

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

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

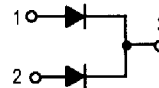
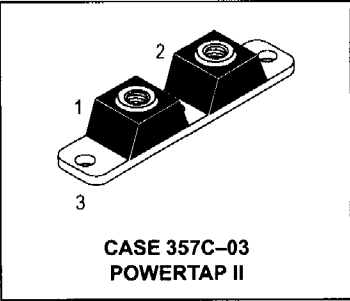
- Dual Diode Construction — May Be Paralleled for Higher Current Output
- Guardring for Stress Protection
- Low Forward Voltage
- 175°C Operating Junction Temperature
- Guaranteed Reverse Avalanche

**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: B30045T, B30060T

**MBRP30045CT**  
**MBRP30060CT**

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



**MAXIMUM RATINGS**

Rating	Symbol	Max	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>		Volts
Working Peak Reverse Voltage	V <sub>RWM</sub>	45	
DC Blocking Voltage	V <sub>R</sub>	60	
Average Rectified Forward Current (Rated V <sub>R</sub> ) T <sub>C</sub> = 140°C	I <sub>F(AV)</sub>	300	Amps
		150	
Peak Repetitive Forward Current, Per Leg (Rated V <sub>R</sub> , Square Wave, 20 kHz), T <sub>C</sub> = 140°C	I <sub>FRM</sub>	300	Amps
Non-Repetitive Peak Surge Current Per Leg (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I <sub>FSM</sub>	2500	Amps
Peak Repetitive Reverse Current, Per Leg (2.0 μs, 1.0 kHz) See Figure 6.	I <sub>RRM</sub>	2.0	Amps
Operating Junction Temperature	T <sub>J</sub>	-55 to +175	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C
Voltage Rate of Change (Rated V <sub>R</sub> )	dv/dt	10000	V/μs

**THERMAL CHARACTERISTICS PER LEG**

Thermal Resistance, Junction to Case	R <sub>θJC</sub>	0.45	°C/W
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**ELECTRICAL CHARACTERISTICS PER LEG**

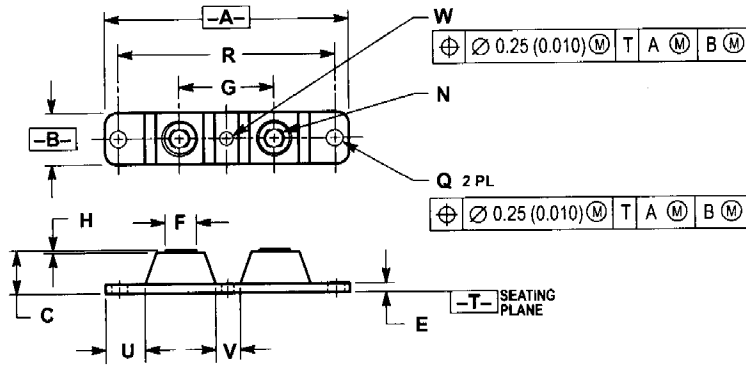
Instantaneous Forward Voltage (1) (i <sub>F</sub> = 150 Amps, T <sub>J</sub> = 25°C)	v <sub>F</sub>	0.70	Volts
(i <sub>F</sub> = 300 Amps, T <sub>J</sub> = 25°C)		0.82	
(i <sub>F</sub> = 150 Amps, T <sub>J</sub> = 25°C)		0.79	
(i <sub>F</sub> = 300 Amps, T <sub>J</sub> = 25°C)		0.89	
Instantaneous Reverse Current (1) (Rated dc Voltage, T <sub>J</sub> = 125°C)	i <sub>R</sub>	75	mA
(Rated dc Voltage, T <sub>J</sub> = 25°C)		0.8	



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**MBRP30045CT MBRP30060CT**

**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**