

# MBRF1535CT THRU MBRF1560CT

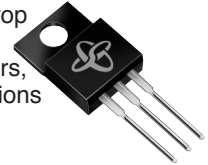
## SCHOTTKY ISOLATED PLASTIC RECTIFIER

Reverse Voltage - 35 to 60 Volts

Forward Current - 15.0 Amperes

### FEATURES

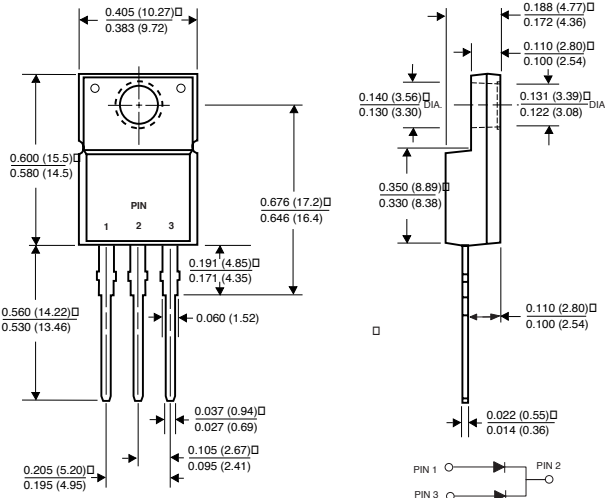
- ♦ Isolated plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ♦ Metal silicon junction, majority carrier conduction
- ♦ Low power loss, high efficiency
- ♦ High current capability, low forward voltage drop
- ♦ High surge capability
- ♦ For use in low voltage, high frequency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



### MECHANICAL DATA

**Case:** ITO-220AB fully overmolded plastic body  
**Terminals:** Leads solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked  
**Mounting Position:** Any  
**Mounting Torque:** 5 in. - lbs. max.  
**Weight:** 0.08 ounces, 2.24 gram

### ITO-220AB



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBRF1535CT	MBRF1545CT	MBRF1550CT	MBRF1560CT	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	35	45	50	60	Volts
Maximum working peak reverse voltage	V <sub>RWM</sub>	35	45	50	60	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	Volts
Maximum average forward rectified current at T <sub>C</sub> =105°C	I <sub>(AV)</sub>	15.0				Amps
Peak repetitive forward current at T <sub>C</sub> =105°C per diode (rated V <sub>R</sub> , 20KHz sq.wave)	I <sub>FRM</sub>	15.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	150.0				Amps
Peak repetitive reverse surge current (NOTE 1)	I <sub>RRM</sub>	1.0		0.5		Amps
Maximum instantaneous forward voltage per leg at (NOTE 2)	V <sub>F</sub>	I <sub>F</sub> =7.5A, T <sub>C</sub> =25°C	-		0.75	Volts
		I <sub>F</sub> =7.5A, T <sub>C</sub> =125°C	0.57		0.65	
		I <sub>F</sub> =15A, T <sub>C</sub> =25°C	0.84		-	
		I <sub>F</sub> =15A, T <sub>C</sub> =125°C	0.72		-	
Maximum instantaneous reverse current at rated DC blocking voltage per leg (NOTE 2)	I <sub>R</sub>	T <sub>C</sub> =25°C	0.1		1.0	mA
		T <sub>C</sub> =125°C	15.0		50.0	
Voltage rate of change, (rated V <sub>R</sub> )	dv/dt	10,000				V/μs
Maximum thermal resistance per leg (NOTE 3)	R <sub>θJC</sub>	5.0				°C/W
Operating junction temperature range	T <sub>J</sub>	-65 to +150				°C
Storage temperature range	T <sub>STG</sub>	-65 to +175				°C
RMS Isolation voltage from terminals to heatsink with RH ≤ 30%	V <sub>ISOL</sub>	4500 (NOTE 4) 3500 (NOTE 5) 1500 (NOTE 6)				Volts

**NOTES:** (1) 2.0μs pulse width, f=1.0 KHZ  
 (2) 300μs, pulse width, 1% duty cycle  
 (3) Thermal resistance from junction to case  
 (4) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset.  
 (5) Clip mounting (on case), where leads do overlap heatsink.  
 (6) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19").

