MBRP60035CTL

POWERTAP™ II SWITCHMODE™ Power Rectifier

The SWITCHMODE Power Rectifier uses the Schottky Barrier principle with a platinum barrier metal. This state-of-the-art device has the following features:

- Dual Diode Construction —
  May Be Paralleled for Higher Current Output
- Guardring for Stress Protection
- Low Forward Voltage Drop
- 150°C Operating Junction Temperature
- Recyclable Epoxy
- Guaranteed Reverse Avalanche Energy Capability
- Improved Mechanical Ratings

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: B60035L

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) Per Leg Per Device	$I_{F(AV)}$	300 600	A
Peak Repetitive Forward Current, (At Rated V_R, Square Wave, 20 kHz, T_C = 100°C)	I_{FRM}	300	A
Non–Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	4000	A
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	I_{RRM}	2.0	A
Storage Temperature Range	T_{stg}	−55 to +150	°C
Operating Junction Temperature	T_J	−55 to +150	°C
Voltage Rate of Change (Rated V_R)	dv/dt	10,000	V/μs

ON Semiconductor™
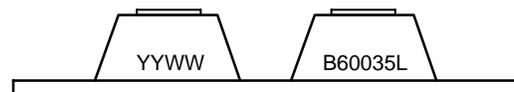
http://onsemi.com

LOW V_F SCHOTTKY BARRIER RECTIFIER 600 AMPERES 35 VOLTS
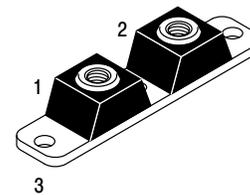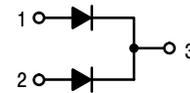
POWERTAP II CASE 357C PLASTIC

MARKING DIAGRAM


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B60035L = Device Code
YY      = Year
WW      = Work Week
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ORDERING INFORMATION

Device	Package	Shipping
MBRP60035CTL	POWERTAP II	25 Units/Tray

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THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 1.) (i_F = 300 Amps, T_C = +25°C) (i_F = 300 Amps, T_C = +100°C)	V_F	0.57 0.50	Volts
Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, T_C = +25°C) (Rated dc Voltage, T_C = +100°C)	I_R	3.0 250	mA

1. Pulse Test: Pulse Width = 300 µs, Duty Cycle ≤ 2%.

MAXIMUM MECHANICAL RATINGS

Terminal Penetration:	0.235 max
Terminal Torque:	25–40 in-lb max
Mounting Torque — Outside Holes:	30–40 in-lb max
Mounting Torque — Center Hole:	8–10 in-lb max
Seating Plane Flatness	1 mil per in. (between mounting holes)

POWERTAP MECHANICAL DATA
APPLIES OVER OPERATING TEMPERATURE

Vertical Pull
250 lbs. max

← 2″ →

2 in. Lever Pull
50 lbs. max
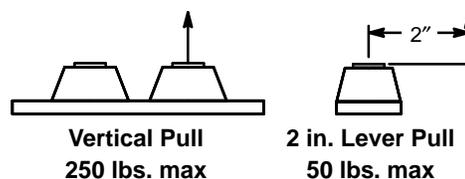
Note: While the POWERTAP is capable of sustaining these vertical and levered tensions, the intimate contact between POWERTAP and heat sink may be lost. This could lead to thermal runaway. The use of very flexible leads is recommended for the anode connections. Use of thermal grease is highly recommended.

