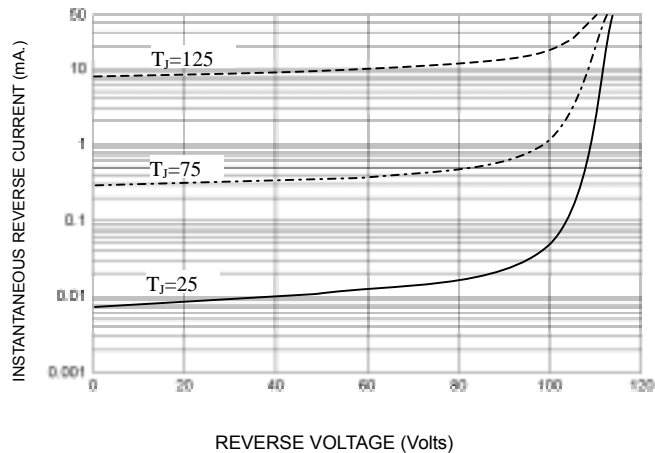


FIG-4 TYPICAL JUNCTION CAPACITANCE

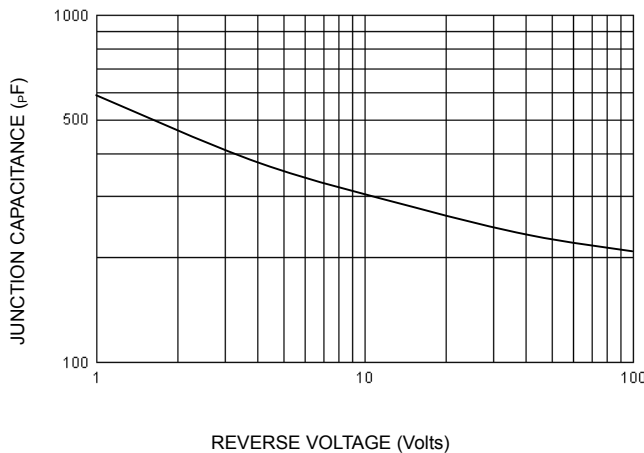


FIG-5 PEAK FORWARD SURGE CURRENT

