

*Product Preview*

**SWITCHMODE™**  
**Schottky Power Rectifier**

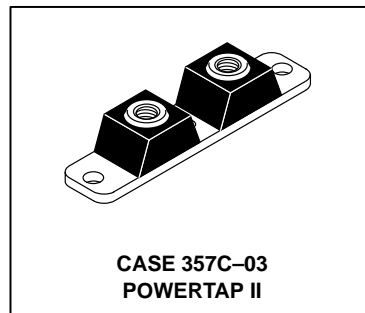
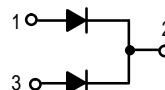
**POWERTAP II™ Package**

... employing the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency switching power supplies, free wheeling diode and polarity protection diodes.

- Highly Stable Oxide Passivated Junction
- Guardring for Stress Protection
- Matched Dual Die Construction; May be Paralleled for High Current Output
- Low Forward Voltage

**Mechanical Characteristics:**

- Case: Epoxy, Molded with Metal Heatsink Base
- Weight: 80 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant
- Base Plate Torques: See procedure given in the Package Outline Section
- Top Terminal Torque: 25–40 lb-in max.
- Shipped 25 units per foam
- Marking: XBRP40045CTL



**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	45	V
Average Rectified Forward Current (At Rated $V_R$ , $T_C = 100^\circ\text{C}$ )	$I_O$	200 400	A
Peak Repetitive Forward Current (At Rated $V_R$ , Square Wave, 20 kHz, $T_C = 100^\circ\text{C}$ )	$I_{FRM}$	400	A
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	$I_{FSM}$	2500	A
Storage / Operating Case Temperature	$T_{stg}, T_C$	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature	$T_J$	-55 to +150	$^\circ\text{C}$
Voltage Rate of Change (Rated $V_R$ , $T_J = 25^\circ\text{C}$ )	dv/dt	1000	V/ $\mu\text{s}$

**THERMAL CHARACTERISTICS**

Thermal Resistance — Junction-to-Case	Per Leg	$R_{\theta JC}$	0.45	$^\circ\text{C}/\text{W}$
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**ELECTRICAL CHARACTERISTICS**

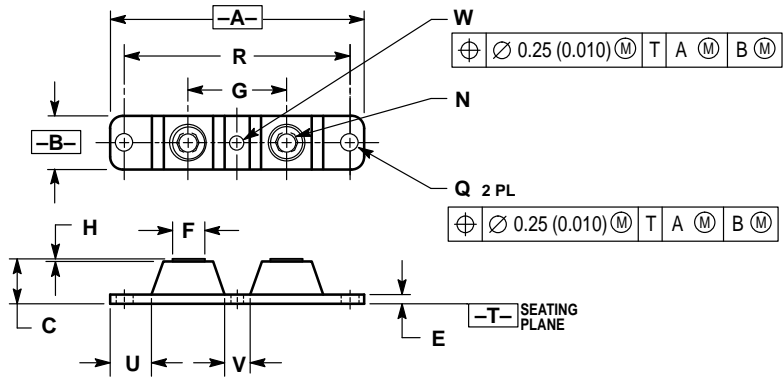
Rating	Symbol	Value		Unit
Maximum Instantaneous Forward Voltage (1)  ( $I_F = 200\text{ A}$ ) ( $I_F = 400\text{ A}$ )	$V_F$	$T_J = 25^\circ\text{C}$ 0.57 0.73 (target)	$T_J = \text{ }^\circ\text{C}$ TBD TBD	V
Maximum Instantaneous Reverse Current (1)  ( $V_R = 45\text{ V}$ ) ( $V_R = 22.5\text{ V}$ )	$I_R$	$T_J = 25^\circ\text{C}$ 10 TBD	$T_J = \text{ }^\circ\text{C}$ TBD TBD	mA

(1) Pulse Test: Pulse Width  $\leq 380\ \mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

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**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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