MBRF2035CT THRU MBRF20200CT

SCHOTTKY BARRIER RECTIFIER

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HORNBY ELECTRONIC

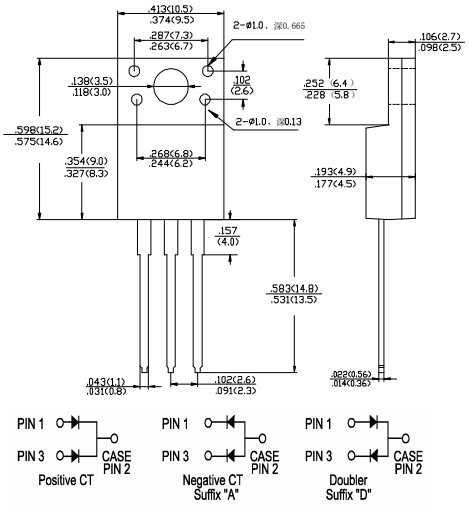
REVERSE VOLTAGE: **35 to 200 VOLTS**

FORWARD CURRENT: **20.0 AMPERE**

FEATURES

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

ITO-220



Dimensions in inchs and (millimeters)

MECHANICAL DATA

Case: Molded plastic, ITO-220
Epoxy: UL 94V-O rate flame retardant
Terminals: Leads solderable per MIL-STD-750 method 2026 guaranteed
Polarity: As marked
Mounting position: Any
Mounting torque: 5 in. - lbs. max
Weight: 0.08ounce, 2.24gram

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60H_Z, resistive or inductive load.
For capacitive load, derate current by 20%.

	Symbols	*MBRF 2035CT*	*MBRF 2045CT*	*MBRF 2050CT*	*MBRF 2060CT*	*MBRF 2080CT*	*MBRF 20100CT*	*MBRF 20150CT*	*MBRF 20200CT*	Units
Maximum Recerrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	80	100	150	200	**Volts**
Maximum RMS Voltage	V_{RMS}	24	31	35	42	56	70	105	140	**Volts**
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	80	100	150	200	**Volts**
Maximum Average Forward Total device	$I_{(AV)}$	20.0								**Amp**
Rectified Current at T_C = 135°C Per Leg		10.0								
Peak Repetitive Forward Current (sq. wave, 20 KHz) at T_C = 135°C	I_{FRM}	20.0								**Amp**
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150								**Amp**
Peak Repetitive Reverse Surge Rurrent (Note 1)	I_{RRM}	1.0		0.5						**Amp**
at I_F = 10A, T_C = 25°C	V_F	0.70		0.80		0.85		0.95		**Volts**
Maximum Forwar(at I_F = 10A, T_C = 125°C		0.57		0.70		0.75		0.85		
Voltage (Note 2) at I_F = 20A, T_C = 25°C		0.84		0.95		0.95		1.05		
at I_F = 20A, T_C = 125°C		0.72		0.85		0.85		0.95		
Maximum Reverse Current at T_C=25℃	I_R	0.1								**mAmp**
at Rated DC Blocking Voltage T_C=125℃		15		10		5		2		
Voltage rate of change (rated V_R)	dv/dt	10,000								**V/μs**
Typical Junction Capacitance	C_J	400		310						**pF**
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	1.5				3.5				**℃/W**
RMS Isolation Voltage (MBRF Type Only) from Terminals to Heatsink with t=1.0 Second, RH ≦30%	V_{ISO}	4500 (Note 4)								**Volts**
		3500 (Note 5)								
		1500 (Note 6)								
Operating Temperature Range	T_J	-65 to +150								**℃**
Storage Temperature Range	Tstg	-65 to +175								**℃**

NOTES:

1- 2.0μs Pulse Width, f = 1.0 KHz
2- Pulse Test: 300μs 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”)

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- FORWARD CURRENT DERATING CURVE

