

Product Preview

SWITCHMODE™
Schottky Power Rectifier

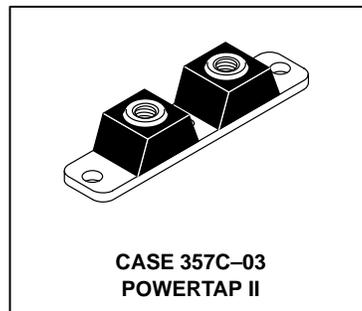
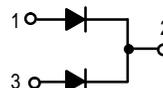
POWERTAP II™ Package

... 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 , $T_C = 100^\circ\text{C}$)	Per Leg Per Package	I_O	200 400	A
Peak Repetitive Forward Current (At Rated V_R , Square Wave, 20 kHz, $T_C = 100^\circ\text{C}$)	Per Package	I_{FRM}	400	A
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	Per Package	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/ μs

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

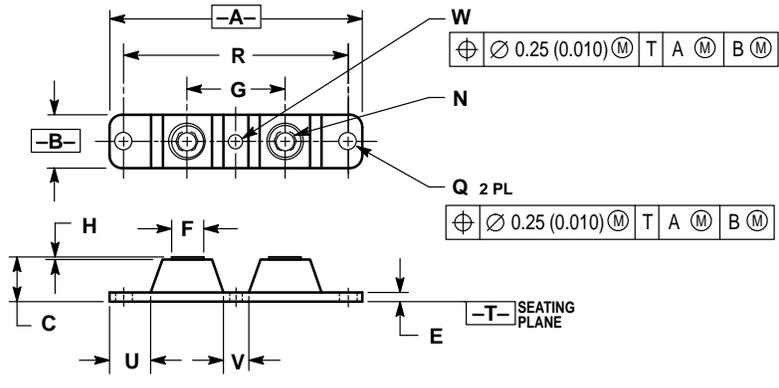
Rating		Symbol	Value		Unit
Maximum Instantaneous Forward Voltage (1) ($I_F = 200\text{ A}$) ($I_F = 400\text{ A}$)	Per Leg	V_F	$T_J = 25^\circ\text{C}$	$T_J = ^\circ\text{C}$	V
			0.57 0.73 (target)	TBD TBD	
Maximum Instantaneous Reverse Current (1) ($V_R = 45\text{ V}$) ($V_R = 22.5\text{ V}$)	Per Leg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

(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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