

MSRP10040

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

MAXIMUM RATINGS

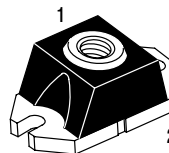
Rating	Symbol	Max	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	400	V
Average Rectified Forward Current (At Rated V_R , $T_C = 100^\circ\text{C}$)	I_O	100	A
Peak Repetitive Forward Current (At Rated V_R , Square Wave, 100 kHz, $T_C = \text{TBD}^\circ\text{C}$)	I_{FRM}	200	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	800	A
Storage/Operating Case Temperature Range	T_{stg}, T_C	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$



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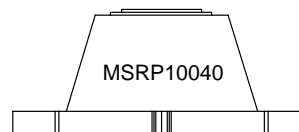
<http://onsemi.com>

SOFT RECOVERY
RECTIFIER
100 AMPERES
400 VOLTS



POWERTAP III
CASE 357D
PLASTIC

MARKING DIAGRAM



MSRP10040 = Device Code

ORDERING INFORMATION

Device	Package	Shipping
MSRP10040	POWERTAP III	50 Units/Tray

MSRP10040

THERMAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Thermal Resistance — Junction-to-Case	$R_{\theta JC}$	0.5	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS

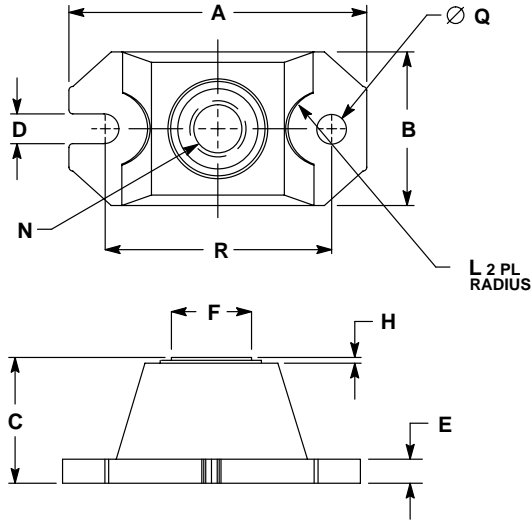
Typical Instantaneous Forward Voltage (Note 1.) ($I_F = 100\text{ A}$) ($I_F = 200\text{ A}$)	V_F	$T_J = 25^{\circ}C$	$T_J = 100^{\circ}C$	Volts
		1.75 2.00	1.25 1.50	
Typical Instantaneous Reverse Current ($V_R = 400\text{ V}$) ($V_R = 200\text{ V}$)	I_R	$T_J = 25^{\circ}C$	$T_J = 100^{\circ}C$	μA
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

1. Pulse Test: Pulse Width $\leq 250\ \mu s$, Duty Cycle $\leq 2\%$.
2. t_{rr} measured projecting from 25% of IRM to zero.

MSRP10040

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.

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

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