



## Maximum Ratings and Electrical Characteristics

( $T_c = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	MBR10150CT	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	150	Volts
Working peak reverse voltage	$V_{RWM}$	150	Volts
Maximum DC blocking voltage	$V_{DC}$	150	Volts
Maximum average forward rectified current (See Fig. 1)	Total device Per leg $I_{F(AV)}$	10 5.0	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	$I_{FSM}$	160	Amps
Peak repetitive reverse current per leg at $t_p = 2.0\mu\text{s}$ , 1KHz	$I_{RRM}$	1.0	Amp
Voltage rate of change (rated $V_R$ )	$dv/dt$	10,000	V/ $\mu\text{s}$
Maximum instantaneous forward voltage per leg (Note 4)	$V_F$	at $I_F=5.0\text{A}$ , $T_J=25^\circ\text{C}$ 0.88	Volts
at $I_F=5.0\text{A}$ , $T_J=125^\circ\text{C}$ 0.72			
at $I_F=10\text{A}$ , $T_J=25^\circ\text{C}$ 0.96			
at $I_F=10\text{A}$ , $T_J=125^\circ\text{C}$ 0.80			
Maximum reverse current per leg at working peak reverse voltage (Note 4)	$I_R$	$T_J=25^\circ\text{C}$ 5.0	$\mu\text{A}$
$T_J=125^\circ\text{C}$ 1.0		$\text{mA}$	
Typical thermal resistance per leg	$R_{\theta JC}$	MBR 2.4 / MBRF 4.5	$^\circ\text{C}/\text{W}$
RMS Isolation voltage (MBRF type only) from terminals to heatsink with $t = 1.0$ second, $\text{RH} \leq 30\%$	$V_{ISOL}$	4500 (Note 1) 3500 (Note 2) 1500 (Note 3)	Volts
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

- Notes:**
1. Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
  2. Clip mounting (on case), where leads do overlap heatsink
  3. Screw mounting with 4-40 screw, where washer diameter is  $\leq 4.9$  mm (0.19")
  4. Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle

# RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

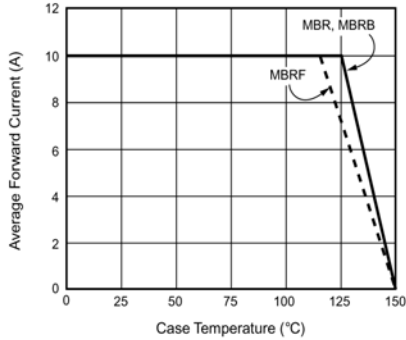


Figure 1. Forward Derating Curve (Total)

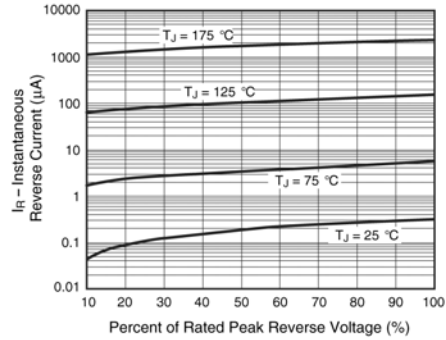


Figure 4. Typical Reverse Characteristics Per Leg

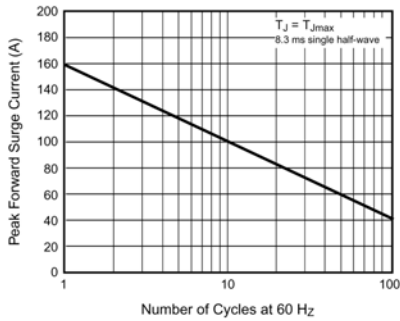


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

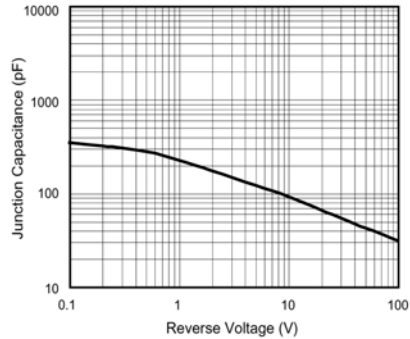


Figure 5. Typical Junction Capacitance Per Leg

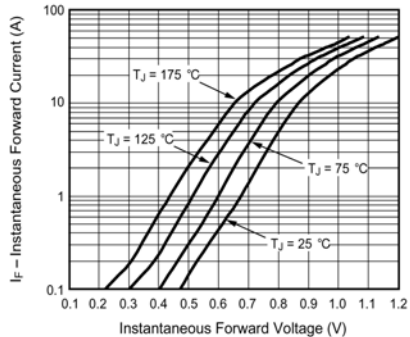


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

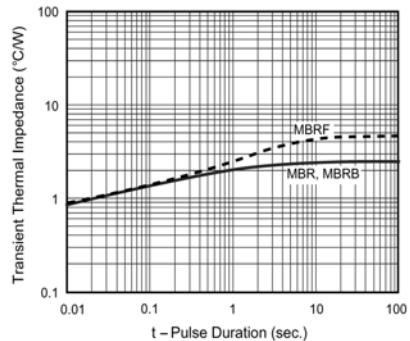


Figure 6. Typical Transient Thermal Impedance Per Leg