

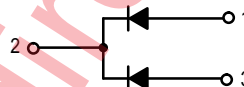
SWITCHMODE™ Schottky Power Rectifier

The SWITCHMODE Power Rectifier employs the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for use as rectifiers in very low-voltage, high-frequency switching power supplies, free wheeling diodes and polarity protection diodes.

- Highly Stable Oxide Passivated Junction
- Very Low Forward Voltage Drop
- Matched Dual Die Construction
- High Junction Temperature Capability
- High dv/dt Capability
- Excellent Ability to Withstand Reverse Avalanche Energy Transients
- Guardring for Stress Protection
- Epoxy Meets UL94, V_O at 1/8"
- Electrically Isolated. No Isolation Hardware Required.
- UL Recognized File #E69369

Mechanical Characteristics

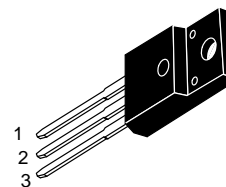
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: B20200



MBRF20200CT

Motorola Preferred Device

**SCHOTTKY BARRIER
RECTIFIER
20 AMPERES
150 and 200 VOLTS**



**CASE 221D-02
ISOLATED TO-220**

MAXIMUM RATINGS, PER LEG

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	200	Volts
Average Rectified Forward Current (Rated V _R) T _C = 125°C	I _{F(AV)}	10 20	Amps
Peak Repetitive Forward Current, Per Leg (Rated V _R , Square Wave, 20 kHz) T _C = 90°C	I _{FRM}	20	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I _{FSM}	150	Amps
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	I _{RSM}	1.0	Amp
Operating Junction Temperature and Storage Temperature	T _J , T _{stg}	-65 to +150	°C
Voltage Rate of Change (Rated V _R)	dv/dt	10,000	V/μs

THERMAL CHARACTERISTICS, PER LEG

Thermal Resistance — Junction to Case	R _{θJC}	3.5	°C/W
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Preferred devices are Motorola recommended choices for future use and best overall value.

MBRF20200CT

ELECTRICAL CHARACTERISTICS, PER LEG

Rating	Symbol	Max	Unit
Maximum Instantaneous Forward Voltage (1) ($i_F = 10$ Amp, $T_C = 25^\circ\text{C}$) ($i_F = 10$ Amp, $T_C = 125^\circ\text{C}$) ($i_F = 20$ Amp, $T_C = 25^\circ\text{C}$) ($i_F = 20$ Amp, $T_C = 125^\circ\text{C}$)	v_F	0.9 0.8 1.0 0.9	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 25^\circ\text{C}$) (Rated dc Voltage, $T_C = 125^\circ\text{C}$)	i_R	1.0 50	mA

DYNAMIC CHARACTERISTICS, PER LEG

Capacitance ($V_R = -5.0$ V, $T_C = 25^\circ\text{C}$, Freq. = 1.0 MHz)	C_T	500	pF
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(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$

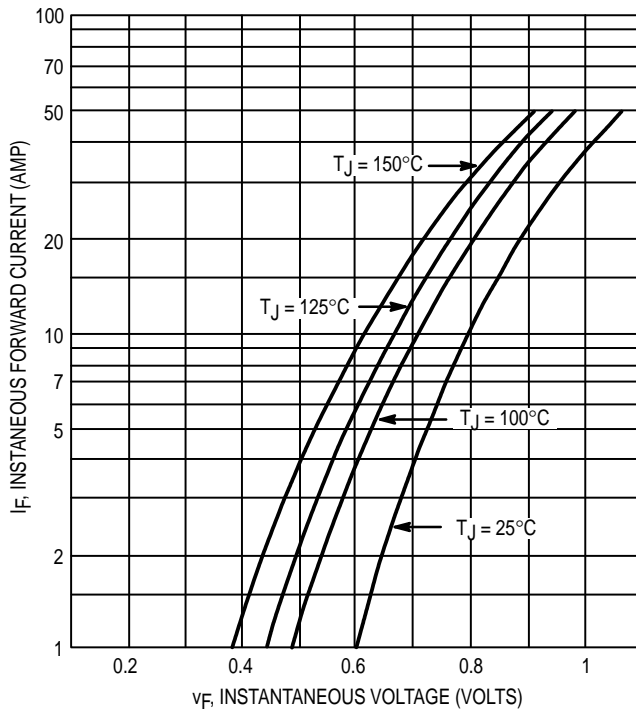


Figure 1. Typical Forward Voltage (Per Leg)

