

MBRF3035CT - MBRF30150CT

Isolated 30.0 AMPS. Schottky Barrier Rectifiers

ITO-220AB

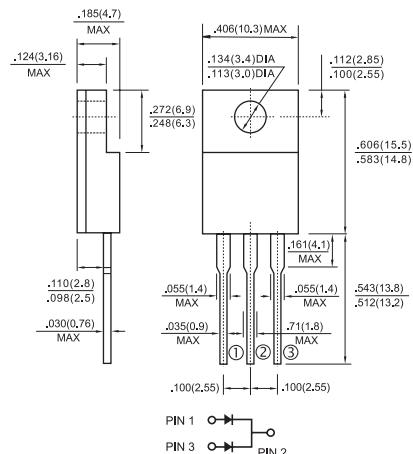


Features

- ✧ 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 body
- ✧ Terminals: Pure tin plated, lead free. 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



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 3035 CT	MBRF 3045 CT	MBRF 3050 CT	MBRF 3060 CT	MBRF 3090 CT	MBRF 30100 CT	MBRF 30150 CT	Units	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	35	45	50	60	90	100	150	V	
Maximum Working Peak Reverse Voltage	V _{RMS}	24	31	35	42	63	70	105	V	
Maximum DC Blocking Voltage	V _{DC}	35	45	50	60	90	100	150	V	
Maximum Average Forward Rectified Current at T _C =130°C Total device Per Leg	I _(AV)	30 15							A	
Peak Repetitive Forward Current Per leg (Rated V _R , Square Wave, 20KHz) at T _C =130°C	I _{FRM}	30							A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	200							A	
Peak Repetitive Reverse Surge Current (Note 1)	I _{RRM}	1.0			0.5				A	
Maximum Instantaneous Forward Voltage at (Note 2) I _F =15A, T _C =25°C I _F =15A, T _C =125°C I _F =30A, T _C =25°C I _F =30A, T _C =125°C	V _F	0.70 0.60 0.82 0.73		0.75 0.65 — —		0.84 0.70 0.94 0.82		0.95 0.80 1.05 0.92	V	
Maximum Instantaneous Reverse Current @ T _C =25°C at Rated DC Blocking Voltage Per Leg @ T _C =125°C (Note 2)	I _R	0.2 20		0.2 15		0.2 10			mA mA	
Voltage Rate of Change, (Rated V _R)	dV/dt	1,000							V/μS	
Typical Junction Capacitance	C _J	580		480		360			pF	
Maximum Thermal Resistance Per Leg (Note 3)	R _{θJC}	1.0				1.5				°C/W
Operating Junction Temperature Range	T _J	-65 to +150							°C	
Storage Temperature Range	T _{STG}	-65 to +175							°C	

- Notes:
- 2.0us Pulse Width, f=1.0 KHz
 - Pulse Test: 300us Pulse Width, 1% Duty Cycle
 - Thermal Resistance from Junction to Case Per Leg, with Heatsink size (4"x6"x0.25") Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBRF3035CT THRU MBRF30150CT)

FIG.1- FORWARD CURRENT DERATING CURVE

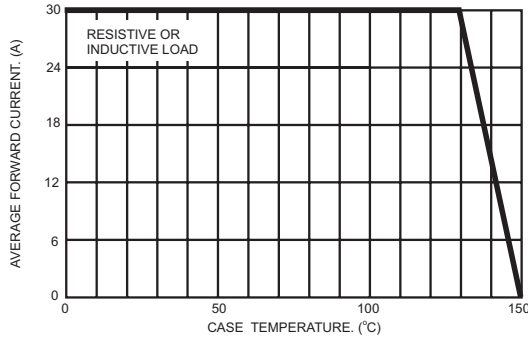


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

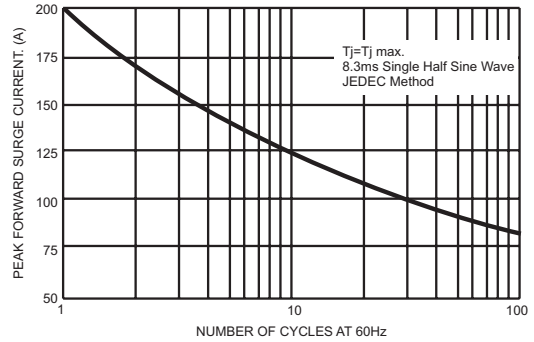


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

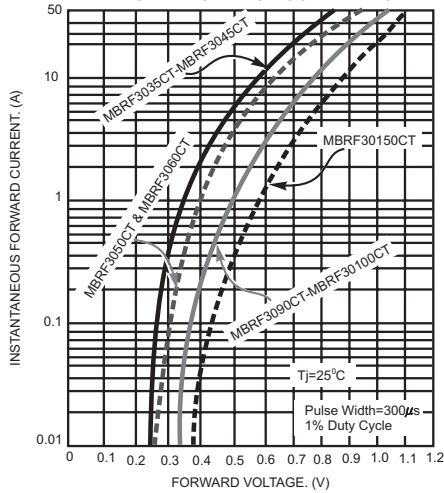


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

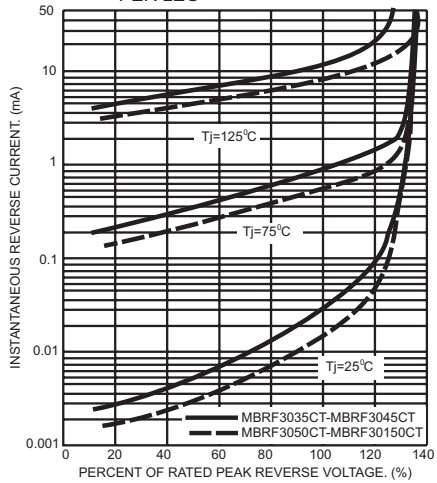


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

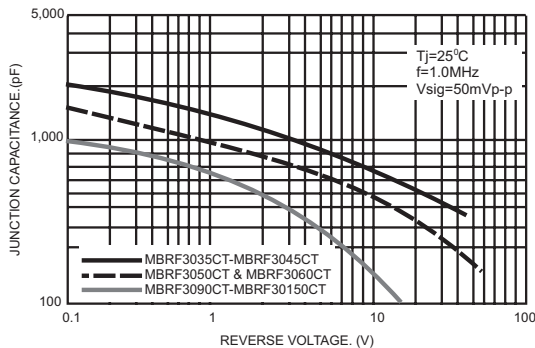


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

