

SWITCHMODE™ Power

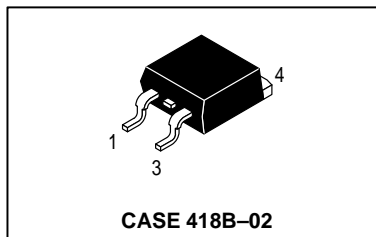
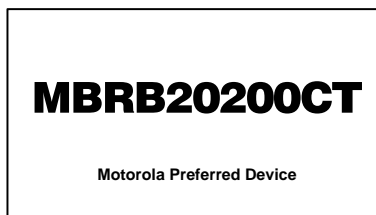
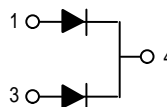
Dual Schottky Rectifier

... 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



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) $T_C = 125^\circ\text{C}$	$I_{F(AV)}$	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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Preferred devices are Motorola recommended choices for future use and best overall value.

MBRB20200CT

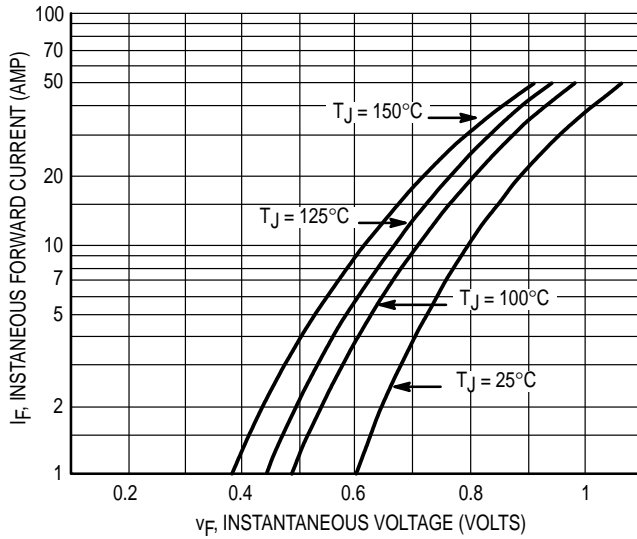


Figure 1. Typical Forward Voltage (Per Leg)

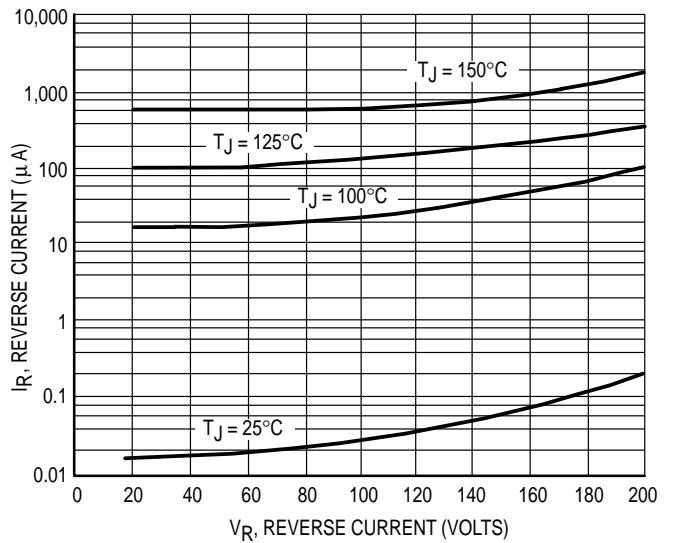


Figure 2. Typical Reverse Current (Per Leg)