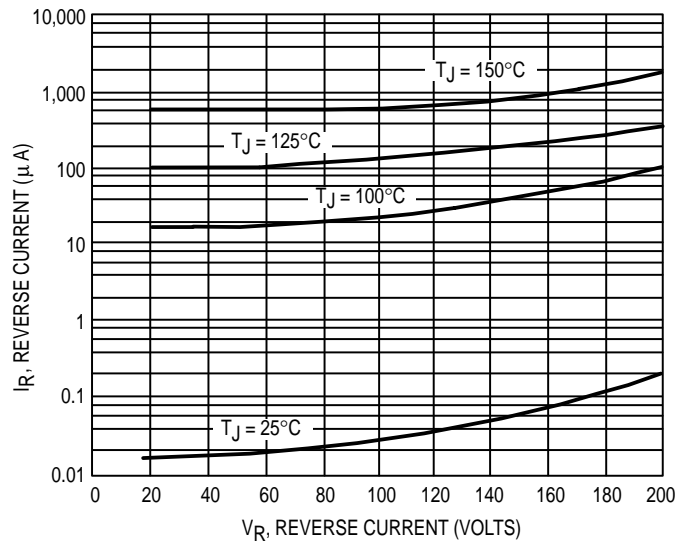
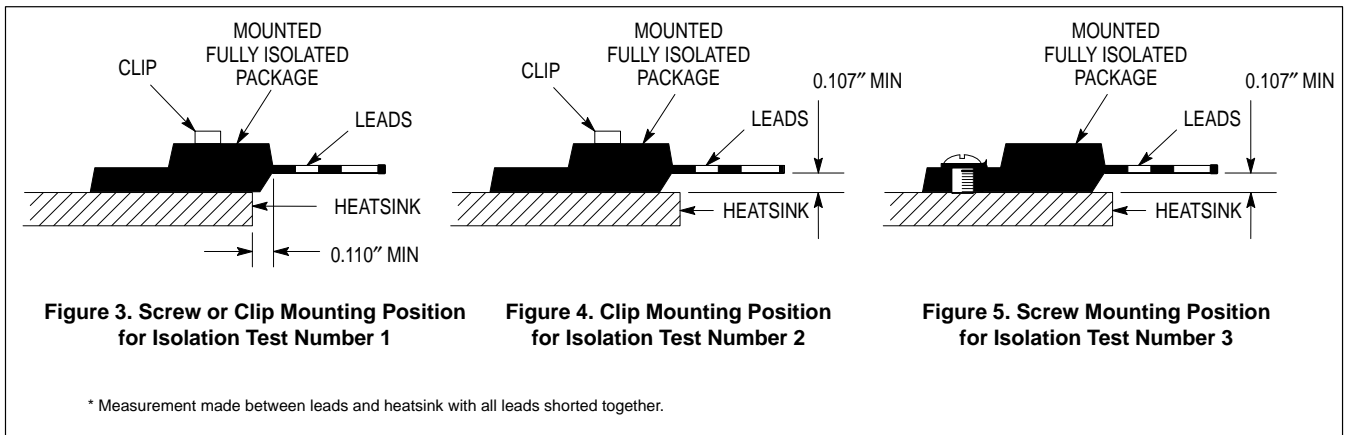
