



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



Mechanical Data

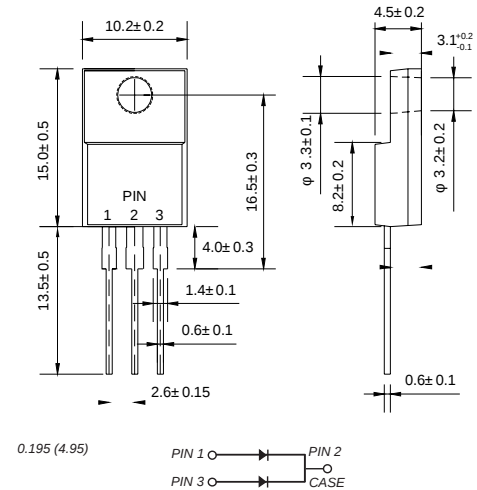
Case : JEDEC TO-220AB Molded plastic body

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	MDD MBRF 3020CT	MDD MBRF 3030CT	MDD MBRF 3040CT	MDD MBRF 3045CT	MDD MBRF 3050CT	MDD MBRF 3060CT	MDD MBRF 3070CT	MDD MBRF 3080CT	MDD MBRF 3090CT	MDD MBRF 30100CT	UNITS
Marking Code												
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℃ T _A =100℃	I _R	1.0										mA
		15.0					50.0					
Typical junction capacitance (NOTE 1)	C _J	750					500					pF
Typical thermal resistance (NOTE 2)	R _{θJc}	2.0										℃/W
Operating junction temperature range	T _J	-50 to +125					-50 to +150					℃
storage temperature range	T _{STG}	-50 to +150										℃

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

2. Thermal resistance from junction to case.



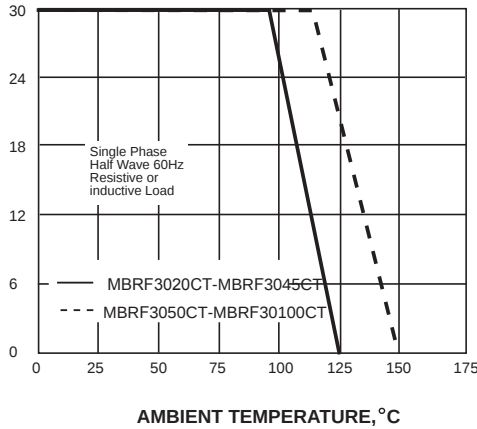
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Ratings And Characteristic Curves

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

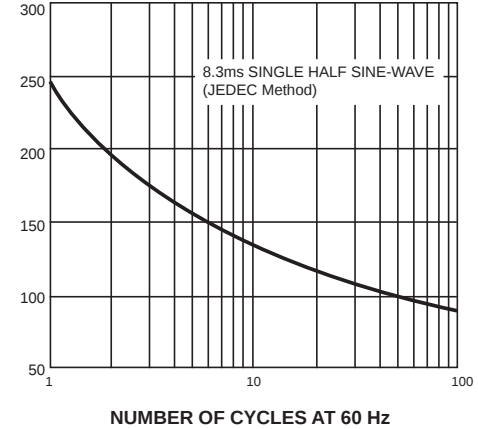
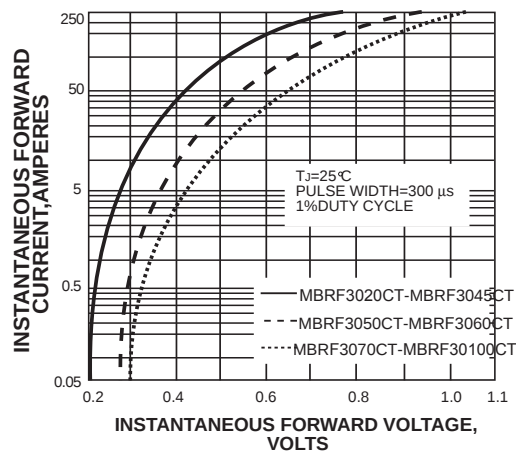


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,
MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

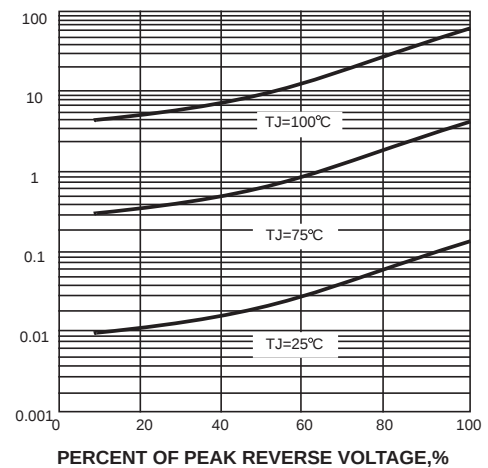
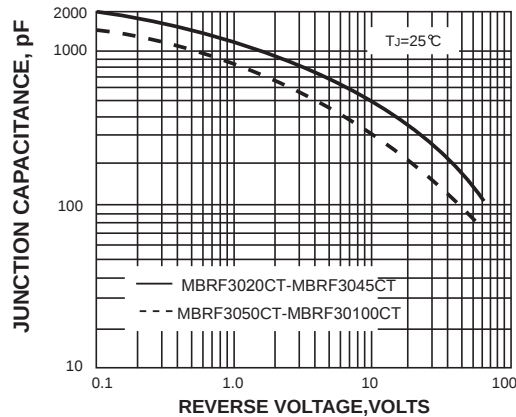
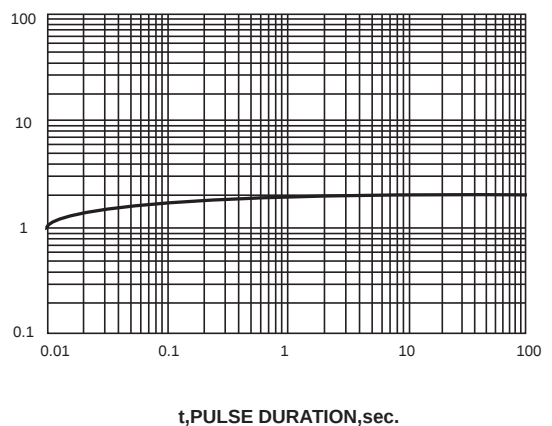


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.