

MBRS1035CT THRU MBRS1060CT



SCHOTTKY BARRIER RECTIFIER

REVERSE VOLTAGE: 35 to 60 VOLTS
FORWARD CURRENT: 10.0 AMPERE

FEATURES

- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low forward voltage drop
- Low power loss, high efficiency
- High current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed:
260°C/10 seconds, 0.25" (6.35mm) from case

MECHANICAL DATA

Case: Molded plastic, TO-220

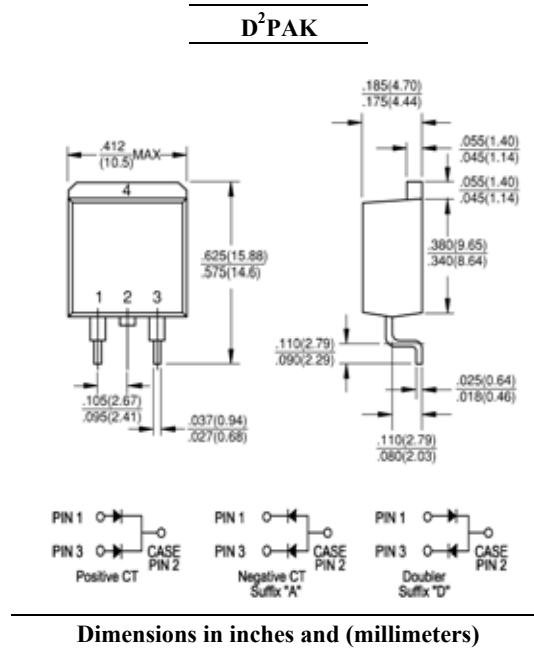
Epoxy: UL 94V-O rate flame retardant

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	MBRS1035CT	MBRS1045CT	MBRS1050CT	MBRS1060CT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	Volts
Maximum RMS Voltage	V_{RMS}	24	31	35	42	Volts
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	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 V_R , 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		Volts
		at $I_F = 5.0\text{A}$, $T_C = 125^\circ\text{C}$		0.57		
		at $I_F = 10\text{A}$, $T_C = 25^\circ\text{C}$		0.84		
Maximum Reverse Current at Rated DC Blocking Voltage	I_R	at $T_C = 25^\circ\text{C}$		0.1		mAmp
		at $T_C = 125^\circ\text{C}$		15		
Voltage rate of change (rated V_R)	dv/dt	10,000				V/ μs
Typical Thermal Resistance	$R_{\theta JC}$	3.0				/W
Operating Temperature Range	T_J	-55 to +150				
Storage Temperature Range	T_{stg}	-55 to +175				

NOTES:

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

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RATINGS AND CHARACTERISTIC CURVES

Fig. 1 - Forward Current Derating Curve

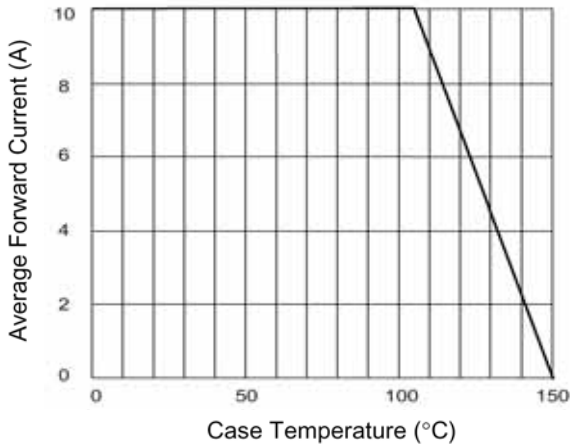


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

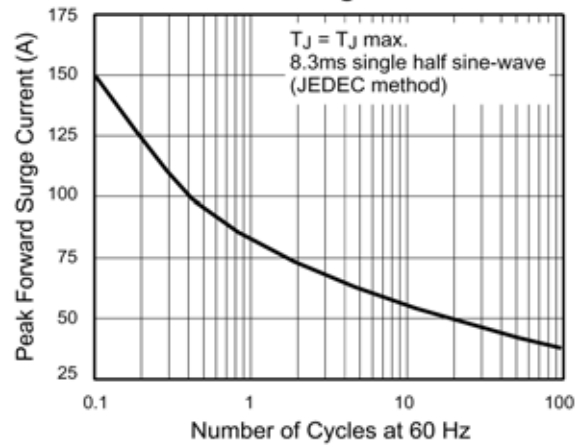


Fig. 3 - Typical Instantaneous Forward Characteristics

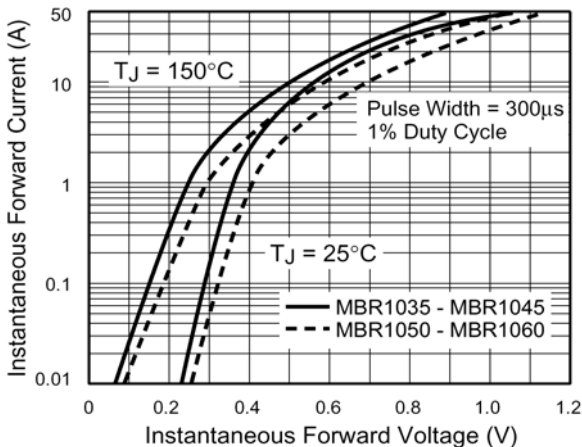


Fig. 4 - Typical Reverse Characteristics

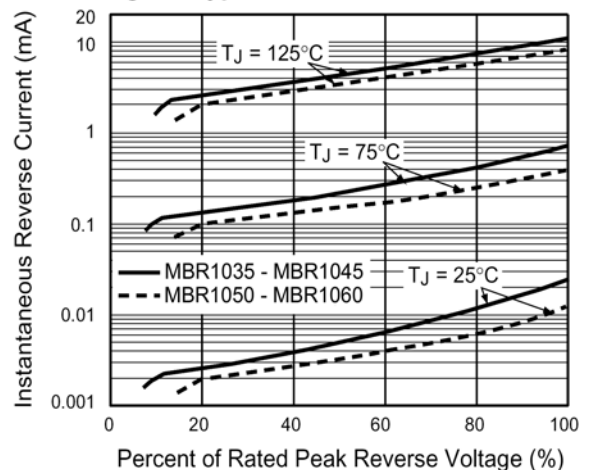


Fig. 5 - Typical Junction Capacitance

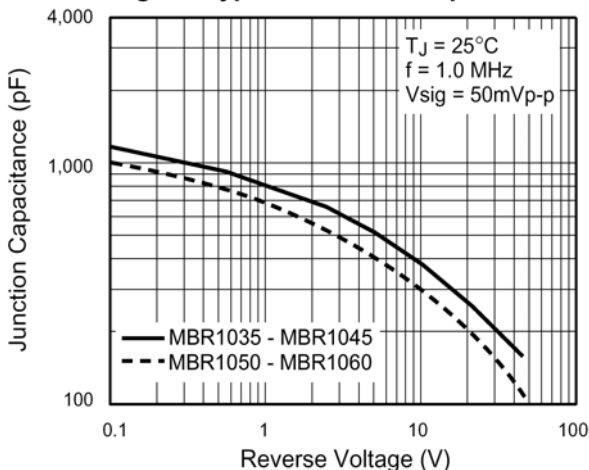


Fig. 6 - Typical Transient Thermal Impedance

