

# Product Preview

## SWITCHMODE™

### Soft Recovery Power Rectifier

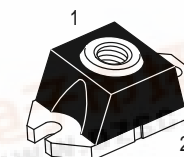
#### POWERTAP™ III Package

State of the art geometry features epitaxial construction with glass passivation and metal overlay contact. Ideally suited for low voltage, high frequency switching power supplies, free wheeling diode and polarity protection diodes.

- Soft Recovery Rectifier
- Low  $I_{RRM}$  Losses
- Highly Stable Glass Passivated Junction

#### Mechanical Characteristics:

- Dual Die Construction
- Case: Epoxy, Molded with Plated Copper Heatsink Base
- Weight: 40 Grams (approximately)
- Finish: All External Surfaces Corrosion Resistant
- Top Terminal Torque: 25 – 40 lb-in max.
- Shipped 50 Units per Foam
- Marking: MSRP10040



CASE 357D-01  
POWERTAP III

#### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	400	Volts
Average Rectified Forward Current (At Rated $V_R$ , $T_C = 100^\circ\text{C}$ )	$I_O$	100	Amps
Peak Repetitive Forward Current (At Rated $V_R$ , Square Wave, 100 kHz, $T_C = \text{TBD}^\circ\text{C}$ )	$I_{FRM}$	200	Amps
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	$I_{FSM}$	800	Amps
Storage / Operating Case Temperature	$T_{stg}, T_C$	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature	$T_J$	-55 to +150	$^\circ\text{C}$

#### THERMAL CHARACTERISTICS

Thermal Resistance — Junction-to-Case	$R_{\theta JC}$	0.5	$^\circ\text{C}/\text{W}$
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#### ELECTRICAL CHARACTERISTICS

Rating	Symbol	Value		Unit
Typical Instantaneous Forward Voltage (1)  ( $I_F = 100\text{ A}$ ) ( $I_F = 200\text{ A}$ )	$V_F$	$T_J = 25^\circ\text{C}$	$T_J = 100^\circ\text{C}$	Volts
		1.75 2.00	1.25 1.50	
Typical Instantaneous Reverse Current  ( $V_R = 400\text{ V}$ ) ( $V_R = 200\text{ V}$ )	$I_R$	$T_J = 25^\circ\text{C}$	$T_J = 100^\circ\text{C}$	$\mu\text{A}$
		100 50	500 250	
Typical Reverse Recovery Time (2) ( $V_R = 30\text{ V}$ , $I_F = 10\text{ A}$ , $di/dt = 200\text{ A}/\mu\text{s}$ )	$t_{rr}$	75		ns
Typical Peak Reverse Recovery Current ( $V_R = 30\text{ V}$ , $I_F = 10\text{ A}$ , $di/dt = 200\text{ A}/\mu\text{s}$ )	$I_{rm}$	7.0		Amps

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(1) Pulse Test: Pulse Width  $\leq 250\text{ }\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

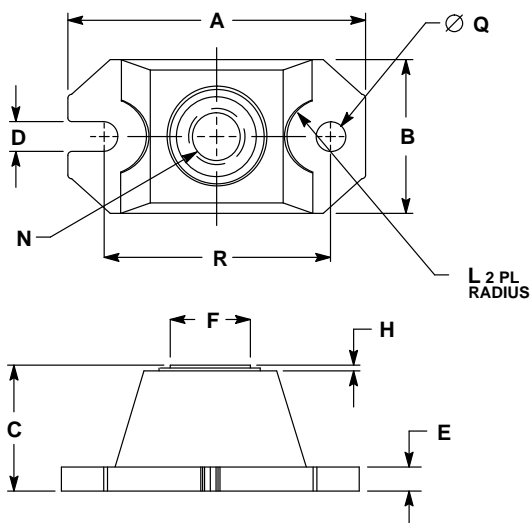
(2)  $t_{rr}$  measured projecting from 25% of  $I_{RM}$  to zero.

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# MSRP10040

## 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  
ISSUE O**

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