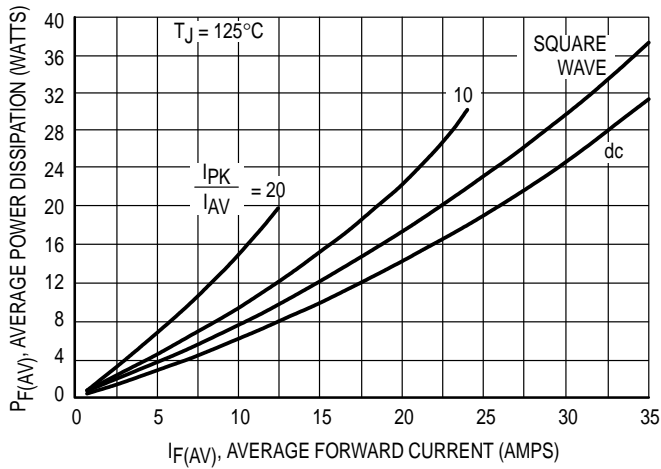


Figure 3. Forward Power Dissipation

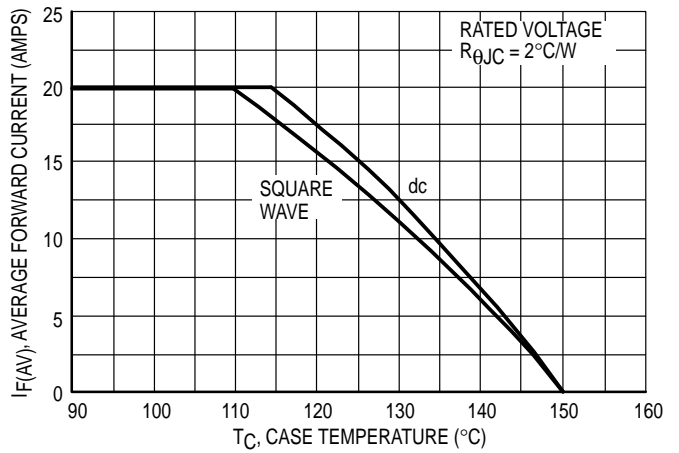


Figure 4. Current Derating, Case

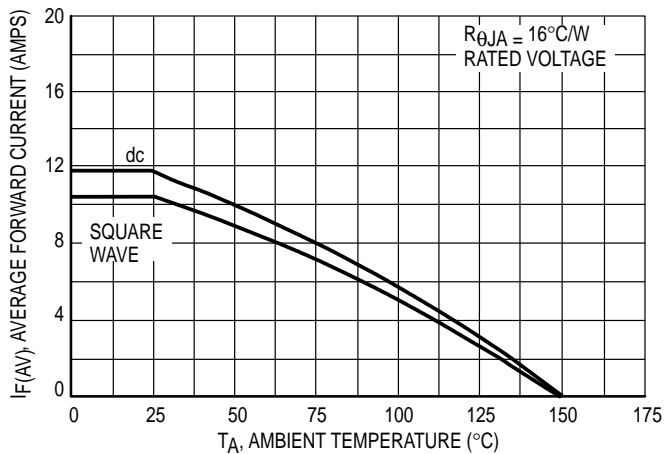


Figure 5. Current Derating, Ambient

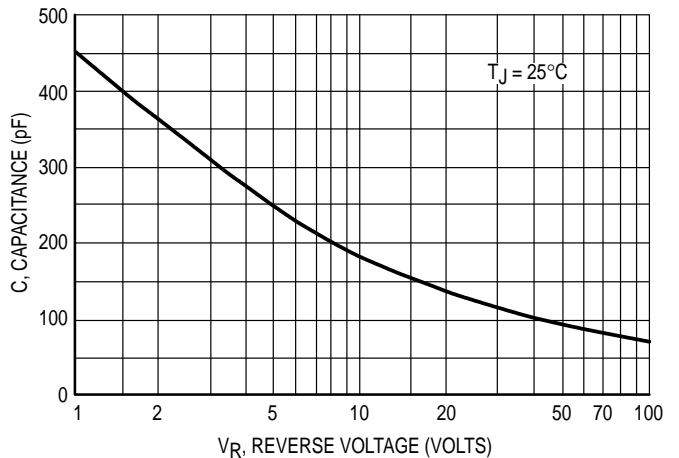
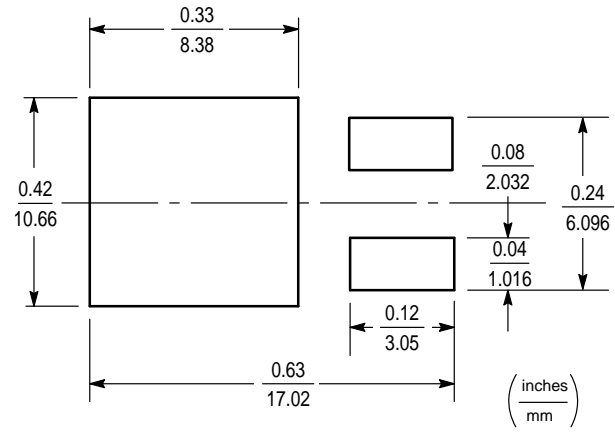