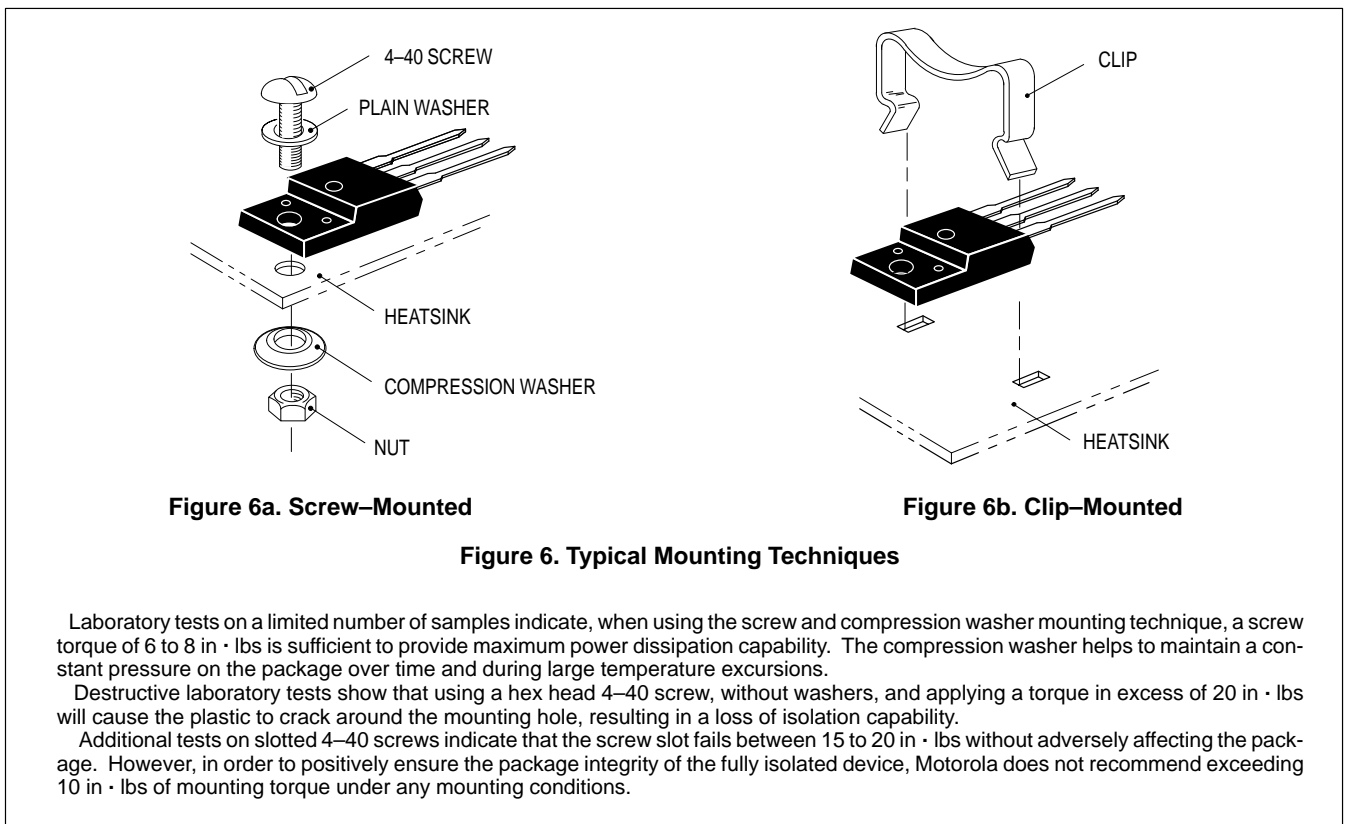


