



MBRF3020CT THRU MBRF30100CT

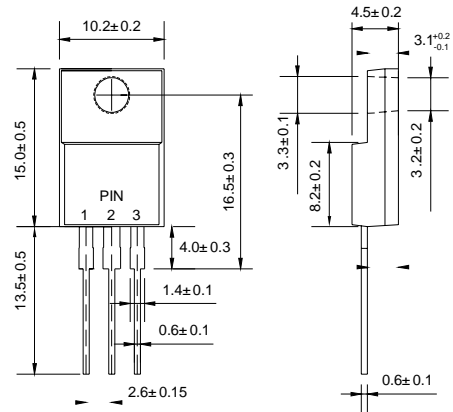
Reverse Voltage - 20 to 100 Volts Forward Current - 30.0 Ampere

SCHOTTKY BARRIER RECTIFIER

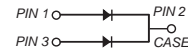
Features

- ◆ 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 3020CT	MBRF 3030CT	MBRF 3040CT	MBRF 3045CT	MBRF 3050CT	MBRF 3060CT	MBRF 3070CT	MBRF 3080CT	MBRF 3090CT	MBRF 30100CT	
Maximum repetitive peak reverse voltage	V_{RMM}	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)	$I_{(AV)}$	30.0										A
Peak forward surge current 8.3ms single half sine-wave	I_{FSM}	250										A
Maximum instantaneous forward voltage at 15.0A	V_F	0.55			0.75			0.85			V	
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ C$ $T_A=100^\circ C$	I_R	1.0					50.0					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	-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.



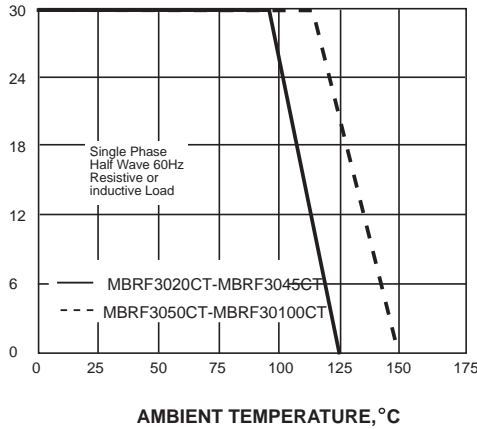
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Reverse Voltage - 20 to 100 Volts Forward Current - 30.0 Ampere

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

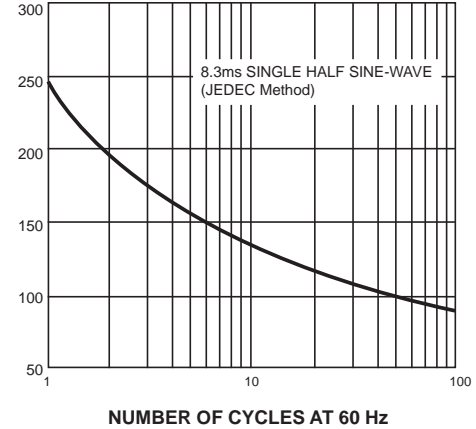


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

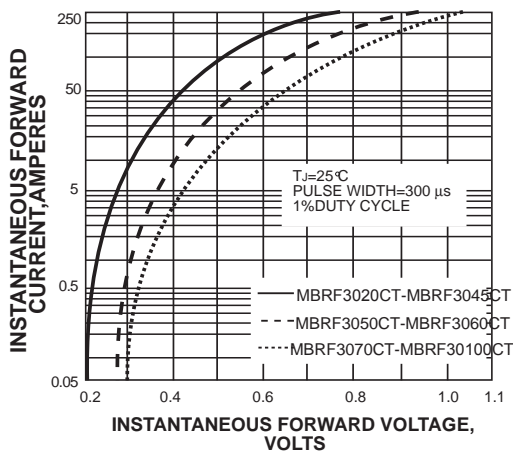


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

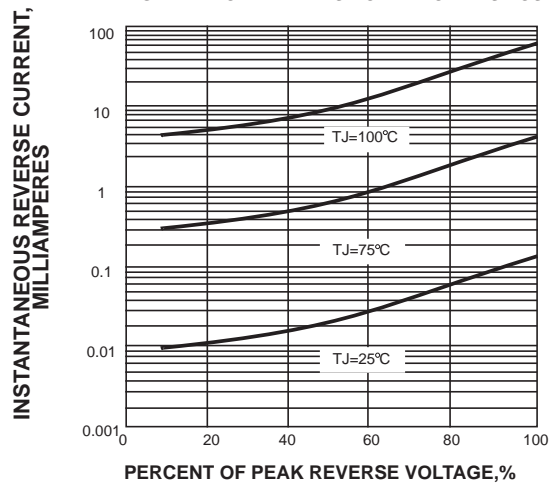
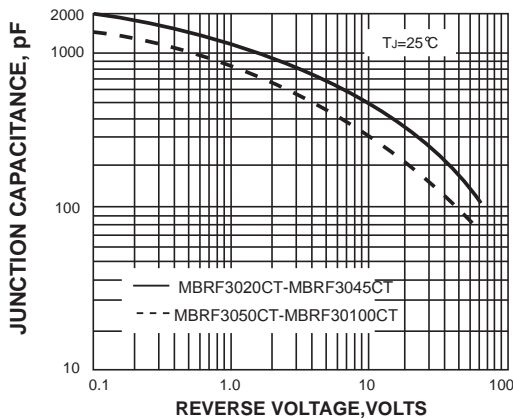
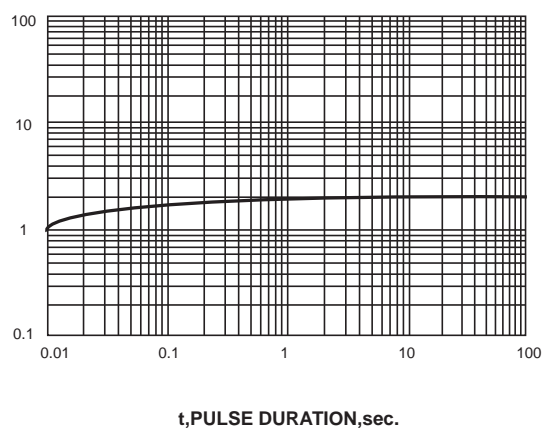


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.