

Product Preview

SWITCHMODE™
Schottky Power Rectifier

POWERTAP III 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.

- Very Low Forward Voltage Drop
- Highly Stable Oxide Passivated Junction
- Guardring for Stress Protection
- High dv/dt Capability

Mechanical Characteristics:

- Dual Die Construction
- Case: Epoxy, Molded with Plated Copper Heatsink Base
- Weight: 40 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 50 units per foam
- Marking: MBRP30035L

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	35	Volts
Average Rectified Forward Current (At Rated V_R , $T_C = 100^\circ\text{C}$)	I_O	300	Amps
Peak Repetitive Forward Current (At Rated V_R , Square Wave, 20 kHz, $T_C = 100^\circ\text{C}$)	I_{FRM}	600	Amps
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	3000	Amps
Peak Repetitive Reverse Surge Current (2.0 μs , 1.0 kHz)	I_{RRM}	2.0	Amps
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	10,000	V/ μs

THERMAL CHARACTERISTICS

Thermal Resistance — Junction-to-Case	$R_{\theta JC}$	0.4	$^\circ\text{C}/\text{W}$
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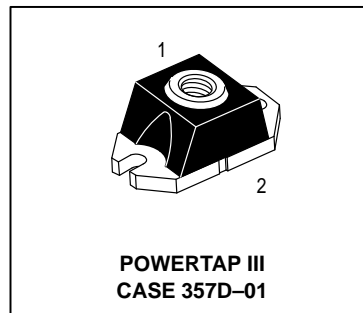
ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) ($I_F = 300\text{ A}$)	V_F	$T_J = 25^\circ\text{C}$	$T_J = 100^\circ\text{C}$	Volts
		0.57	0.5	
Maximum Instantaneous Reverse Current ($V_R = 35\text{ V}$)	I_R	$T_J = 25^\circ\text{C}$	$T_J = 100^\circ\text{C}$	mA
		10	250	

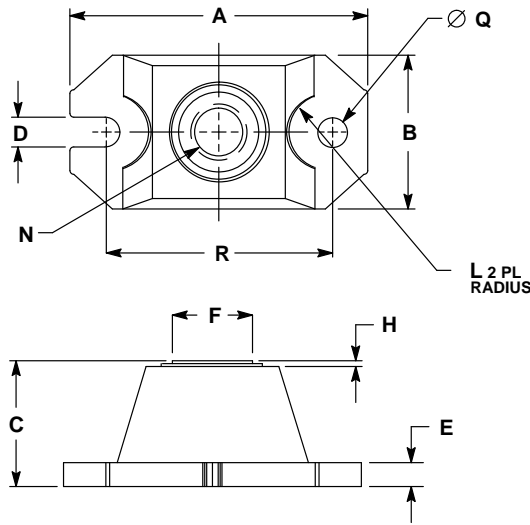
(1) Pulse Test: Pulse Width $\leq 380\ \mu\text{s}$, Duty Cycle $\leq 2\%$.

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Rev 1



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	1.520	1.560	38.61	39.62
B	0.783	0.813	19.89	20.65
C	0.615	0.635	15.62	16.13
D	0.152	0.162	3.86	4.11
E	0.120	0.130	3.05	3.30
F	0.435	0.445	11.05	11.30
H	0.007	0.030	0.18	0.76
L	0.210	0.230	5.33	5.84
N	1/4-20UNC-2B		1/4-20UNC-2B	
Q	0.152	0.162	3.86	4.11
R	1.175	1.195	29.85	30.35

CASE 357D-01
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