



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.

ITO-220AB



Mechanical Data

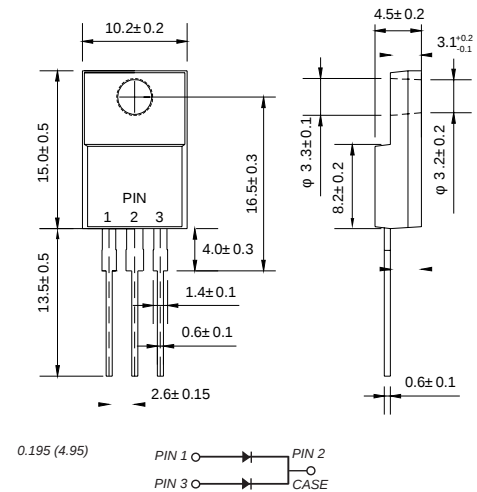
Case : JEDEC TO-220AB Molded plastic body

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 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	UNITS	
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 onrated 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 _{θJc}	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.



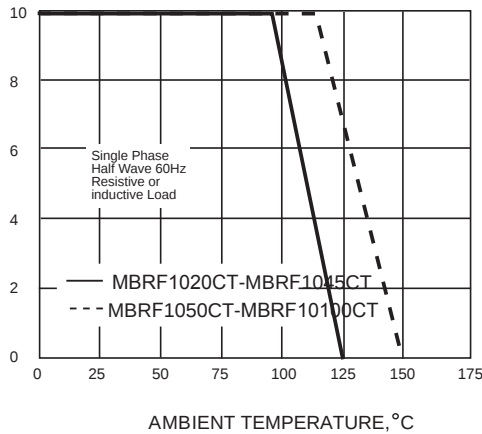
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Ratings And Characteristic Curves

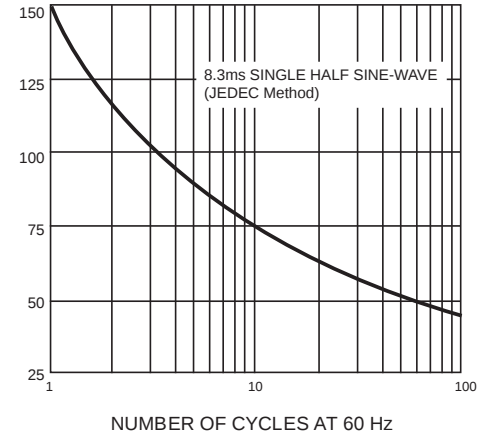
AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



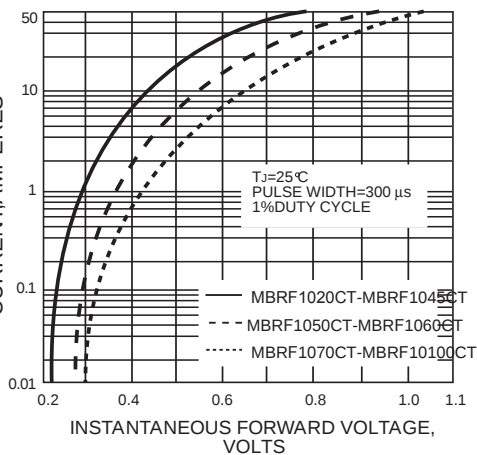
PEAK FORWARD SURGE CURRENT,
AMPERES

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



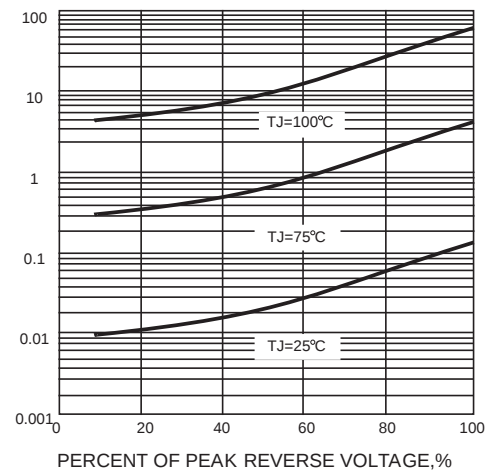
INSTANTANEOUS FORWARD
CURRENT,AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



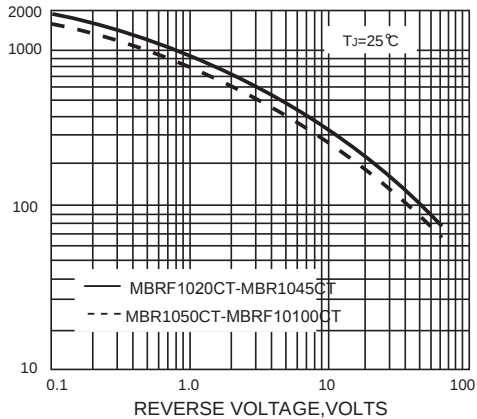
INSTANTANEOUS REVERSE CURRENT,
MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



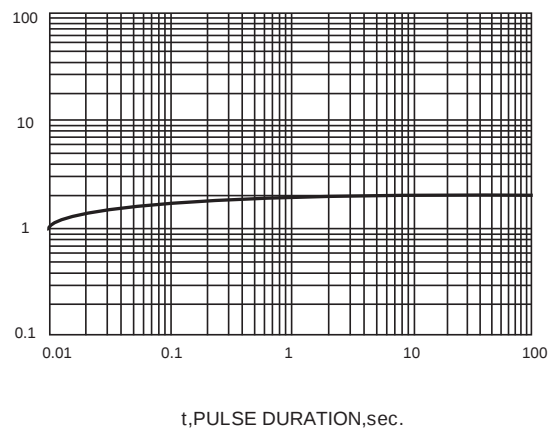
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.