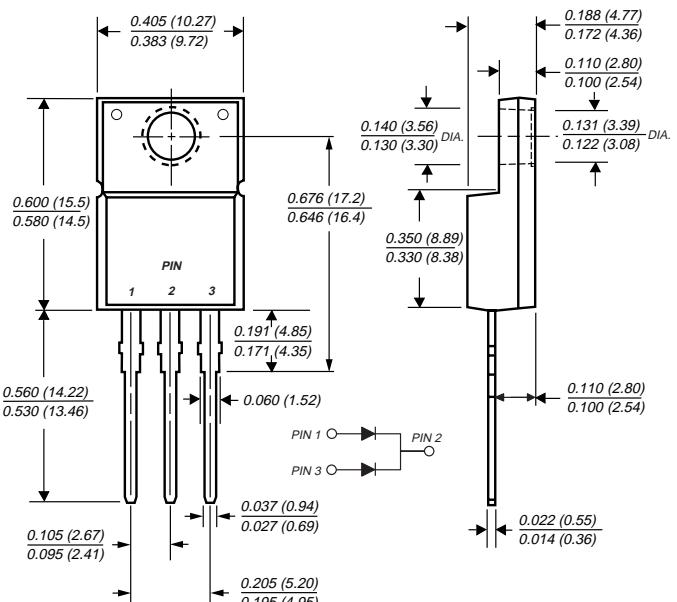
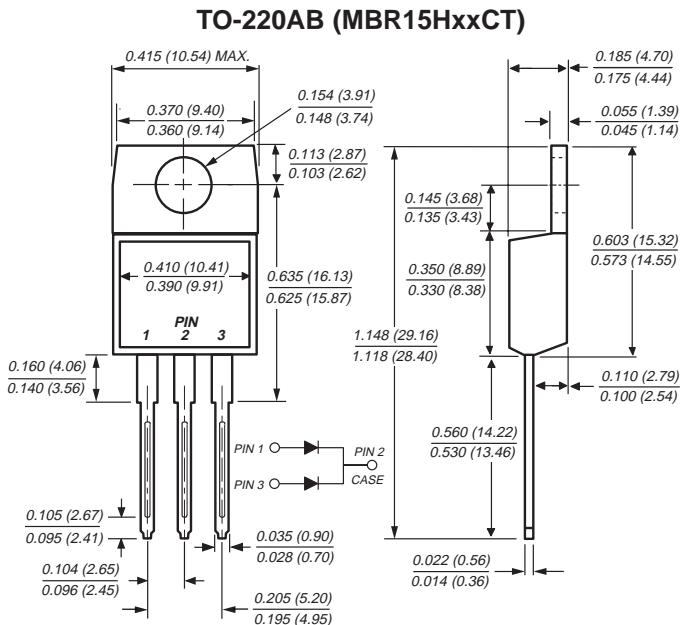
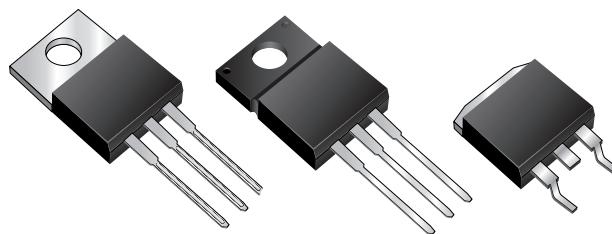


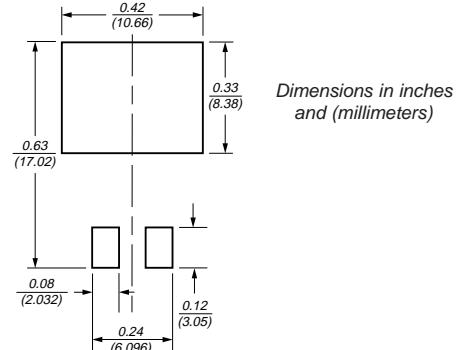


KERSEMI

MBR15HxxCT, MBRF15HxxCT & MBRB15HxxCT Series



Mounting Pad Layout TO-263AB



Features

- Plastic package has Underwriters Laboratory Flammability Classification 94 V-0
- Dual rectifier construction, positive center tap
- Metal silicon junction, majority carrier conduction
- Low forward voltage drop, low power loss and high efficiency
- Guardring for overvoltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 250 °C/10 seconds, 0.25" (6.35 mm) from case
- Rated for reverse surge and ESD
- 175 °C maximum operation junction temperature

