

MBR150-MBR160

1 AMP SCHOTTKY RECTIFIER

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	MBR150	MBR160	Unit
Peak repetitive reverse voltage	V_{RRM}			
Working peak reverse voltage	V_{RWM}	50	60	V
DC blocking voltage	V_R			
RMS reverse voltage	$V_{R(RMS)}$	35	42	V
Average rectified forward current ⁽¹⁾ ($V_{R(equiv)} \leq 0.2V_{R(dc)}$, $R_{\theta JA} = 80^\circ\text{C/W}$, PC board mounting, $T_A = 55^\circ\text{C}$)	I_o	1 @ $T_C = 90^\circ\text{C}$		A
Non-repetitive peak surge current ($T_A = 70^\circ\text{C}$) (surge applied at rated load conditions, halfwave, single phase, 60Hz)	I_{FSM}	25		A
Operating junction and storage temperature range	T_J, T_{stg}	-65 to +150		$^\circ\text{C}$
Maximum thermal resistance Junction to ambient	$R_{\theta JA}$	80		$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	MBR150	MBR160	Unit
Instantaneous forward voltage ⁽²⁾ ($I_F = 0.1\text{A}$) ($I_F = 1.0\text{A}$) ($I_F = 3.0\text{A}$)	V_F	0.550 0.750 1.000		V
Instantaneous reverse current ⁽²⁾ (Rated dc voltage, $T_C = 25^\circ\text{C}$) (Rated dc voltage, $T_C = 100^\circ\text{C}$)	I_R	0.5 5.0		mA

Note 1: Lead temperature reference is cathode lead 1/32" from case.

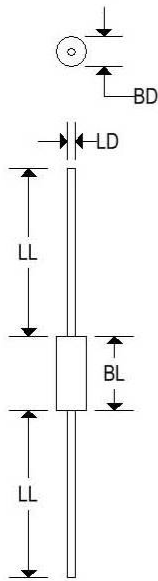
Note 2: Pulse test: Pulse width = 300 μs , duty cycle $\leq 2.0\%$.

MBR150-MBR160

1 AMP SCHOTTKY RECTIFIER

MECHANICAL CHARACTERISTICS

Case	DO-41
Marking	Alpha-numeric
Pin out	Cathode band



	DO-41			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.107	-	2.720
BL	-	0.205	-	5.207
LD	0.028	0.034	0.711	0.864
LL	1.000	-	25.400	-

MBR150-MBR160

1 AMP SCHOTTKY RECTIFIER

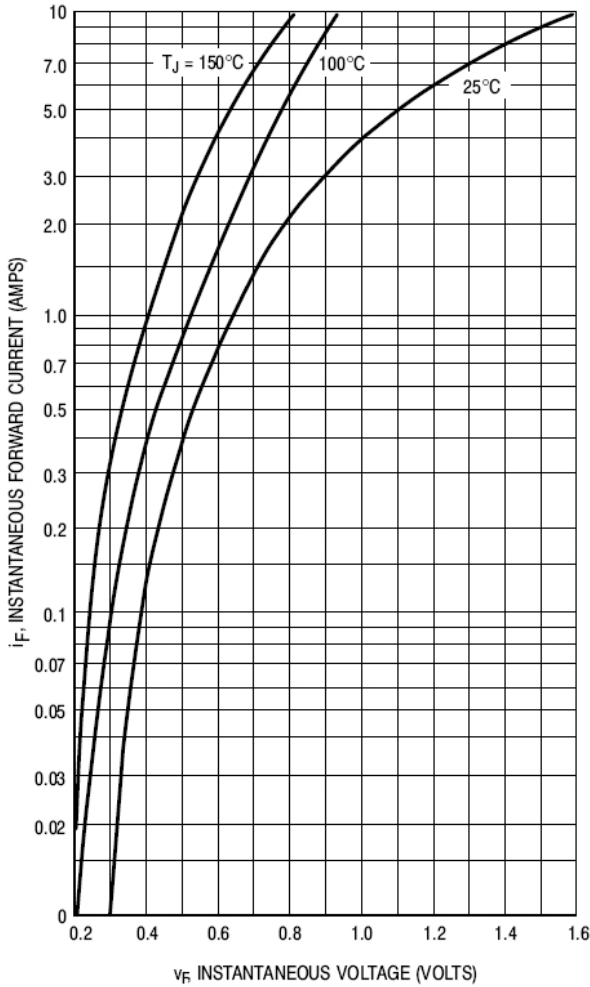


Figure 1. Typical Forward Voltage

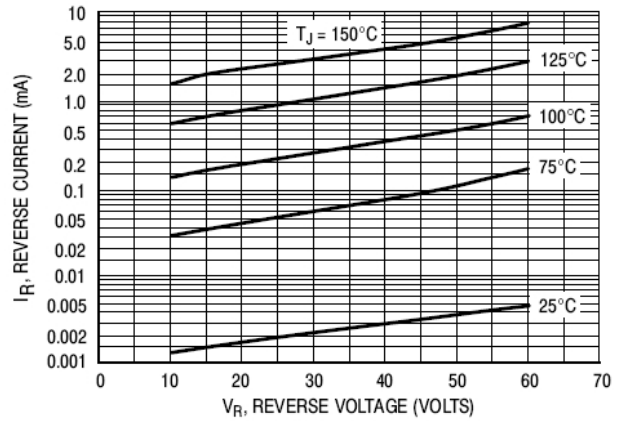


Figure 2. Typical Reverse Current*

*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R .

