



MBRF2035CT THRU MBRF20200CT

Isolation 20.0 AMPS. Schottky Barrier Rectifiers



Voltage Range
35 to 200 Volts
Current
20.0 Amperes

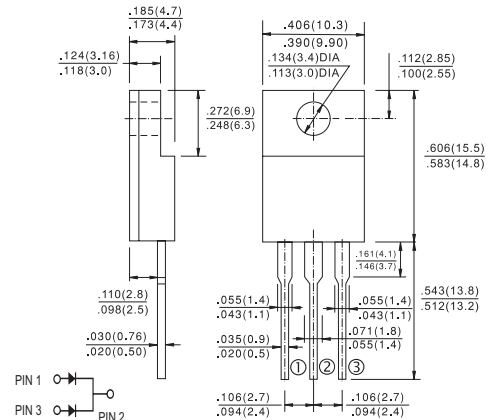
Features

- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.25"(6.35mm) from case

Mechanical Data

- ✧ Cases: ITO-220AB molded plastic
- ✧ Terminals: Leads solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 0.08 ounce, 2.24 grams

ITO-220AB



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	MBRF 2035 CT	MBRF 2045 CT	MBRF 2050 CT	MBRF 2060 CT	MBRF 20100 CT	MBRF 20150 CT	MBRF 20200 CT	Units	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	35	45	50	60	100	150	200	V	
Maximum RMS Voltage	V _{RMS}	24	31	35	42	70	105	140	V	
Maximum DC Blocking Voltage	V _{DC}	35	45	50	60	100	150	200	V	
Maximum Average Forward Rectified Current at T _C =135°C Total device Per Leg	I _(AV)	20 10							A	
Peak Repetitive Forward Current Per leg (Rated V _R , Square Wave, 20KHz) at Tc=135°C	I _{FRM}	20.0							A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	150							A	
Peak Repetitive Reverse Surge Current (Note 1)	I _{RRM}	1.0			0.5				A	
Maximum Instantaneous Forward Voltage at (Note 2) I _F =10A, Tc=25°C I _F =10A, Tc=125°C I _F =20A, Tc=25°C I _F =20A, Tc=125°C	V _F	— 0.57 0.84 0.72			0.80 0.70 0.95 0.85		0.85 0.75 0.95 0.85		0.99 0.87 1.23 1.10	
Maximum Instantaneous Reverse Current @ Tc=25°C at Rated DC Blocking Voltage @ Tc=125°C	I _R	0.1 15.0			0.15 150.0				mA	
Voltage Rate of Change, (Rated V _R)	dV/dt	10,000							V/uS	
Typical Thermal Resistance Per Leg (Note 3) R θ JC	R θ JC	1.5				3.5				°C/W
Typical Junction Capacitance	C _j	400			310					pF
RMS Isolation Voltage (MBRF Type Only) from Terminals to Heatsink with t=1.0 Second, RH ≤30%	V _{ISO}	4500 (Note 4) 3500 (Note 5) 1500 (Note 6)							V	
Operating Junction Temperature Range T _J	T _J	-65 to +150							°C	
Storage Temperature Range T _{STG}	T _{STG}	-65 to +175							°C	

Notes: 1. 2.0us Pulse Width, $f=1.0$ KHz

2. Pulse Test: 300us Pulse Width, 1% Duty Cycle

3. Thermal Resistance from Junction to Case Per Leg, with Heatsink Size (4"x6"x0.25") Al-Plate

4. Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset.

5. Clip Mounting (on case), where leads do overlap heatsink.

6. Screw Mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19")

RATINGS AND CHARACTERISTIC CURVES (MBRF2035CT THRU MBRF20200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

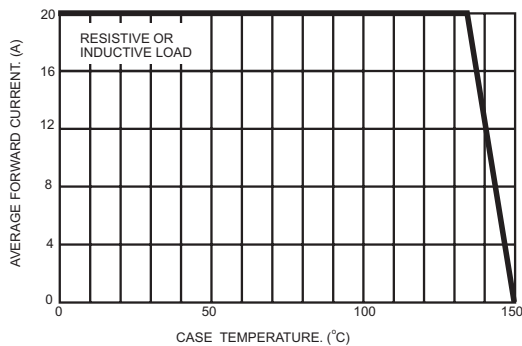


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

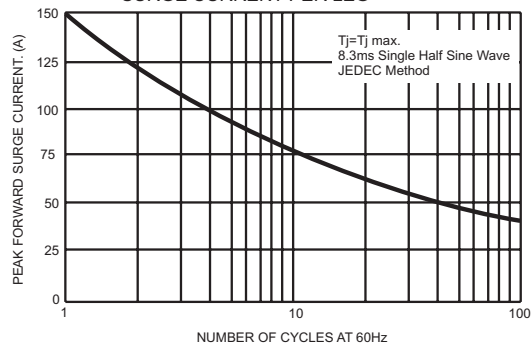


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

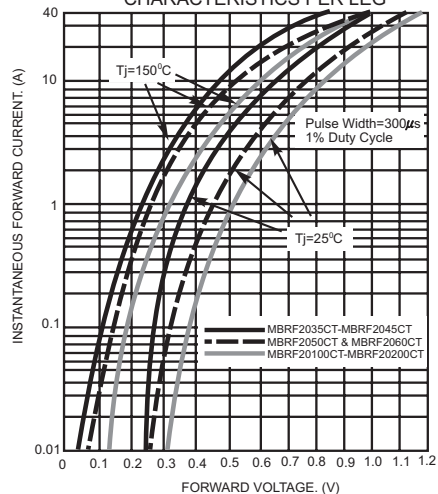


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

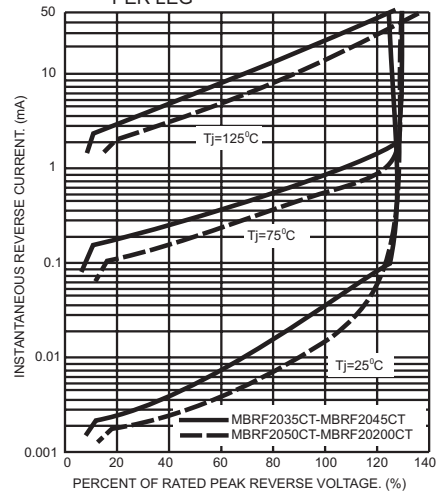


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

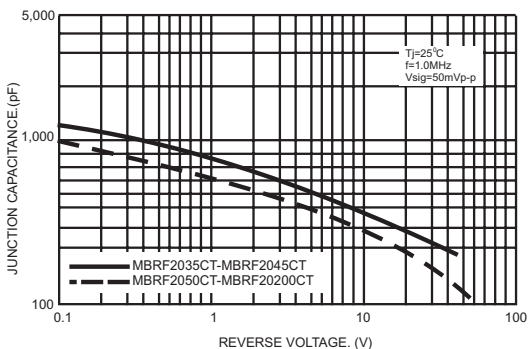


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

