DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

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 **Working peak reverse voltage** **DC blocking voltage**	V_{RRM} V_{RWM} V_R	50	60	V
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°C/W, PC board mounting, T_A = 55°C)	I_o	1 @ T_C = 90°C		A
Non-repetitive peak surge current (T_A = 70°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		°C
Maximum thermal resistance Junction to ambient	$R_{\Theta JA}$	80		°C/W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	MBR150	MBR160	Unit
Instantaneous forward voltage [2] (I_F = 0.1A) (I_F = 1.0A) (I_F = 3.0A)	V_F	0.550 0.750 1.000		V
Instantaneous reverse current [2] (Rated dc voltage, T_C = 25°C) (Rated dc voltage, T_C = 100°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 = 300µs, duty cycle ≤ 2.0%.

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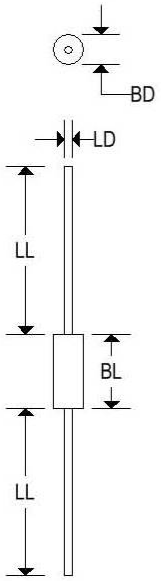
MECHANICAL CHARACTERISTICS

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	-

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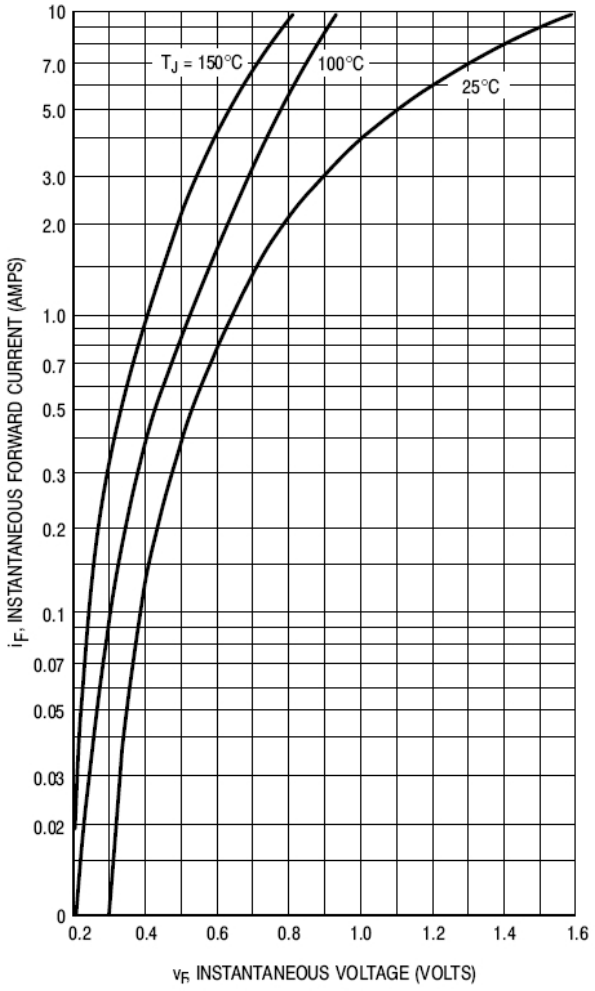

Figure 1. Typical Forward Voltage

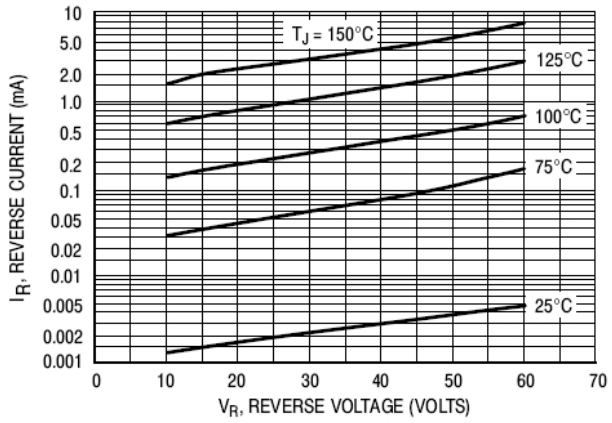

Figure 2. Typical Reverse Current*

*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.

