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MBRP30035L

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	V
Average Rectified Forward Current (At Rated V_R, T_C = 100°C)	I_O	300	A
Peak Repetitive Forward Current (At Rated V_R, Square Wave, 20 kHz, T_C = 100°C)	I_{FRM}	600	A
Non−Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	3000	A
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	I_{RRM}	2.0	A
Storage/Operating Case Temperature Range	T_{stg}, T_C	−55 to +150	°C
Operating Junction Temperature	T_J	−55 to +150	°C
Voltage Rate of Change (Rated V_R, T_J = 25°C)	dv/dt	10,000	V/μs

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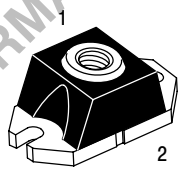
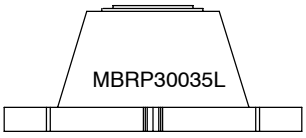
SCHOTTKY BARRIER RECTIFIER 300 AMPERES 35 VOLTS



POWERTAP III
CASE 357D
PLASTIC

MARKING DIAGRAM



MBRP30035L = Device Code

ORDERING INFORMATION

Device	Package	Shipping
MBRP30035L	POWERTAP III	50 Units/Foam

THERMAL CHARACTERISTICS

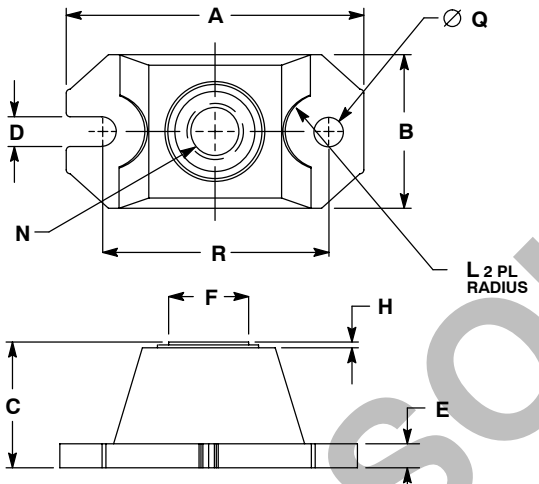
Characteristic	Symbol	Value	Unit
Thermal Resistance — Junction–to–Case	$R_{\theta JC}$	0.4	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 1.) (I_F = 300 A)	V_F	**T_J = 25°C**	**T_J = 100°C**	Volts
		0.57	0.5	
Maximum Instantaneous Reverse Current (V_R = 35 V)	I_R	**T_J = 25°C**	**T_J = 100°C**	mA
		10	250	

1. Pulse Test: Pulse Width ≤ 380 μs, Duty Cycle ≤ 2%.

PACKAGE DIMENSIONS



POWERTAP III
CASE 357D–01
ISSUE A

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. TERMINAL PENETRATION: 5.97 (0.235) MAXIMUM.

	INCHES		MILLIMETERS	
DIM	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

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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