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: 1.7 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Available in 24 mm Tape and Reel, 800 units per 13" reel by adding a "T4" suffix to the part number
- Marking: B20200

MBRB20200CT

Motorola Preferred Device

SCHOTTKY BARRIER RECTIFIER 20 AMPERES 200 VOLTS





MAXIMUM RATINGS (PER LEG)

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	200	Volts
Average Rectified Forward Current Per Leg (Rated V_R) $T_C = 125^{\circ}C$ Per Package	I _{F(AV)}	10 20	Amps
Peak Repetitive Forward Current, Per Leg (Rated V_R , Square Wave, 20 kHz) $T_C = 90^{\circ}C$	I _{FRM}	20	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	IFSM	150	Amps
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	IRRM	1.0	Amp
Operating Junction Temperature	TJ	-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		$R_{ heta JC}$	2.0	°C/W
	ELECTRICAL CHARACTERISTICS (PER LEG)			
	Maximum Instantaneous Forward Voltage (1) (I _F = 10 Amps, T _C = 25°C)	٧F	0.9	Volts

DYNAMIC CHARACTERISTICS (PER LEG)

Capacitance ($V_R = -5.0 \text{ V}$, $T_C = 25^{\circ}\text{C}$, Frequency = 1.0 MHz)	CT	500	pF

⁽¹⁾ Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤2.0%.

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Preferred devices are Motorola recommended choices for future use and best overall value.



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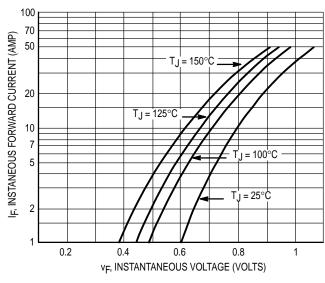


Figure 1. Typical Forward Voltage (Per Leg)

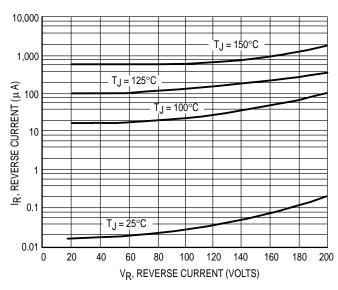


Figure 2. Typical Reverse Current (Per Leg)

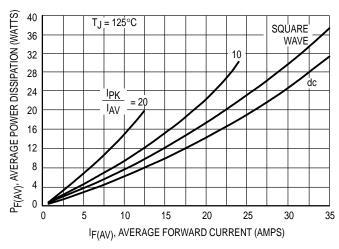


Figure 3. Forward Power Dissipation

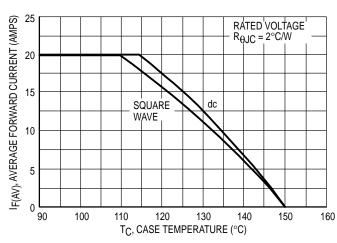


Figure 4. Current Derating, Case

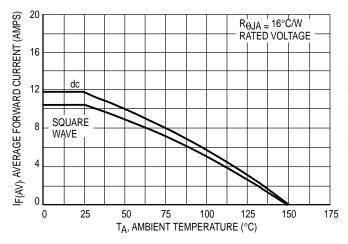


Figure 5. Current Derating, Ambient

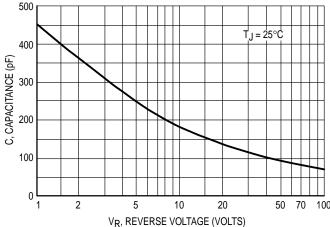
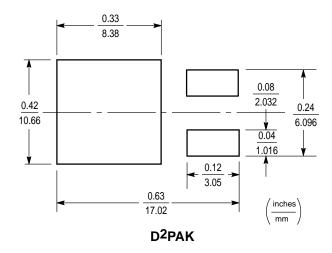


Figure 6. Typical Capacitance (Per Leg)

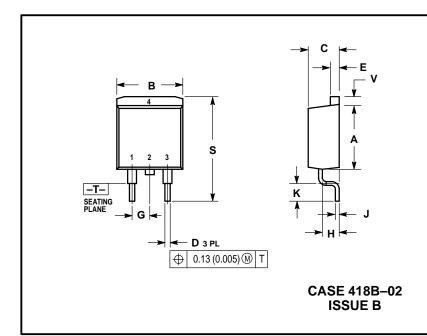
2 Rectifier Device Data

RECOMMENDED FOOTPRINT FOR D2PAK



Rectifier Device Data 3

PACKAGE DIMENSIONS



- DIMENSIONING AND TOLERANCING PER ANSI Y14 5M 1982
- CONTROLLING DIMENSION: INCH.

	INC	HES	MILLIMETE	
DIM	MIN	MAX	MIN	MAX
Α	0.340	0.380	8.64	9.65
В	0.380	0.405	9.65	10.29
С	0.160	0.190	4.06	4.83
D	0.020	0.035	0.51	0.89
Е	0.045	0.055	1.14	1.40
G	0.100 BSC		2.54 BSC	
Н	0.080	0.110	2.03	2.79
J	0.018	0.025	0.46	0.64
K	0.090	0.110	2.29	2.79
S	0.575	0.625	14.60	15.88
٧	0.045	0.055	1.14	1.40

STYLE 3: PIN 1. ANODE

2. CATHODE

ANODE CATHODE

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