

Maximum Ratings and Electrical Characteristics

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

Parameter	Symbol	MBR2035CT	MBR2045CT	MBR2050CT	MBR2060CT	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	Volts
Working peak reverse voltage	V_{RWM}	35	45	50	60	Volts
Maximum DC blocking voltage	V_{DC}	35	45	50	60	Volts
Maximum average forward rectified current at $T_c=135^\circ\text{C}$	Total device Per leg $I_{F(AV)}$	20 10				Amps
Peak repetitive forward current per leg at (rated V_{R1} sq. wave, 2.KHz) at $T_c=135^\circ\text{C}$	I_{FRM}	20				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	150				Amps
Peak repetitive reverse surge current per leg at $t_p = 2.0\mu\text{s}$, 1KHz	I_{RRM}	1.0	0.5			Amps
Voltage rate of change (rated V_R)	dv/dt	10,000				V/ μs
Maximum instantaneous forward voltage per leg (Note 4) at $I_f=10\text{A}$, $T_c=25^\circ\text{C}$ at $I_f=10\text{A}$, $T_c=125^\circ\text{C}$ at $I_f=20\text{A}$, $T_c=25^\circ\text{C}$ at $I_f=20\text{A}$, $T_c=125^\circ\text{C}$	V_F	- 0.57 0.84 0.72	0.80 0.70 0.95 0.85			Volt
Maximum reverse current at rated DC blocking voltage per leg (Note 4) $T_c=25^\circ\text{C}$ $T_c=125^\circ\text{C}$	I_R	0.1 15	0.15 150			mA
Thermal resistance from junction to case per leg	$R_{\theta JC}$	MBR 2.0 / MBRF 5.0 / MBRB 2.0				$^\circ\text{C}/\text{W}$
RMS Isolation voltage (MBRF type only) from terminals to heatsink with $t = 1.0$ second, RH $\leq 30\%$	V_{ISOL}	4500 (Note 1) 3500 (Note 2) 1500 (Note 3)				Volts
Operating junction temperature range	T_J	-55 to +150				$^\circ\text{C}$
Storage temperature range	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 < 4.9 mm (0.19")
 4. Pulse test: 300 μs pulse width, 1% duty cycle

RATINGS AND CHARACTERISTIC CURVES

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