Mechanical Data

Case: JEDEC TO-220AB, ITO-220AB & TO-263AB molded plastic body

Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

Polarity: As marked

Mounting Position: Any

Mounting Torque: 10 in-lbs maximum

Weight: 0.08 oz., 2.24 g

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

Parameter	Symbol	MBR15H35CT	MBR15H45CT	MBR15H50CT	MBR15H60CT	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	35	45	50	60	V
Working peak reverse voltage	V _{RWM}	35	45	50	60	V
Maximum DC blocking voltage	V _{DC}	35	45	50	60	V
Max. average forward rectified current (see figure 1)	Total device Per leg	I _{F(AV)}		15 7.5		A
Peak repetitive forward current at $T_C = 155^\circ\text{C}$ per leg (rated V _R , 20 KHz sq. wave)	I _{FRM}			15		A
Non-repetitive avalanche energy per leg at 25°C , I _{AS} = 4A, L = 10 mH	E _{AS}			80		mJ
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}			150		A
Peak repetitive reverse surge current per leg at $t_p = 2.0\ \mu\text{s}$, 1 KHz	I _{RRM}		1.0	0.5		A
Peak non-repetitive reverse energy (8/20 μs waveform)	E _{RSR}	20		10		mJ
Electrostatic discharge capacitor voltage Human body model: C = 100 F, R = 1.5 k Ω	V _C			25		kV
Voltage rate of change (rated V _R)	dV/dt			10,000		V/ μs
Operating junction temperature range	T _J			-65 to +175		°C
Storage temperature range	T _{TSG}			-65 to +175		°C
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1.0 second, RH $\leq 30\%$	V _{ISOL}			4500 ⁽¹⁾ 3500 ⁽²⁾ 1500 ⁽³⁾		V

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

Parameter	Symbol	MBR15H35CT, MBR15H45CT		MBR15H50CT, MBR15H60CT		Unit
		Typ	Max	Typ	Max	
Maximum instantaneous forward voltage per leg ⁽⁴⁾	V _F	—	0.63	—	0.73	V
		0.50	0.55	0.58	0.61	
		—	0.75	—	0.87	
		0.61	0.66	0.68	0.72	
Maximum instantaneous reverse current at rated DC blocking voltage per leg ⁽⁴⁾	I _R	—	50	—	50	μA
		3.0	10	2.0	10	mA

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

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Maximum thermal resistance per leg	R _{θJC}	3.0	5.0	3.0	°C/W

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 $\leq 4.9\text{ mm (0.19")}$
(4) Pulse test: 300 μs pulse width, 1% duty cycle

Ordering Information

Product	Case	Package Code	Package Option
MBR15H35CT – MBR15H60CT	TO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRF15H35CT – MBRF15H60CT	ITO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRB15H35CT – MBRB15H60CT	TO-263AB	31 45 81	13" reel, 800/reel, 4.8K/carton Anti-Static tube, 50/tube, 2K/carton Anti-Static 13" reel, 800/reel, 4.8K/carton



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MBR15HxxCT, MBRF15HxxCT & MBRB15HxxCT Series

Fig. 1 – Forward Current Derating Curve

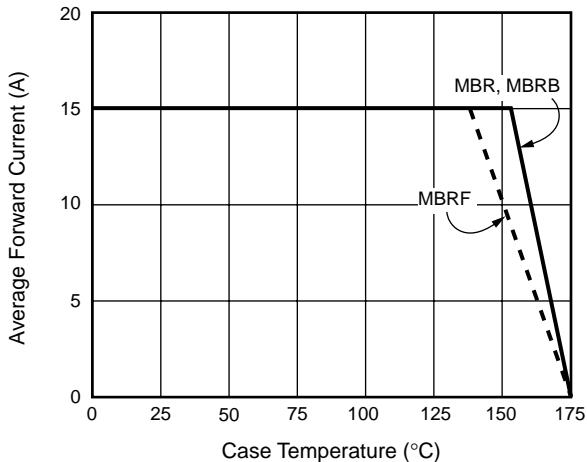


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

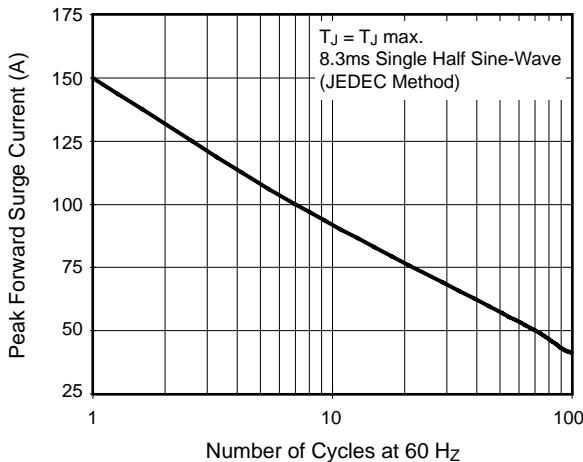


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

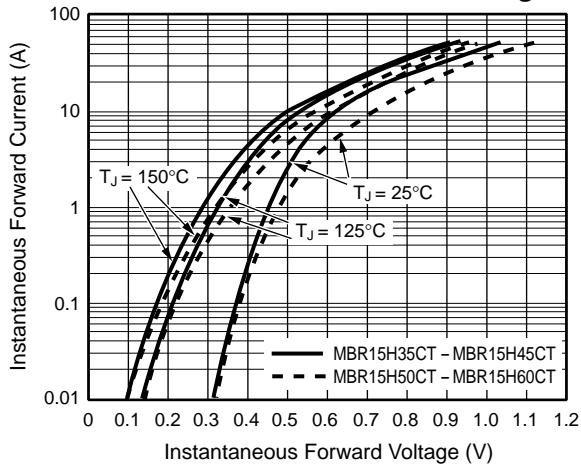


Fig. 4 – Typical Reverse Characteristics Per Leg

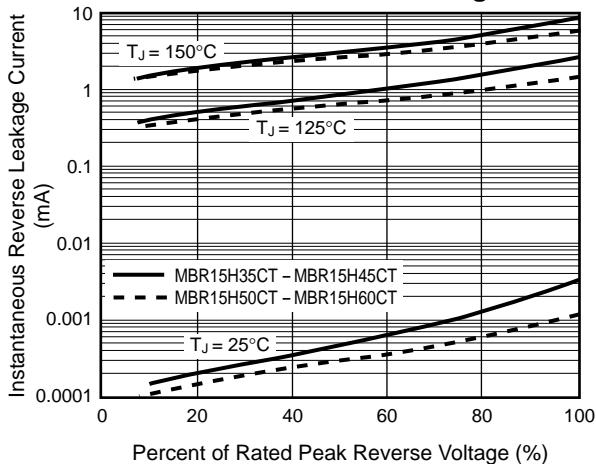


Fig. 5 – Typical Junction Capacitance Per Leg

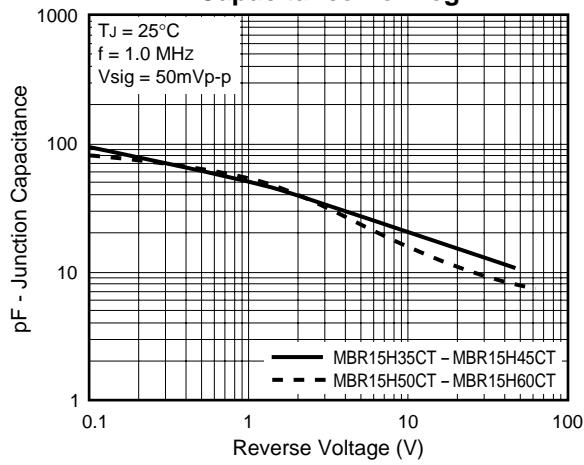


Fig. 6 – Typical Transient Thermal Impedance Per Leg