# RATINGS AND CHARACTERISTIC CURVES MBRF1535CT THRU MBRF1560CT

FIG. 1 - FORWARD CURRENT DERATING CURVE

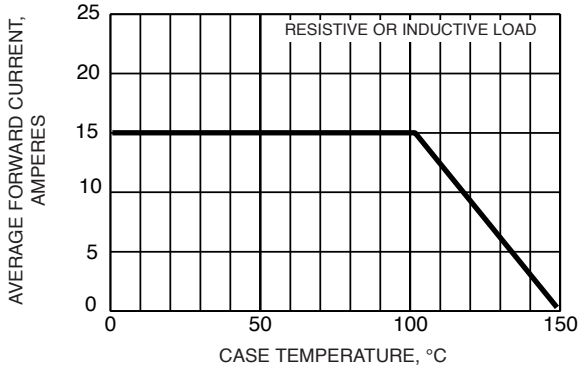


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

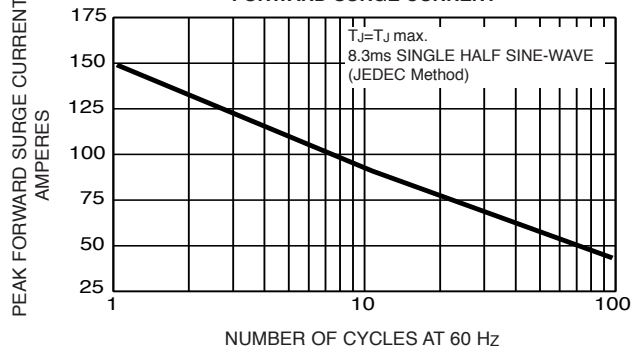


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

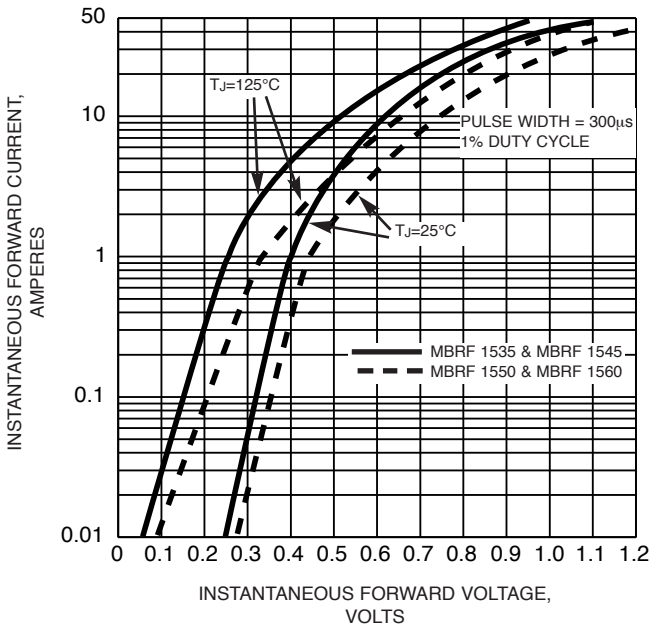


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

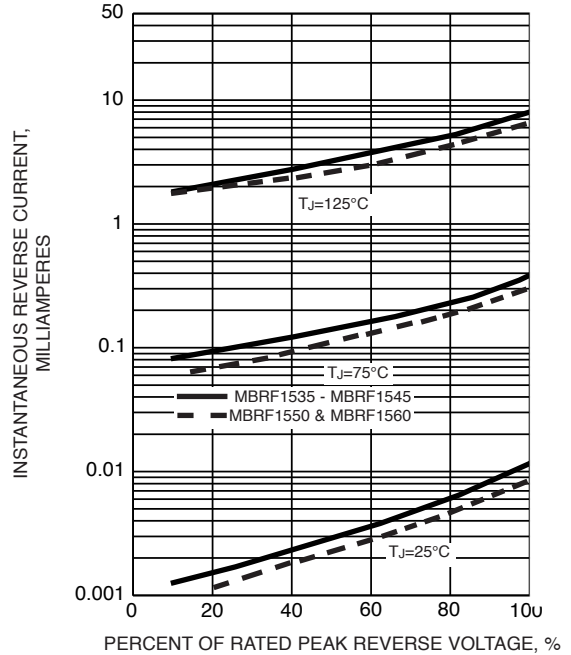


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

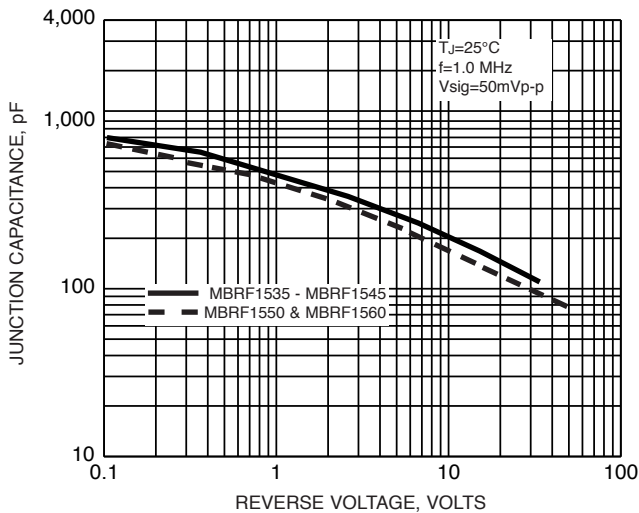


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

