



Micro Commercial Components



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MBR30150CT

30Amp Schottky Barrier Rectifier 150Volts

Features

- Low Power Loss, High Efficiency
- Guardring for overvoltage protection
- Low forward voltage drop and High frequency operation
- For use in high frequency inverters, free wheeling and polarity protection applications
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

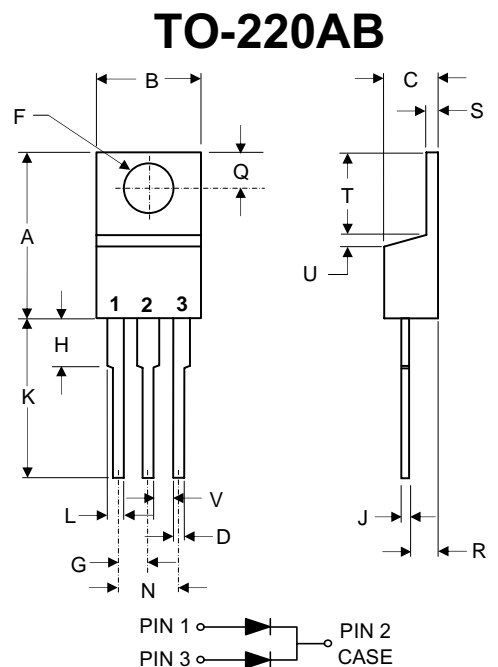
Maximum Ratings and Electrical Characteristics

- Mounting Torque: 5 in-lbs Maximum

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

Parameter	Symbol	MBR30150CT	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)	$I_{F(AV)}$	30 15	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	200	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/ μs
Maximum instantaneous forward voltage per leg (Note 5)	V_F	0.90	Volt
at $I_F=15\text{A}$, $T_C=25^\circ\text{C}$		0.75	
at $I_F=15\text{A}$, $T_C=125^\circ\text{C}$		0.99	
at $I_F=30\text{A}$, $T_C=25^\circ\text{C}$		0.86	
Maximum reverse current per leg at working peak reverse voltage	I_R	$T_J=25^\circ\text{C}$ 0.1	mA
		$T_J=125^\circ\text{C}$ 1.0	mA
Typical thermal resistance per leg	$R_{\theta JC}$	1.7	$^\circ\text{C}/\text{W}$
RMS Isolation voltage (MBRF type only) from terminals to heatsink with $t = 1.0$ second, RH $\leq 30\%$	V_{ISOL}	4500 (Note 2) 3500 (Note 3) 1500 (Note 4)	Volts
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

- Notes:**
1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.
 2. Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
 3. Clip mounting (on case), where leads do overlap heatsink
 4. Screw mounting with 4-40 screw, where washer diameter is < 4.9 mm (0.19")
 5. Pulse test: 300 μs pulse width, 1% duty cycle



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.139	.161	3.53	4.09	∅
G	.190	.110	2.29	2.79	
H	---	.250	---	6.35	
J	.012	.025	0.30	0.64	
K	.500	.580	12.70	14.73	
L	.045	.060	1.14	1.52	
N	.190	.210	4.83	5.33	
Q	.100	.135	2.54	3.43	
R	.080	.115	2.04	2.92	
S	.045	.055	1.14	1.39	
T	.230	.270	5.84	6.86	
U	---	.050	---	1.27	
V	.045	---	1.15	---	

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RATINGS AND CHARACTERISTICS CURVES

