



# MBR1020CT THRU MBR10100CT

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

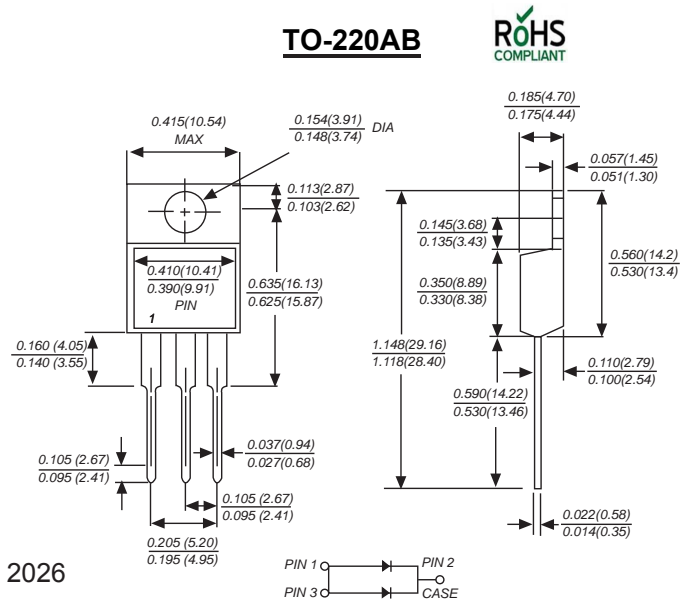
## SCHOTTKY BARRIER RECTIFIER

### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Construction utilizes void-free molded plastic technique
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C, 0.25" (6.35mm) from case for 10 seconds

### 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



Dimensions in inches and (millimeters)

### 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	MBR 1020CT	MBR 1030CT	MBR 1040CT	MBR 1045CT	MBR 1050CT	MBR 1060CT	MBR 1070CT	MBR 1080CT	MBR 1090CT	MBR 10100CT	UNITS
		MDD MBR 1020CT	MDD MBR 1030CT	MDD MBR 1040CT	MDD MBR 1045CT	MDD MBR 1050CT	MDD MBR 1060CT	MDD MBR 0170CT	MDD MBR 1080CT	MDD MBR 1090CT	MDD MBR 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 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										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										$^\circ\text{C}/\text{W}$
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.



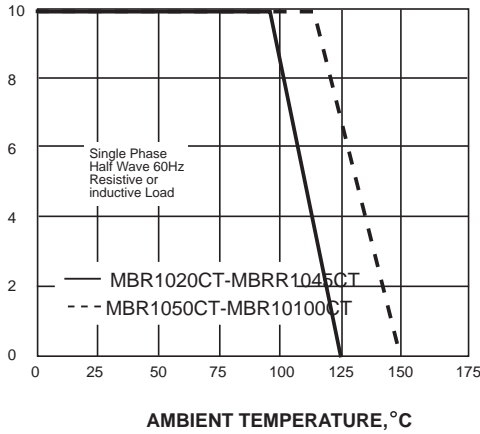
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## Ratings And Characteristic Curves

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

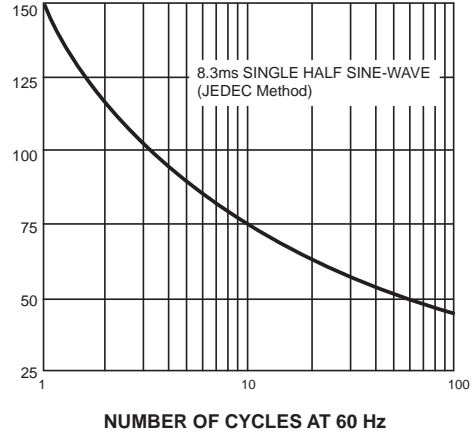
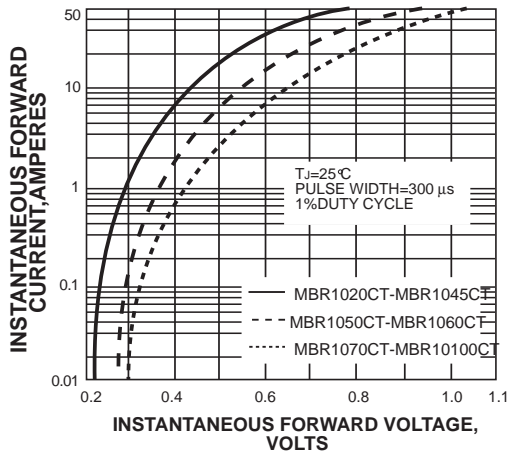


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

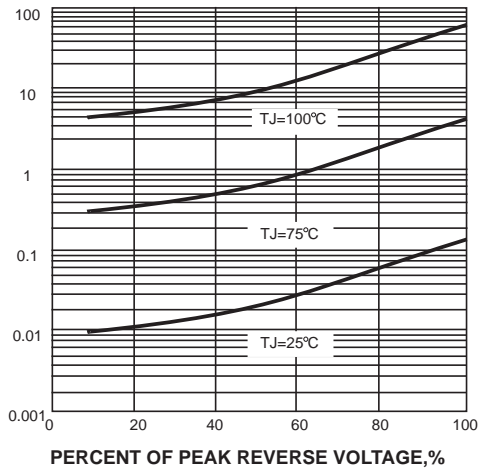
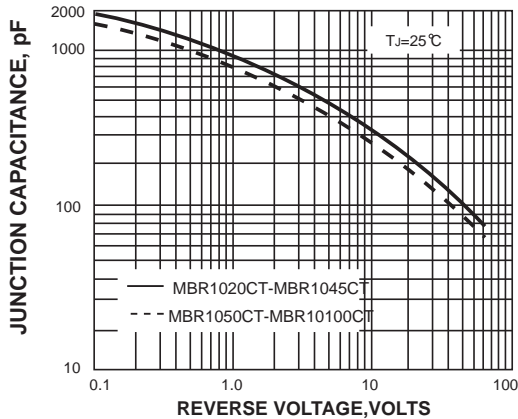
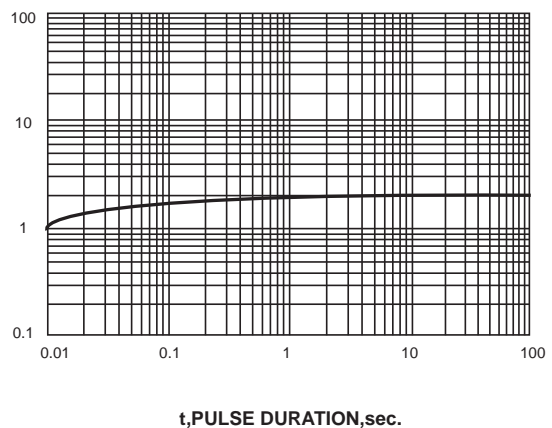


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.