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MOUNTING PROCEDURE

The POWERTAP package requires special mounting considerations because of the long longitudinal axis of the copper heat sink. It is important to follow the proper tightening sequence to avoid warping the heat sink, which can reduce thermal contact between the POWERTAP and heat sink.
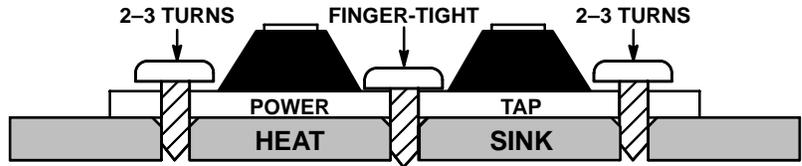
STEP 1:
Locate the POWERTAP on the heat sink and start mounting bolts into the threads by hand (2 or 3 turns).
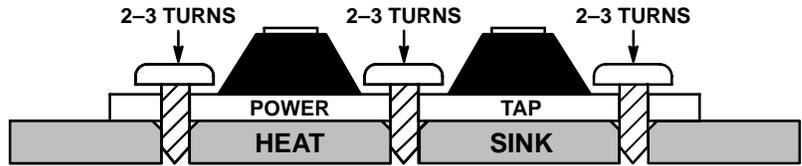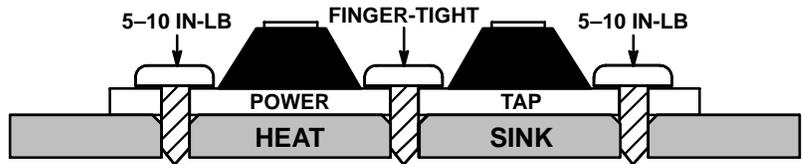
STEP 2:
Finger tighten the center bolt. The bolt may catch on the threads of the heat sink so it is important to make sure the face of the bolt or washer is in contact with the surface of the POWERTAP.

STEP 3:
Tighten each of the end bolts between 5 to 10 in-lb.

STEP 4:
Tighten the center bolt between 8 to 10 in-lb.
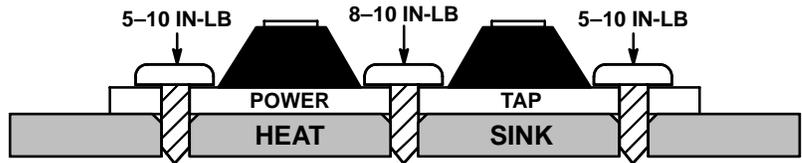
STEP 5:
Finally, tighten the end bolts between 30 to 40 in-lb.
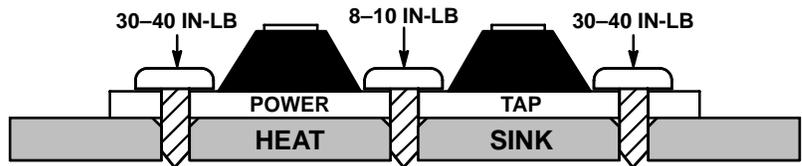
MBRP60035CTL

PACKAGE DIMENSIONS

CASE 357C–03
POWERTAP
PLASTIC PACKAGE
ISSUE E
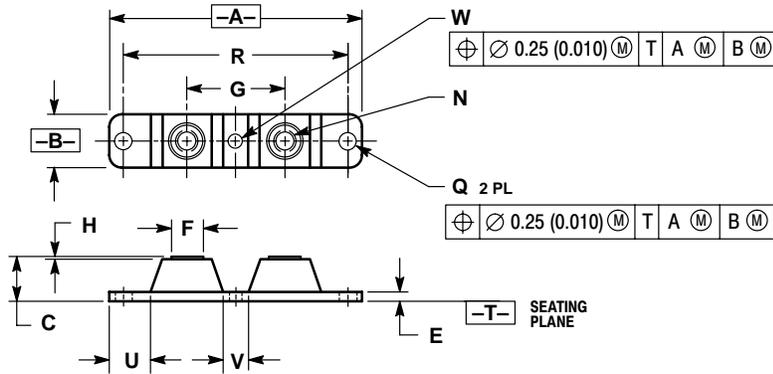
NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. TERMINAL PENETRATION: 5.97 (0.235) MAXIMUM.

DIM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	3.450	3.635	87.63	92.33
B	0.700	0.810	17.78	20.57
C	0.615	0.640	15.63	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	7.23
R	3.150 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

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PUBLICATION ORDERING INFORMATION