



# MBRF1020CT THRU MBRF10100CT

Reverse Voltage - 20 to 100 Volts Forward Current - 10.0 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.

### Mechanical Data

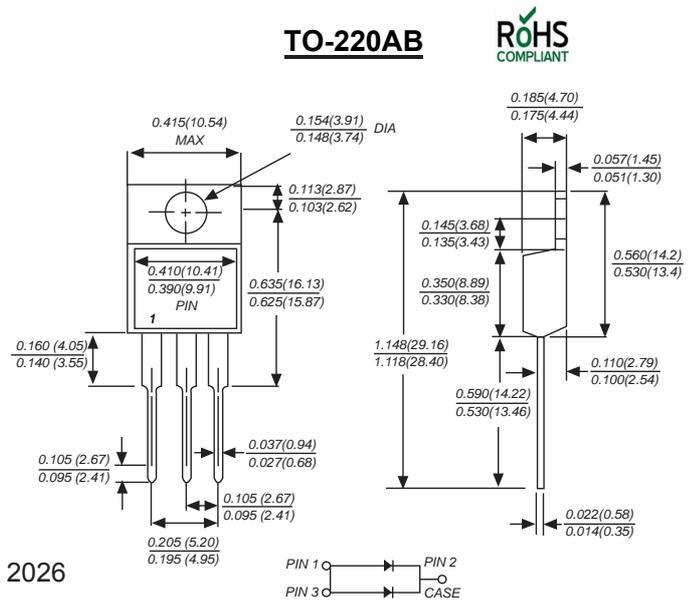
**Case** : JEDEC TO-220AB Molded plastic body

**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	MBRF	UNITS									
		1020CT	1030CT	1040CT	1045CT	1050CT	1060CT	1070CT	1080CT	1090CT	10100CT	
Marking Code		MDD MBRF 1020CT	MDD MBRF 1030CT	MDD MBRF 1040CT	MDD MBRF 1045CT	MDD MBRF 1050CT	MDD MBRF 1060CT	MDD MBRF 0170CT	MDD MBRF 1080CT	MDD MBRF 1090CT	MDD MBRF 10100CT	
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)	$I_{(AV)}$	10.0										A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150										A
Maximum instantaneous forward voltage at 5.0A	$V_F$	0.55			0.75		0.85					V
Maximum DC reverse current at rated DC blocking voltage	$I_R$	1.0										mA
		15.0			50.0							
Typical junction capacitance (NOTE 1)	$C_J$	550			450					pF		
Typical thermal resistance (NOTE 2)	$R_{\theta JC}$	2.0										°C/W
Operating junction temperature range	$T_J$	-50 to +125					-50 to +150					°C
storage temperature range	$T_{STG}$	-50 to +150										°C

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

2. Thermal resistance from junction to case.



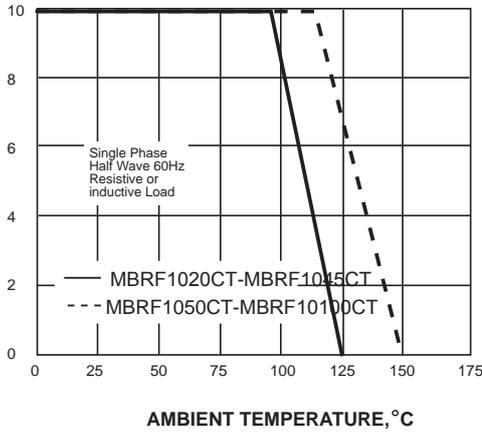
# MBRF1020CT THRU MBRF10100CT

Reverse Voltage - 20 to 100 Volts Forward Current - 10.0 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

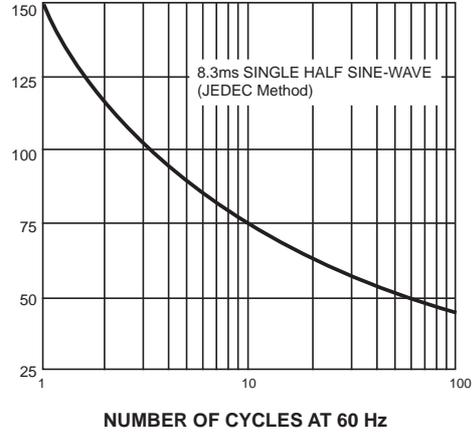
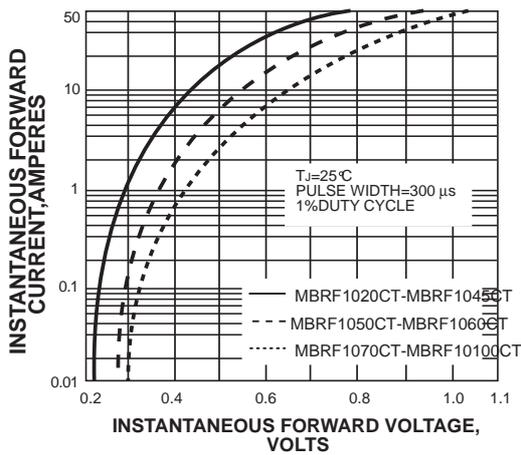
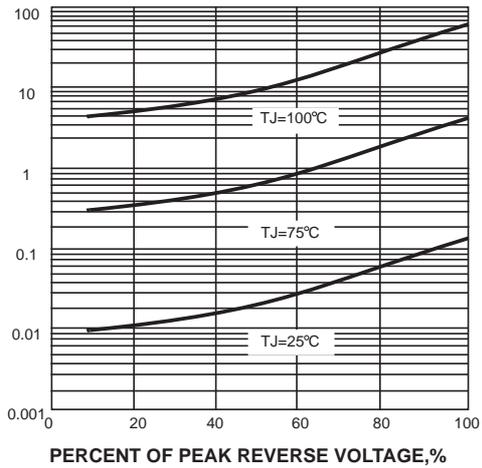


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



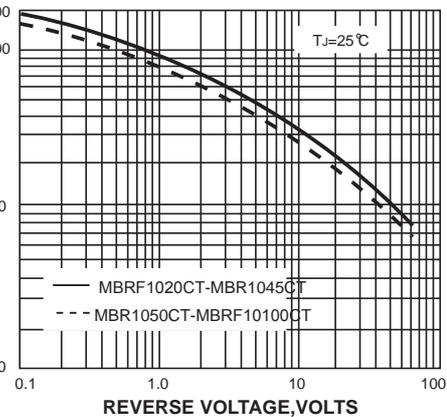
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



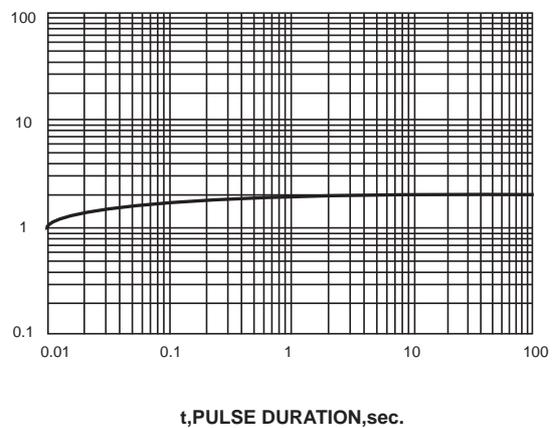
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.