

# SWITCHMODE™ Power

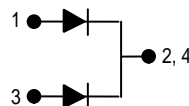
## Dual Schottky Rectifier

... using Schottky Barrier technology with a platinum barrier metal. This state-of-the-art device is designed for use in high frequency switching power supplies and converters with up to 48 volt outputs. They block up to 200 volts and offer improved Schottky performance at frequencies from 250 kHz to 5.0 MHz.

- **200 Volt Blocking Voltage**
- Low Forward Voltage Drop
- Guardring for Stress Protection and High dv/dt Capability (10,000 V/μs)
- Dual Diode Construction — Terminals 1 and 3 Must be Connected for Parallel Operation at Full Rating

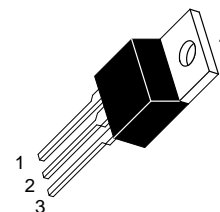
### Mechanical Characteristics

- 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



**MBR20200CT**

**SCHOTTKY BARRIER  
RECTIFIER  
20 AMPERES  
200 VOLTS**



**CASE 221A-06  
(TO-220AB)**

### 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 $V_R$ ) $T_C = 125^\circ\text{C}$ Per Leg Per Package	$I_{F(AV)}$	10 20	Amps
Peak Repetitive Forward Current, Per Leg (Rated $V_R$ , Square Wave, 20 kHz) $T_C = 90^\circ\text{C}$	$I_{FRM}$	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)	$I_{RRM}$	1.0	Amp
Operating Junction Temperature	$T_J$	-65 to +150	°C
Storage Temperature	$T_{stg}$	-65 to +175	°C
Voltage Rate of Change (Rated $V_R$ )	dv/dt	10,000	V/μs

### THERMAL CHARACTERISTICS (PER LEG)

Thermal Resistance — Junction to Case	$R_{\theta JC}$	2.0	°C/W
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### ELECTRICAL CHARACTERISTICS (PER LEG)

Maximum Instantaneous Forward Voltage (1) ( $I_F = 10$ Amps, $T_C = 25^\circ\text{C}$ ) ( $I_F = 10$ Amps, $T_C = 125^\circ\text{C}$ ) ( $I_F = 20$ Amps, $T_C = 25^\circ\text{C}$ ) ( $I_F = 20$ Amps, $T_C = 125^\circ\text{C}$ )	$V_F$	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

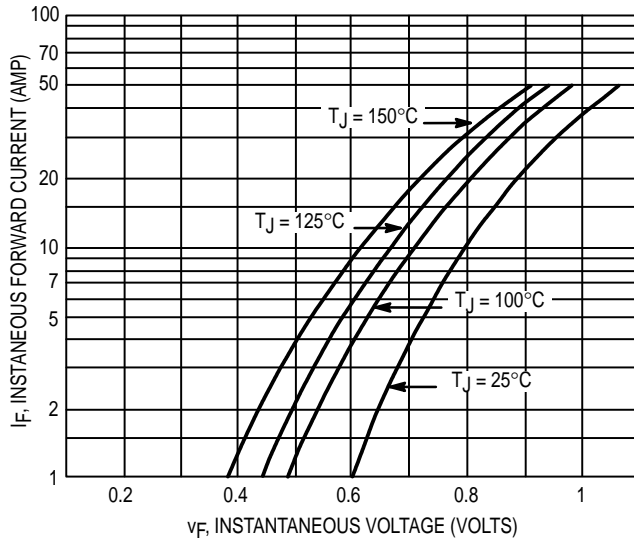
### DYNAMIC CHARACTERISTICS (PER LEG)

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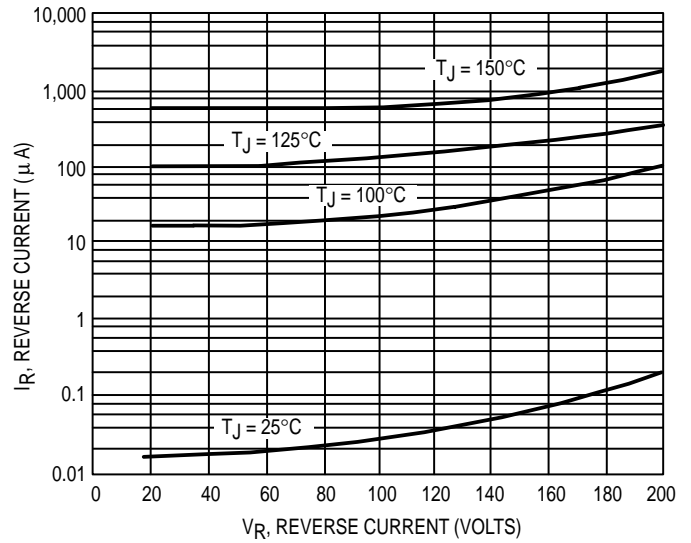
(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

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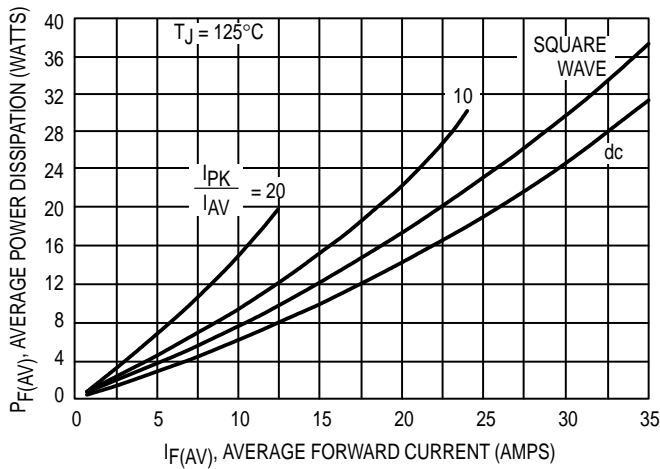