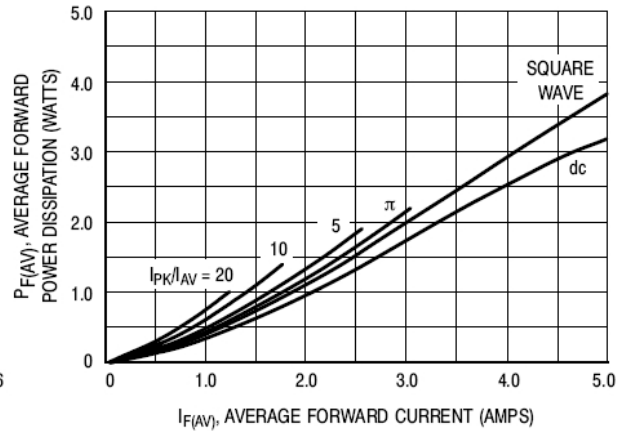


Figure 3. Forward Power Dissipation

MBR150-MBR160

1 AMP SCHOTTKY RECTIFIER

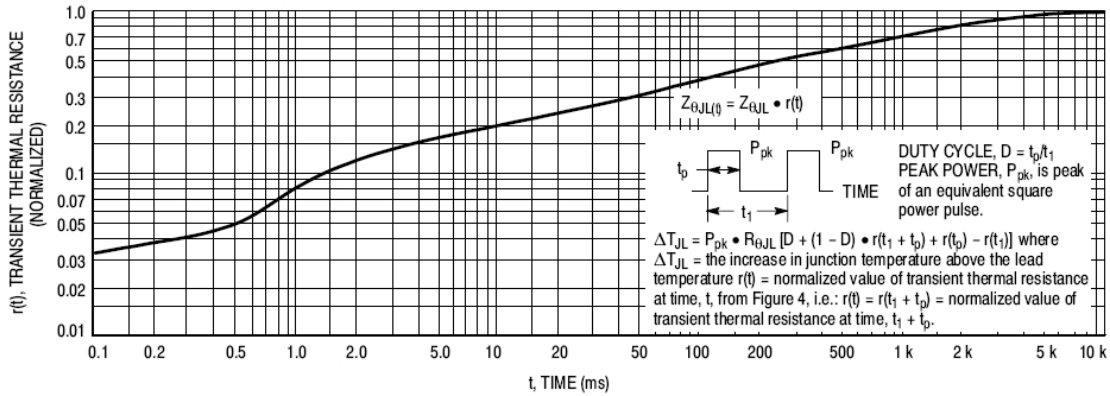


Figure 4. Thermal Response

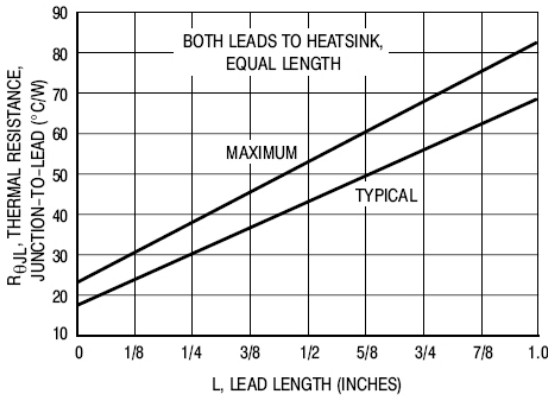


Figure 5. Steady-State Thermal Resistance

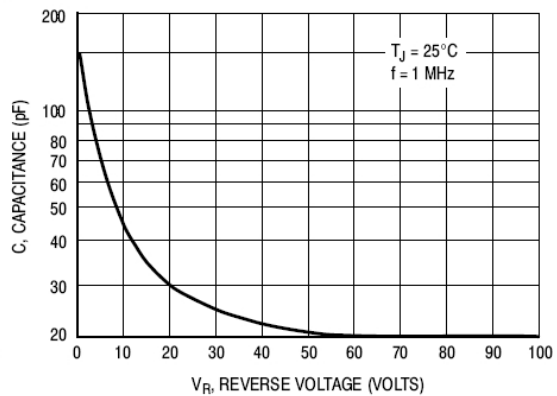


Figure 6. Typical Capacitance

NOTE 1. — MOUNTING DATA:

Data shown for thermal resistance junction-to-ambient ($R_{\theta JA}$) for the mounting shown is to be used as a typical guideline values for preliminary engineering or in case the tie point temperature cannot be measured.

Typical Values for $R_{\theta JA}$ in Still Air

Mounting Method	Lead Length, L (in)				$R_{\theta JA}$
	1/8	1/4	1/2	3/4	
1	52	65	72	85	$^\circ\text{C/W}$
2	67	80	87	100	$^\circ\text{C/W}$
3	—	—	50	—	$^\circ\text{C/W}$

NOTE 2. — THERMAL CIRCUIT MODEL:
(For heat conduction through the leads)

