



# MBRF2020CT THRU MBRF20100CT

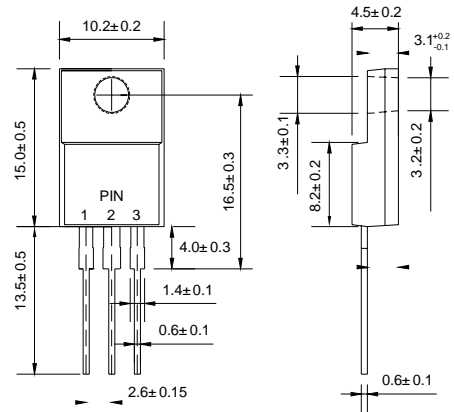
Reverse Voltage - 20 to 100 Volts Forward Current - 20.0 Ampere

## SCHOTTKY BARRIER RECTIFIER

### 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.

ITO-220AB



0.195 (4.95)



Dimensions in inches and (millimeters)

### Mechanical Data

**Case** : JEDEC TO-220AB Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.080 ounce, 2.24 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%.

Parameter	SYMBOLS	MDD	MDD	MDD	MDD	MDD	MDD	MDD	MDD	MDD	MDD	UNITS
		MBRF 2020CT	MBRF 2030CT	MBRF 2040CT	MBRF 2045CT	MBRF 2050CT	MBRF 2060CT	MBRF 2070CT	MBRF 2080CT	MBRF 2090CT	MBRF 20100CT	
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	45	50	60	70	80	90	100	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	32	35	42	49	56	63	70	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	45	50	60	70	80	90	100	V
Maximum average forward rectified current (see fig.1)	$I_{(AV)}$	20.0										A
Peak forward surge current 8.3ms single half sine-wave	$I_{FSM}$	150										A
Maximum instantaneous forward voltage at 10.0A	$V_F$	0.55			0.75			0.85			V	
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	1.0					50.0					mA
Typical junction capacitance (NOTE 1)	$C_J$	550					450					pF
Typical thermal resistance (NOTE 2)	$R_{\theta JC}$	2.0										$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-50 to +125					-50 to +150					$^\circ\text{C}$
storage temperature range	$T_{STG}$	-50 to +150										$^\circ\text{C}$

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

2. Thermal resistance from junction to case.



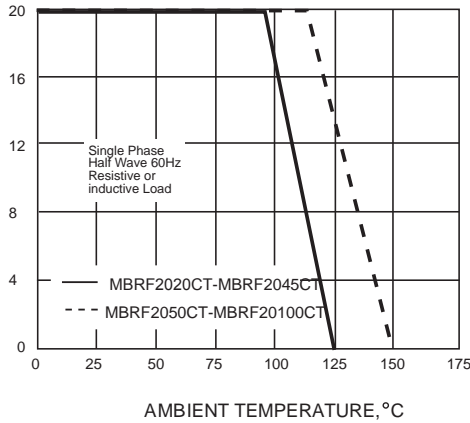
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Reverse Voltage - 20 to 100 Volts Forward Current - 20.0 Ampere

## Ratings And Characteristic Curves

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

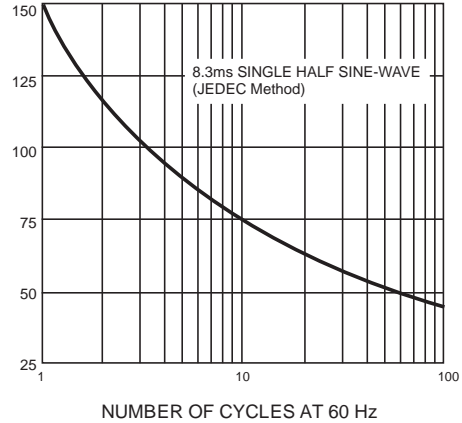
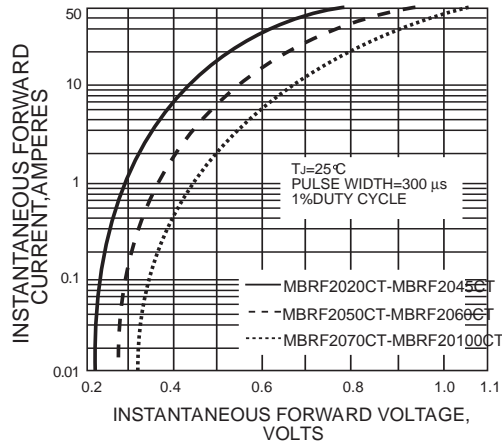


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

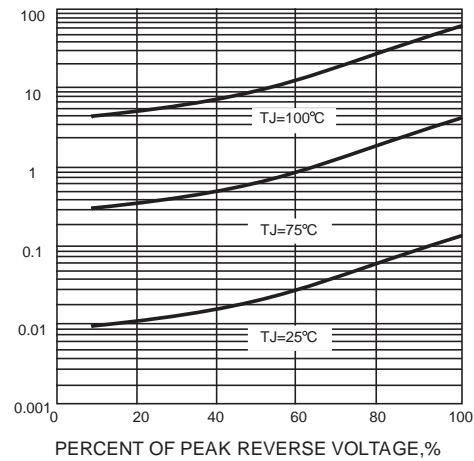
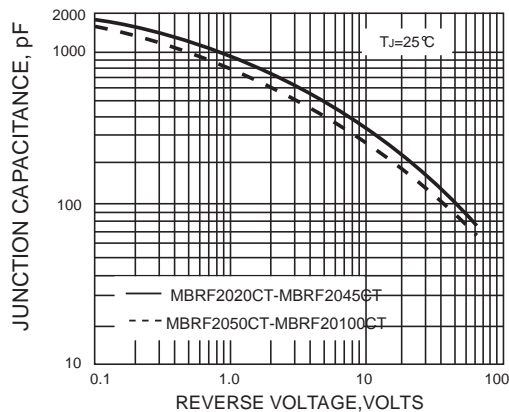
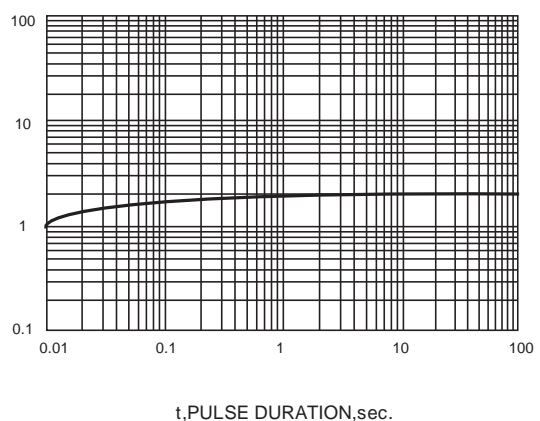


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.