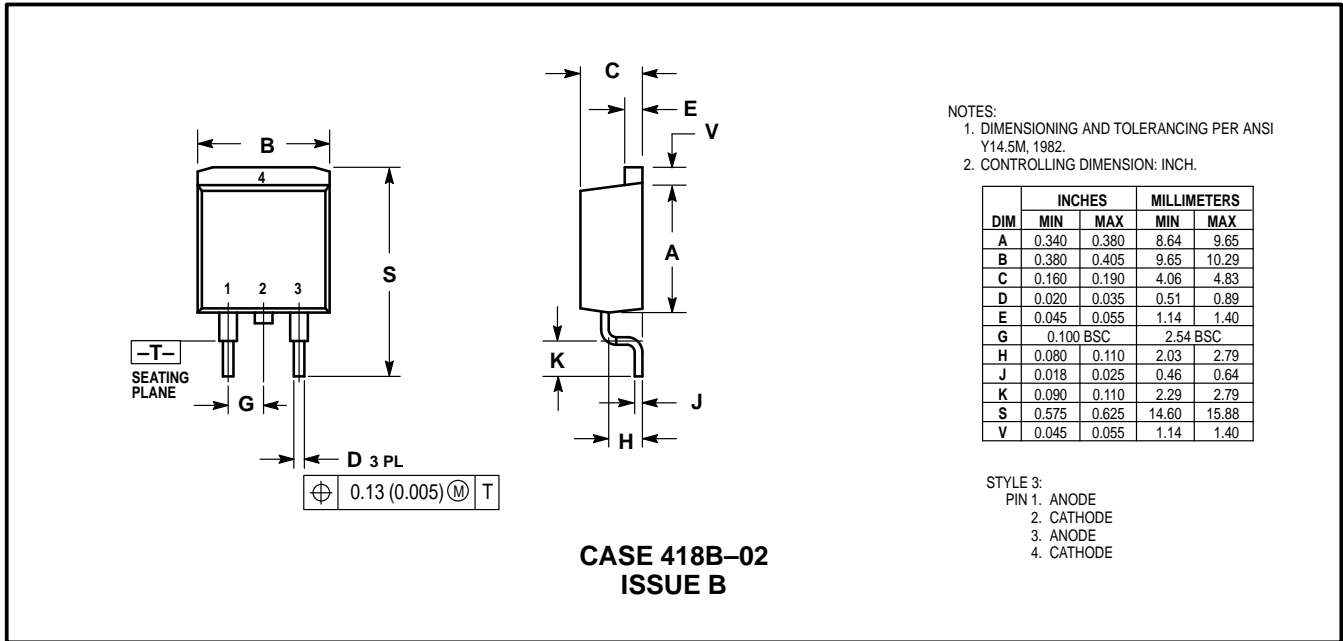
Figure 6. Typical Capacitance (Per Leg)

RECOMMENDED FOOTPRINT FOR D²PAK



D²PAK

PACKAGE DIMENSIONS



- NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.340	0.380	8.64	9.65
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.83
D	0.020	0.035	0.51	0.89
E	0.045	0.055	1.14	1.40
G	0.100 BSC		2.54 BSC	
H	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
V	0.045	0.055	1.14	1.40

- STYLE 3:
 PIN 1. ANODE
 2. CATHODE
 3. ANODE
 4. CATHODE

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