

Preliminary Data Sheet

POWERTAP II

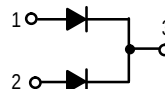
SWITCHMODE™ Power Rectifiers

... 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:

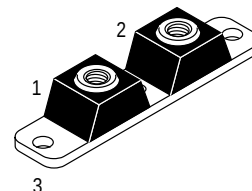
- Case: Epoxy, Molded with metal heatsink base
- Weight: 80 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant
- Top Terminal Torque: 25–40 lb-in max
- Base Plate Torques: See procedure given in the Package Outline Section
- Shipped 25 units per foam
- Marking: B20045T, B20060T



MBRP20045CT
MBRP20060CT

Motorola Preferred Devices

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) $T_C = 140^\circ\text{C}$ Per Device Per Leg	$I_F(AV)$	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 μs , 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	V/ μs

THERMAL CHARACTERISTICS PER LEG

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

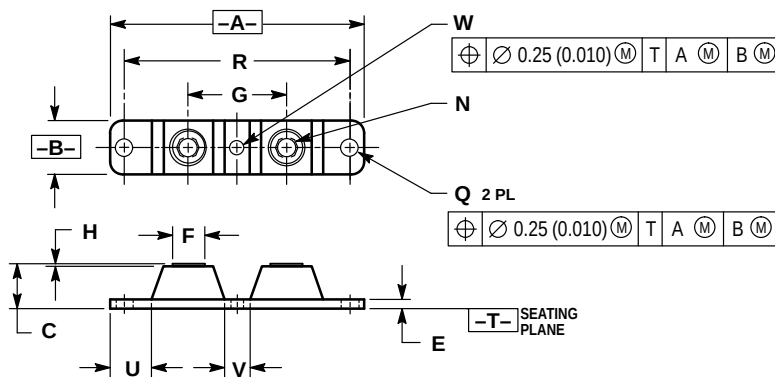
(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

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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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