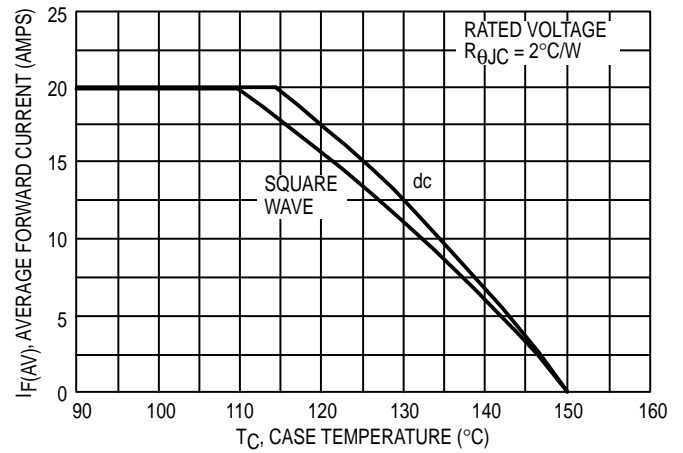
**Figure 1. Typical Forward Voltage (Per Leg)**



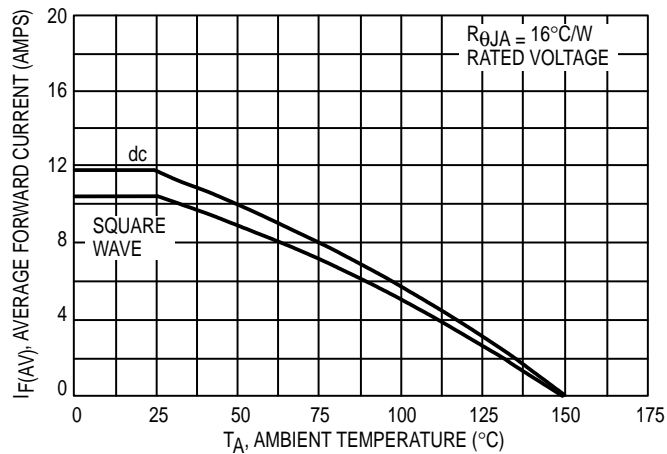
**Figure 2. Typical Reverse Current (Per Leg)**



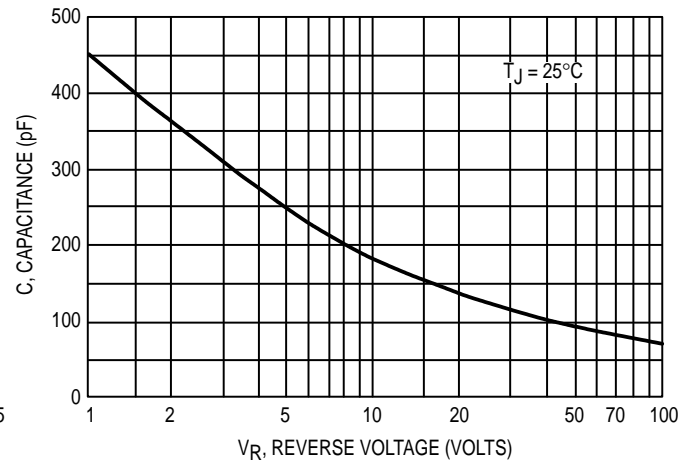
**Figure 3. Forward Power Dissipation**



**Figure 4. Current Derating, Case**

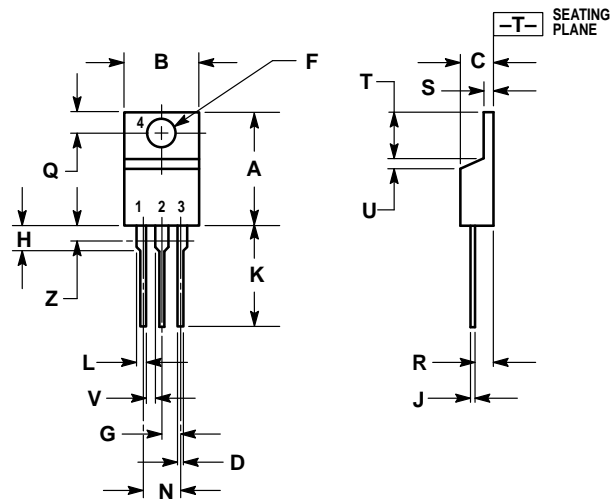


**Figure 5. Current Derating, Ambient**



**Figure 6. Typical Capacitance (Per Leg)**

PACKAGE DIMENSIONS




- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  2. CONTROLLING DIMENSION: INCH.
  3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	—	1.15	—
Z	—	0.080	—	2.04

STYLE 6:

- PIN 1. ANODE
- CATHODE
- ANODE
- CATHODE

**CASE 221A-06  
(TO-220AB)  
ISSUE Y**

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