Figure 2. Typical Reverse Current (Per Leg)

TEST CONDITIONS FOR ISOLATION TESTS*

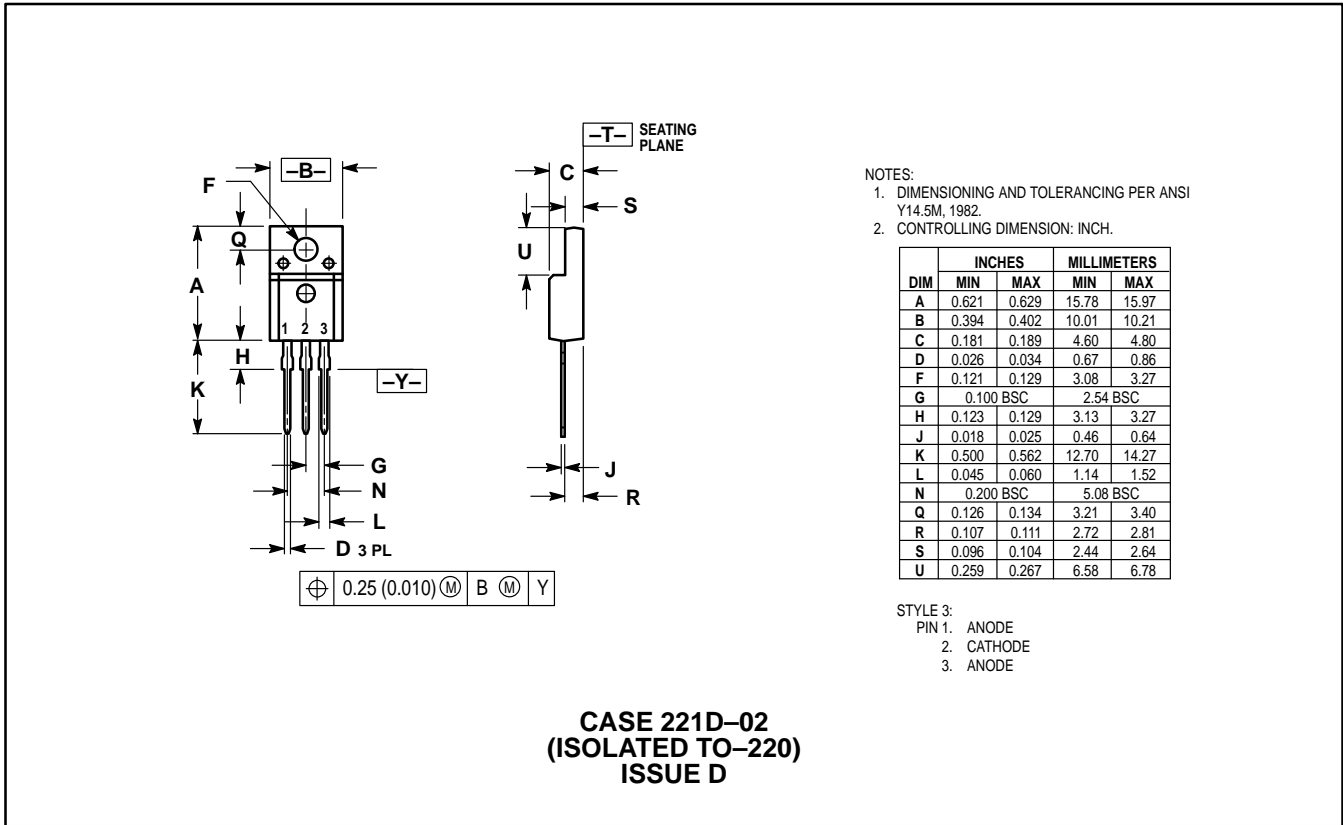


MOUNTING INFORMATION**



**For more information about mounting power semiconductors see Application Note AN1040.

PACKAGE DIMENSIONS



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How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 5405, Denver, Colorado 80217. 303-675-2140 or 1-800-441-2447

JAPAN: Nippon Motorola Ltd.; Tatsumi-SPD-JLDC, 6F Seibu-Butsuryu-Center,
3-14-2 Tatsumi Koto-Ku, Tokyo 135, Japan. 81-3-3521-8315

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 602-244-6609
INTERNET: http://Design-NET.com

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298

