

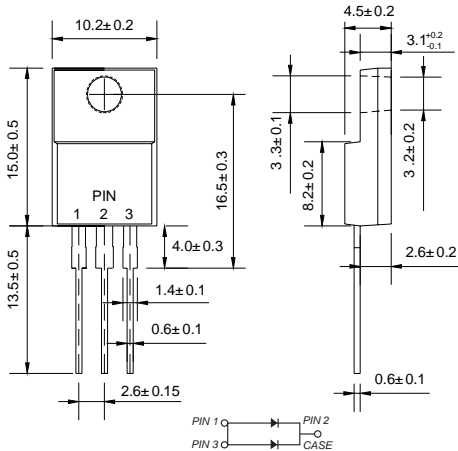


# MBRF3020CT THRU MBRF30100CT

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 100 Volts Forward Current - 30.0 Amperes

### ITO-220AB



Dimensions in inches and (millimeters)

### FEATURES

- ◆ High surge capacity.
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ◆ Metal silicon junction, majority carrier conduction.
- ◆ High current capability, low forward voltage drop.
- ◆ Guard ring for over voltage protection.

### MECHANICAL DATA

**Case:** ITO-220AB molded plastic body  
**Terminals:** Leads solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked  
**Mounting Position:** Any  
**Weight:** 0.060 ounce, 1.67 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

MDD Catalog Number	SYMBOLS	MBRF 3020CT	MBRF 3030CT	MBRF 3040CT	MBRF 3045CT	MBRF 3050CT	MBRF 3060CT	MBRF 3070CT	MBRF 3080CT	MBRF 3090CT	MBRF 30100CT	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	45	50	60	70	80	90	100	VOLTS
Maximum RMS voltage	$V_{RMS}$	14	21	28	32	35	42	49	56	63	70	VOLTS
Maximum DC blocking voltage	$V_{DC}$	20	30	40	45	50	60	70	80	90	100	VOLTS
Maximum average forward rectified current (see fig.1)	$I_{(AV)}$	30.0										Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	250.0										Amps
Maximum instantaneous forward voltage at 15.0A	$V_F$	0.55			0.75			0.85			Volts	
Maximum DC reverse current at rated DC blocking voltage	$I_R$	15.0			50.0			1.0			mA	
Typical junction capacitance (NOTE 1)	$C_J$	750			500						pF	
Typical thermal resistance (NOTE 2)	$R_{\theta JC}$				2.0						°C/W	
Operating junction temperature range	$T_J$	-55 to +125			-55 to +150						°C	
Storage temperature range	$T_{STG}$				-55 to +150						°C	

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

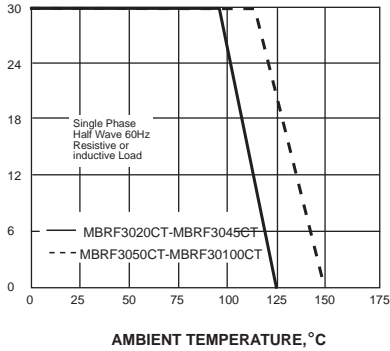
2. Thermal resistance from junction to case



# RATINGS AND CHARACTERISTIC CURVES MBRF3020CT THRU MBRF30100CT

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

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

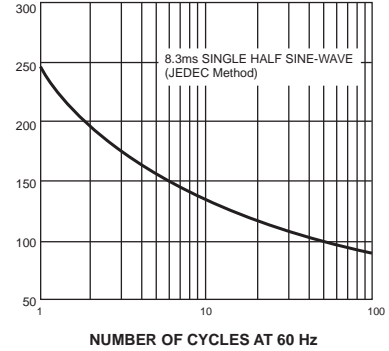
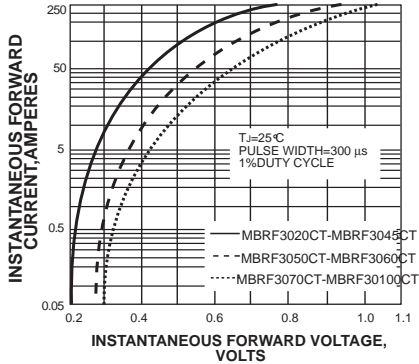


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

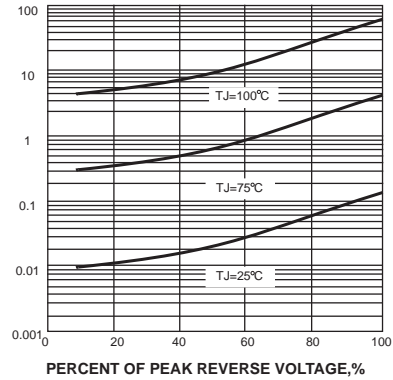
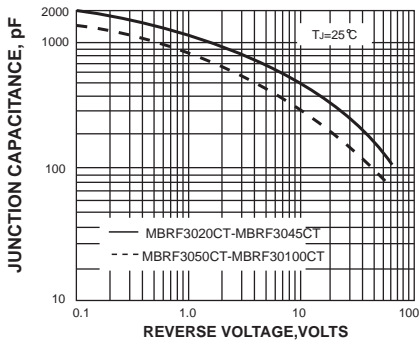
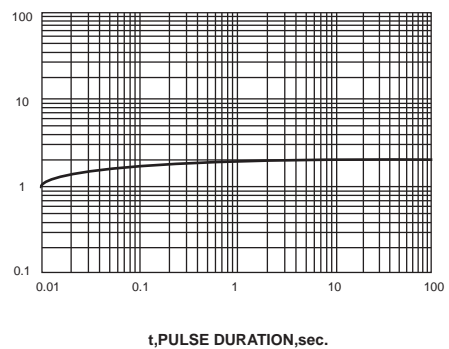


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  $^{\circ}\text{C}/\text{W}$

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!



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