



MBR1020CT THRU MBR10100CT

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

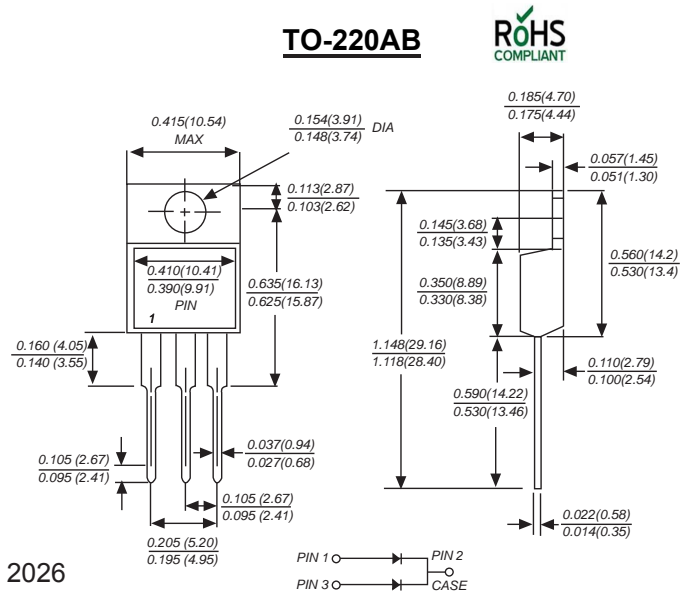
SCHOTTKY BARRIER RECTIFIER

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



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
		MBR 1020CT	MBR 1030CT	MBR 1040CT	MBR 1045CT	MBR 1050CT	MBR 1060CT	MBR 1070CT	MBR 1080CT	MBR 1090CT	MBR 10100CT	
Marking Code												
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 $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	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

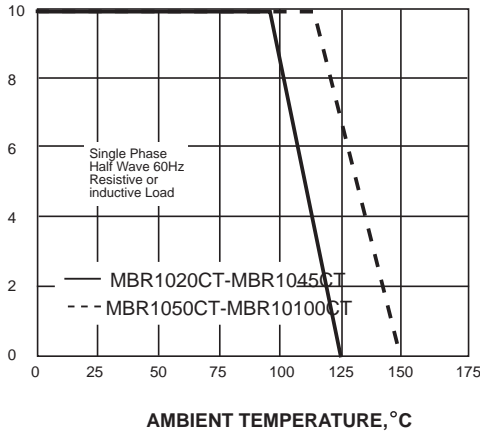


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

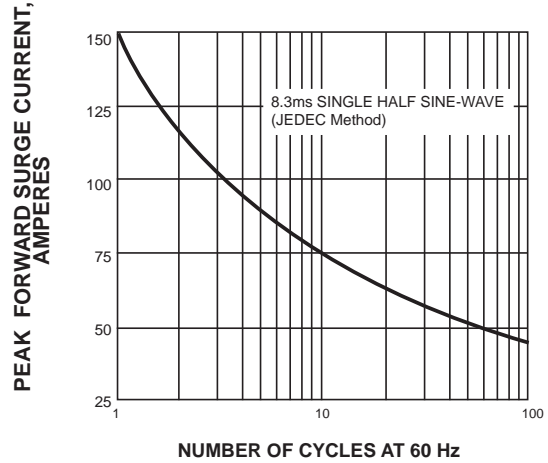


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

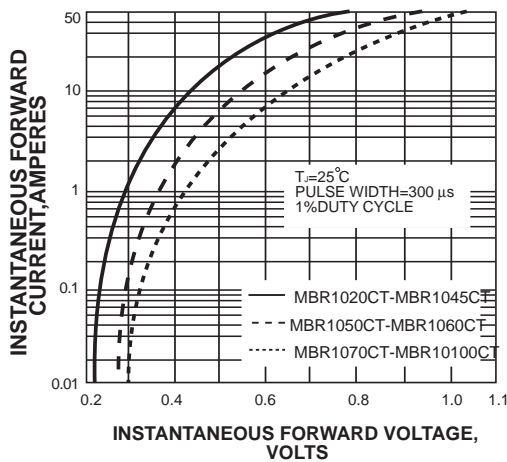


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

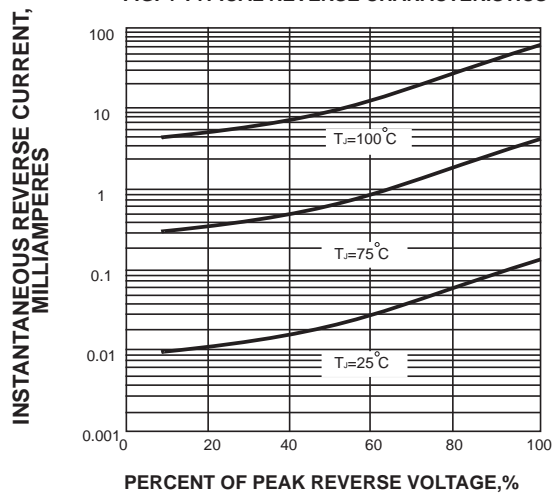
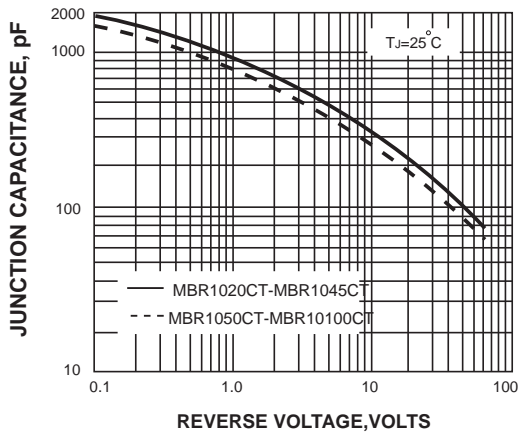
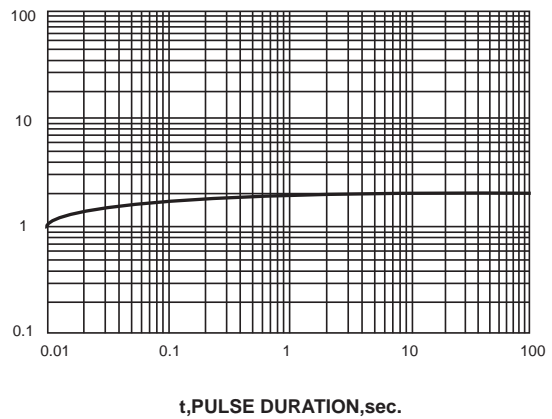


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.