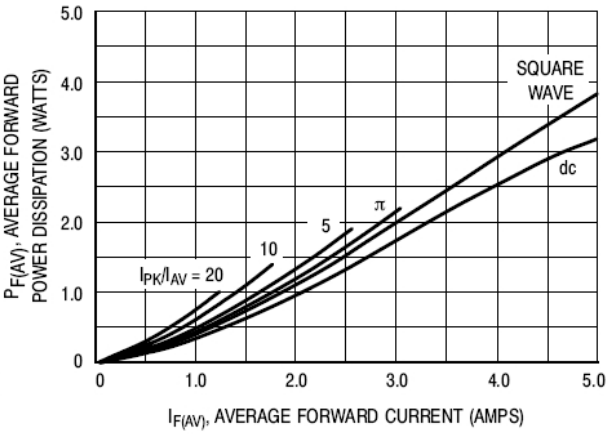

Figure 3. Forward Power Dissipation

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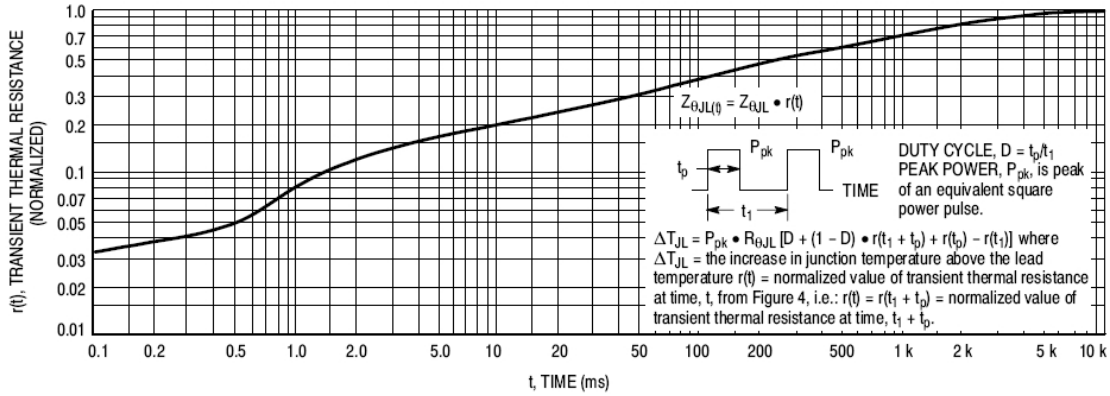

Figure 4. Thermal Response

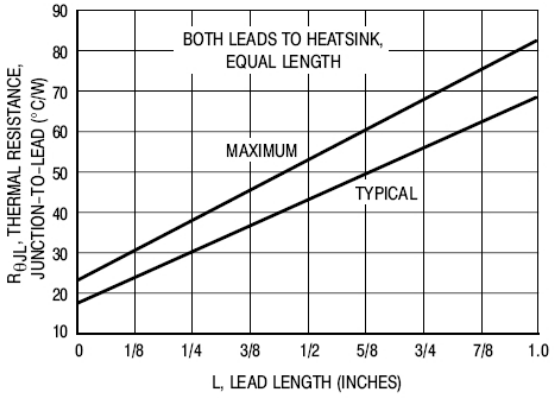

Figure 5. Steady−State Thermal Resistance

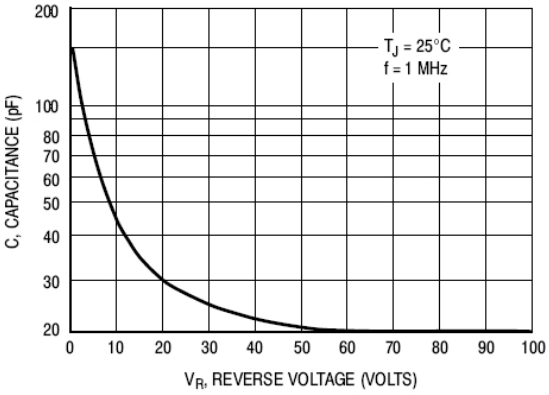

Figure 6. Typical Capacitance

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	°C/W
2	67	80	87	100	°C/W
3	—		50		°C/W

NOTE 2. — THERMAL CIRCUIT MODEL:

(For heat conduction through the leads)