

MBR1035CT THRU MBR10200CT



SCHOTTKY BARRIER RECTIFIER

REVERSE VOLTAGE: 35 to 200 VOLTS
FORWARD CURRENT: 10.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- For use in low voltage, high frequency inverters, free whelling, and polarity protection applications
- High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case

MECHANICAL DATA

Case: Molded plastic, TO-220

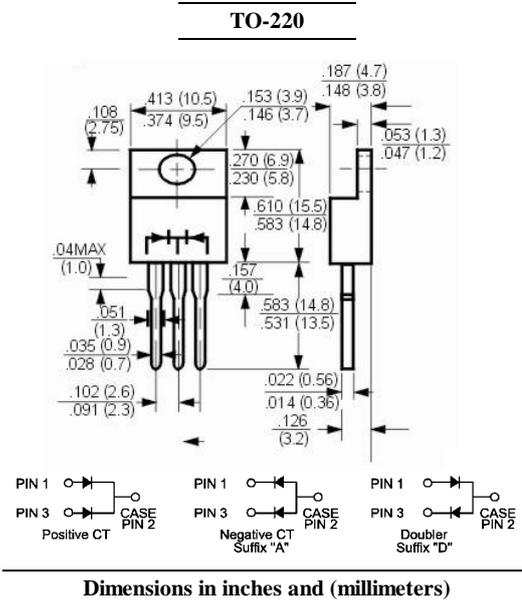
Epoxy: UL 94V-O rate flame retardant

Terminals: Leads solderable per MIL-STD-202 method 208 guaranteed

Polarity: As marked

Mounting position: Any

Weight: 0.08ounce, 2.24gram



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, derate current by 20%.

	Symbols	MBR1035CT	MBR1045CT	MBR1050CT	MBR1060CT	MBR1080CT	MBR10100CT	MBR10150CT	MBR10200CT	Units
Maximum Recurrent 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}	20	30	40	50	80	100	150	200	Volts
Maximum Average Forward Rectified Current at $T_C = 105^\circ\text{C}$	$I_{(AV)}$	10.0								Amp
Peak repetitive forward current at $T_C = 105^\circ\text{C}$ (rated VR, sq. wave, 20 KHz)	I_{FRM}	10.0								Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	125								Amp
Peak repetitive reverse current at $t_p = 2.0\mu\text{s}$, 1KHz	I_{RRM}	1.0			0.5				Amp	
Maximum Forward Voltage (Note 1)	V_F	at $I_F = 5.0\text{A}$, $T_C = 25^\circ\text{C}$		0.70		0.80		0.95		Volts
		at $I_F = 5.0\text{A}$, $T_C = 125^\circ\text{C}$		0.57		0.65		0.75		
		at $I_F = 10\text{A}$, $T_C = 25^\circ\text{C}$		0.80		0.90		0.98		
at $I_F = 10\text{A}$, $T_C = 125^\circ\text{C}$		0.67		0.75		0.85		0.88		
Maximum Reverse Current at Rated DC Blocking Voltage	I_R	0.1								mAmp
		at $T_C = 25^\circ\text{C}$		15		10		2		
Typical Thermal Resistance	$R_{\theta JC}$	1.5								°C/W
Operating Temperature Range	T_J	-55 to +150								°C
Storage Temperature Range	T_{stg}	-55 to +150								°C

NOTES:

1- Pulse test: 300μs pulse width, 1% duty cycle

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- FORWARD CURRENT DERATING CURVE

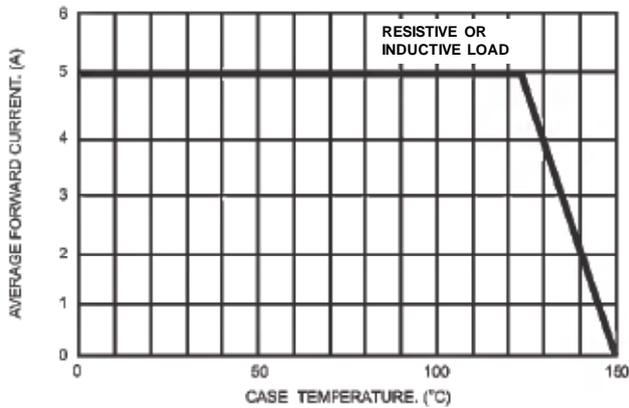


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



FIG.3- TYPICAL FORWARD CHARACTERISTICS

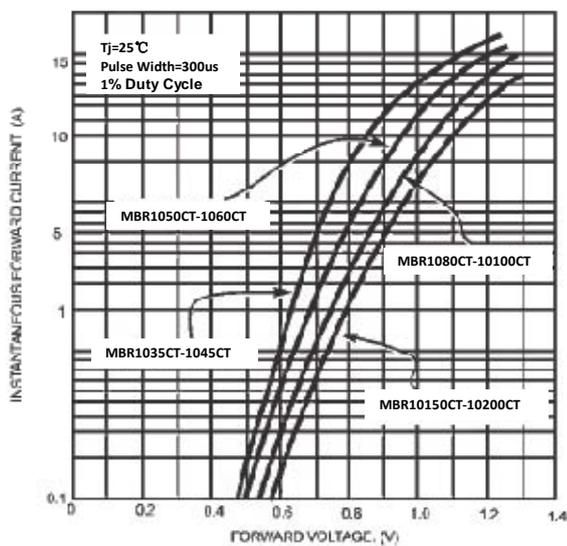


FIG.4- TYPICAL REVERSE CHARACTERISTICS

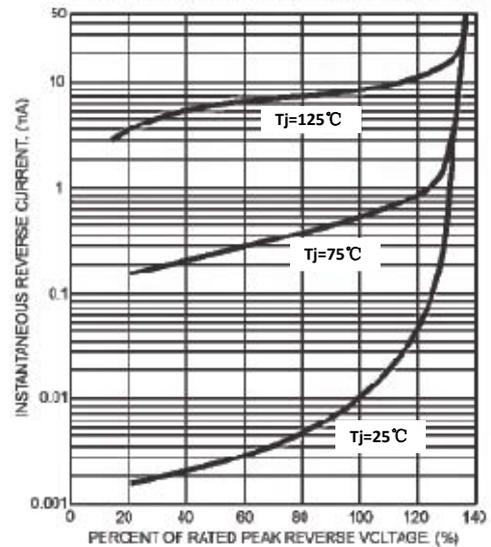


FIG.5- TYPICAL JUNCTION CAPACITANCE

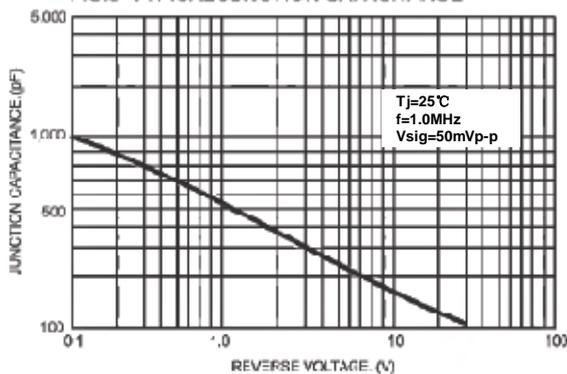


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

