

# MBR3045(F,B,H)CT thru MBR30200(F,B,H)CT

## 30A Schottky Barrier Rectifier

### FEATURE

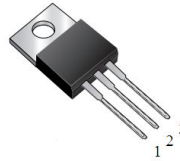
- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High ESD capability
- High temperature soldering guaranteed:  
260°C/10s/0.25"(6.35mm) from case

### MECHANICAL DATA

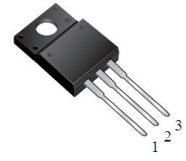
- Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy
- Mounting position: any

### TYPICAL APPLICATIONS

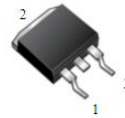
For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, DC/DC converters and polarity protection application.



TO-220AB  
MBR30XXCT



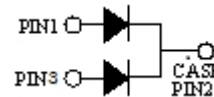
ITO-220AB  
MBR30XXFCT



TO-263  
MBR30XXBCT



TO-262  
MBR30XXHCT



Ratings at 25°C ambient temperature unless otherwise specified, Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

### MAXIMUM RATINGS

Parameter	Symbol	MBR3045	MBR3060	MBR30100	MBR30150	MBR30200	units
		CT	CT	CT	CT	CT	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	45	60	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	32	42	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	45	60	100	150	200	V
Maximum Average Forward Rectified Current at $T_C=90^\circ\text{C}$	total device	30.0					A
	per diode	15.0					
Peak Forward Surge Current 8.3ms Single Half sine-wave superimposed on rate load per diode (JEDEC method)	$I_{FSM}$	175					A
Junction Capacitance (Note1)	$C_J$	800		350			pF
Storage Temperature Range	$T_{STG}$	-55 to +150					°C
Operation Temperature Range	$T_J$	-55 to +150					°C

### ELECTRONICAL CHARACTERISTICS

Parameter	Symbol	MBR3045	MBR3060	MBR30100	MBR30150	MBR30200	units
		CT	CT	CT	CT	CT	
Maximum Forward Voltage Drop per diode at 15A (Note 2)	$V_F$	0.60	0.70	0.85	0.90	0.95	V
Maximum DC Reverse Current at rated DC blocking voltage (Note 2)	@ $T_C=25^\circ\text{C}$	0.15			0.1		mA
	@ $T_C=100^\circ\text{C}$	40.0			20.0		

### THERMAL CHARACTERISTICS

Parameter	Symbol	ITO-220	TO-220	TO-262 TO-263	units
Typical Thermal Resistance (Note 3)	$R_{th(jc)}$	3.0	2.0	2.0	°C/W

#### Note:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc.
2. Pulse test: 300  $\mu\text{s}$  pulse width, 1% duty cycle.
3. Thermal Resistance from Junction to Case Mounted on heatsink.

**RATING AND CHARACTERISTIC CURVES (MBR3045(E,B,H)CT THRU MBR30200(E,B,H)CT)**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

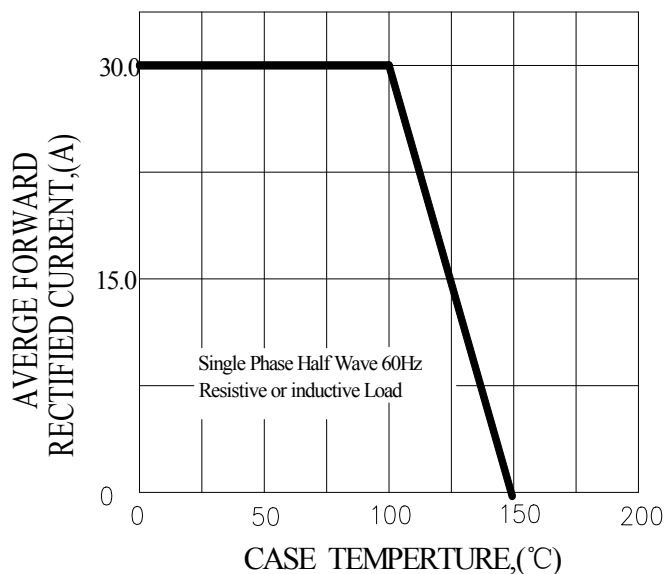


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

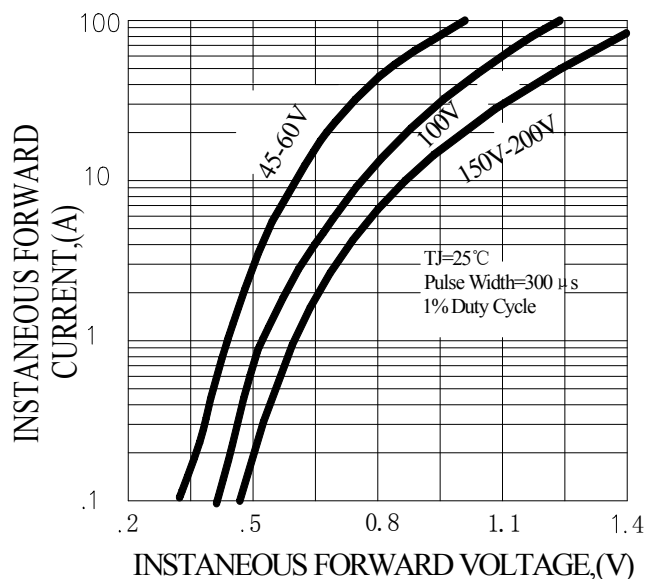


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

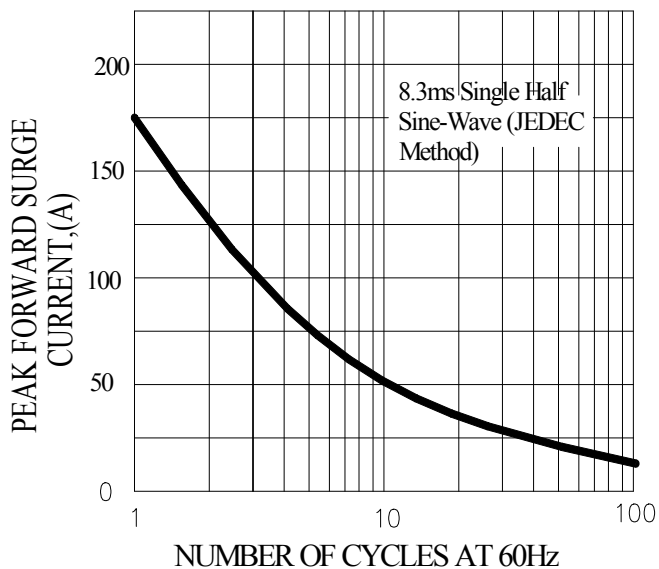
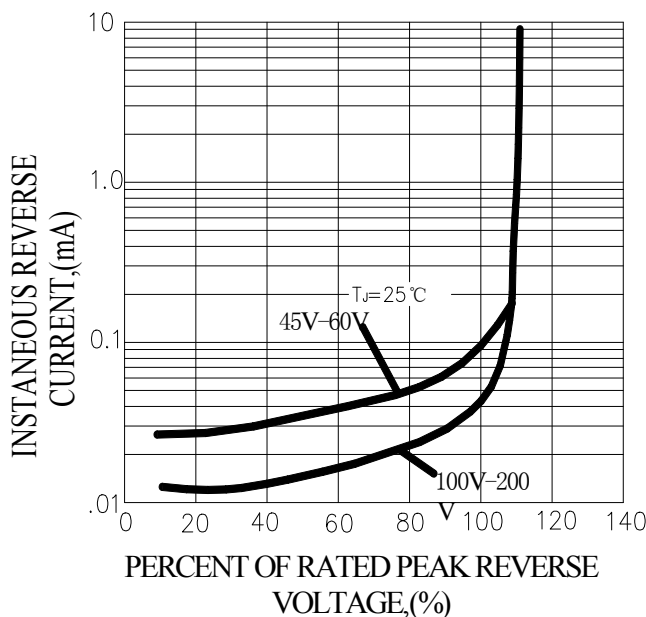


FIG.4-TYPICAL REVERSE CHARACTERISTICS



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