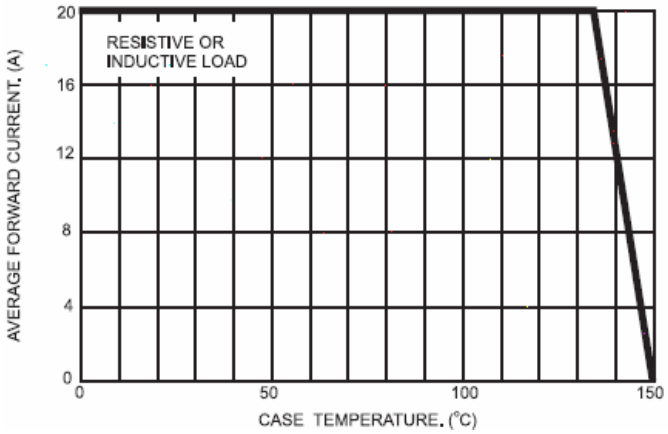

FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

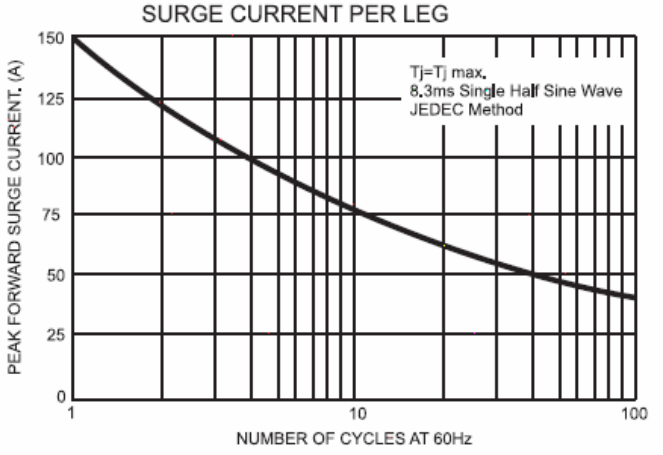

FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

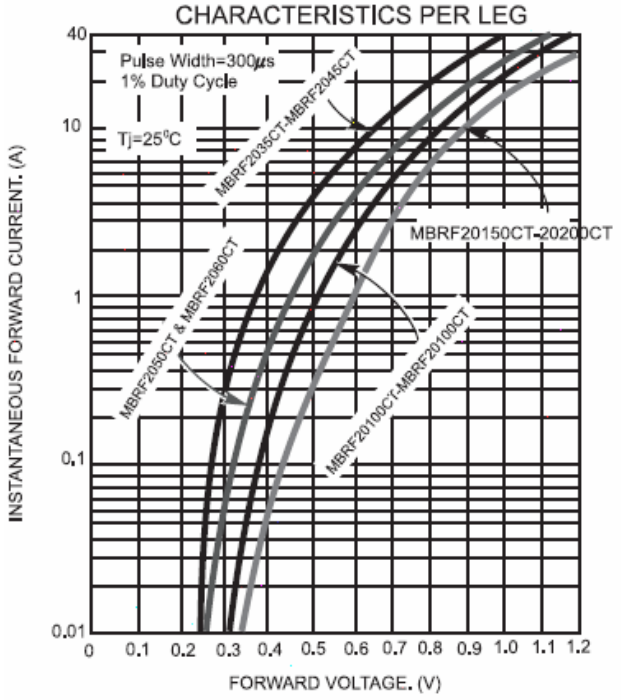

FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

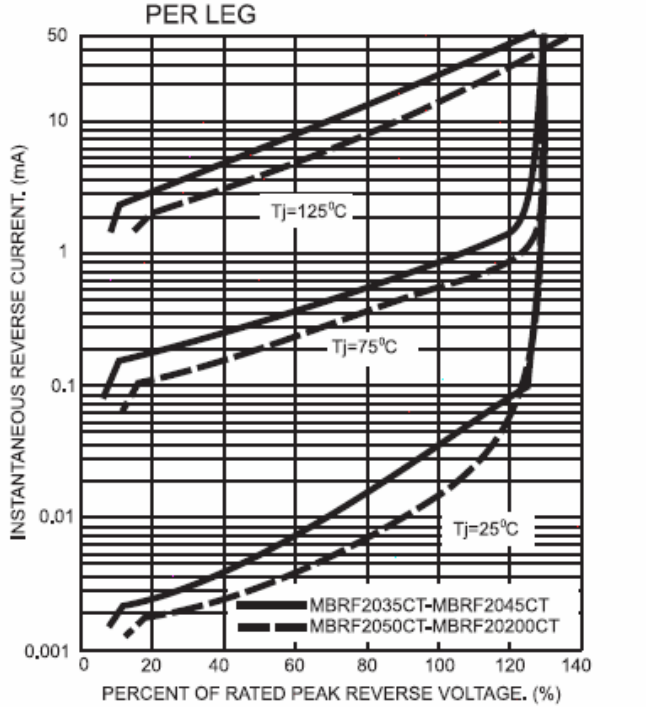

FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

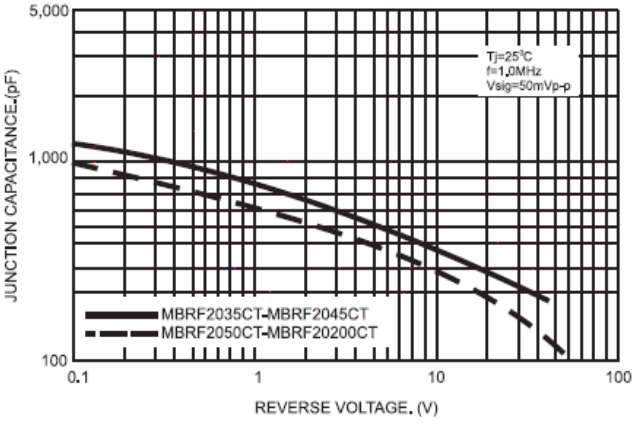

FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG