

*Preliminary Data Sheet*  
**POWERTAP II**  
**SWITCHMODE™ Power Rectifiers**

**MBRP20045CT**  
**MBRP20060CT**

Motorola Preferred Devices

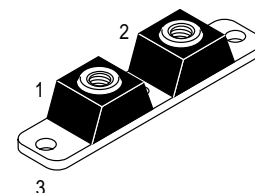
... using the Schottky Barrier principle with a platinum barrier metal. These state-of-the-art devices have the following features:

- Dual Diode Construction — May Be Paralleled for Higher Current Output
- Guardring for Stress Protection
- Low Forward Voltage
- 175°C Operating Junction Temperature
- Guaranteed Reverse Avalanche

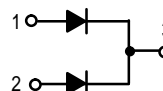
**Mechanical Characteristics:**

- Case: Epoxy, Molded with metal heatsink base
- Weight: 80 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant
- Top Terminal Torque: 25–40 lb-in max
- Base Plate Torques: See procedure given in the Package Outline Section
- Shipped 25 units per foam
- Marking: B20045T, B20060T

**SCHOTTKY BARRIER  
RECTIFIERS**  
**200 AMPERES**  
**45 to 60 VOLTS**



**CASE 357C-03**  
**POWERTAP II**



**MAXIMUM RATINGS**

Rating	Symbol	MBRP20045CT	MBRP20060CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	45	60	Volts
Average Rectified Forward Current (Rated $V_R$ ) $T_C = 140^\circ\text{C}$	$I_{F(AV)}$	200 100	200 100	Amps
Peak Repetitive Forward Current, Per Leg (Rated $V_R$ , Square Wave, 20 kHz), $T_C = 140^\circ\text{C}$	$I_{FRM}$	200	200	Amps
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	$I_{FSM}$	1500	1500	Amps
Peak Repetitive Reverse Current, Per Leg (2.0 $\mu\text{s}$ , 1.0 kHz) See Figure 6.	$I_{RRM}$	2.0	2.0	Amps
Operating Junction Temperature	$T_J$	-55 to +175	-55 to +175	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	-55 to +150	$^\circ\text{C}$
Voltage Rate of Change (Rated $V_R$ )	$dv/dt$	10000	10000	$\text{V}/\mu\text{s}$

**THERMAL CHARACTERISTICS PER LEG**

Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.6	0.6	$^\circ\text{C}/\text{W}$
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**ELECTRICAL CHARACTERISTICS PER LEG**

Instantaneous Forward Voltage (1) ( $i_F = 200$ Amps, $T_J = 25^\circ\text{C}$ ) ( $i_F = 200$ Amps, $T_J = 25^\circ\text{C}$ )	$V_F$	0.89 0.78	0.91 0.80	Volts
Instantaneous Reverse Current (1) (Rated dc Voltage, $T_J = 125^\circ\text{C}$ ) (Rated dc Voltage, $T_J = 25^\circ\text{C}$ )	$i_R$	50 0.5	50 0.5	mA

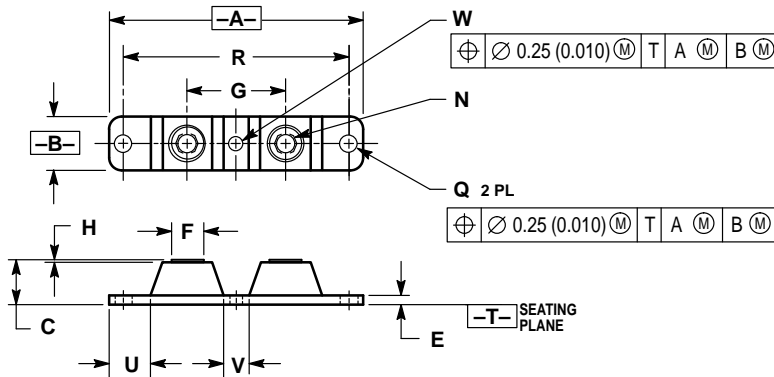
(1) Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

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

PACKAGE DIMENSIONS



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. TERMINAL PENETRATION: 5.97 (0.235) MAXIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	3.450	3.635	87.63	92.33
B	0.700	0.810	17.78	20.57
C	0.615	0.640	15.53	16.26
E	0.120	0.130	3.05	3.30
F	0.435	0.445	11.05	11.30
G	1.370	1.380	34.80	35.05
H	0.007	0.030	0.18	0.76
N	1/4-20UNC-2B		1/4-20UNC-2B	
Q	0.270	0.285	6.86	7.32
R	31.50 BSC		80.01 BSC	
U	0.600	0.630	15.24	16.00
V	0.330	0.375	8.39	9.52
W	0.170	0.190	4.32	4.82

CASE 357C-03  
ISSUE C

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