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

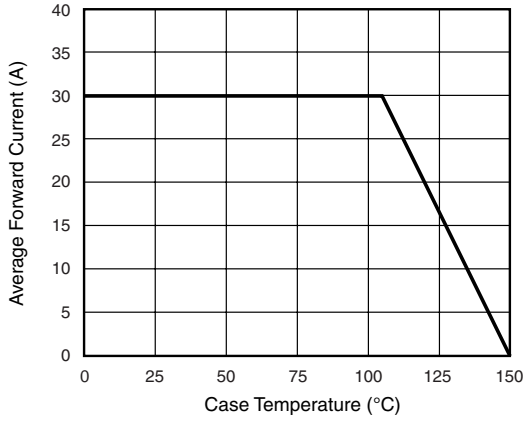


Figure 1. Forward Derating Curve

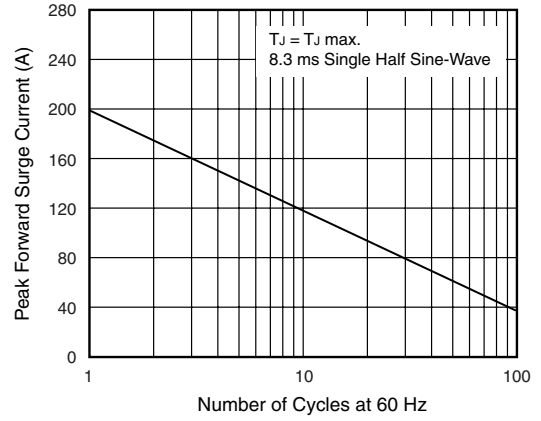


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

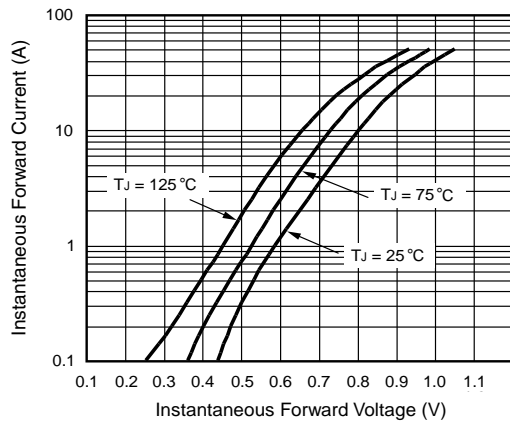


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

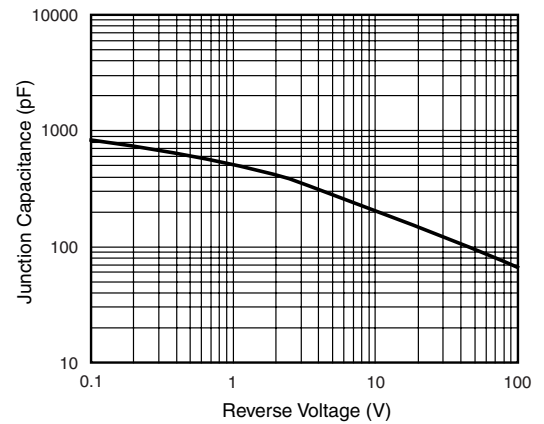


Figure 5. Typical Junction Capacitance Per Diode

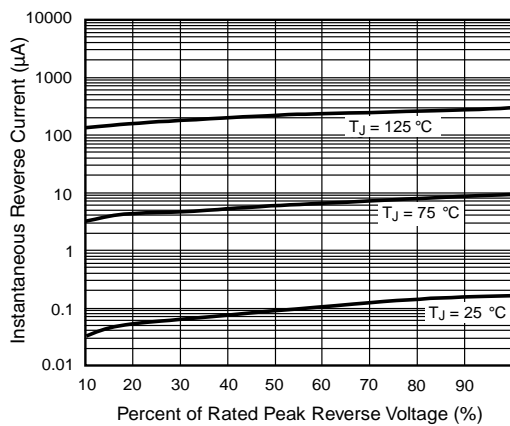


Figure 4. Typical Reverse Characteristics Per Diode

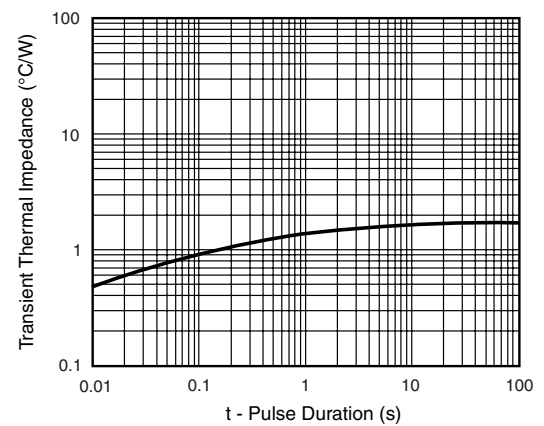


Figure 6. Typical Transient Thermal Impedance Per Diode



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Ordering Information

Device	Packing
(Part Number)-BP	Bulk;1Kpcs/Box

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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