

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	°C
Operating Junction Temperature	T_J	–55 to +150	°C

THERMAL CHARACTERISTICS

Thermal Resistance — Junction-to-Case	$R_{\theta JC}$	0.5	°C/W
---------------------------------------	-----------------	-----	------

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	$T_J = 25^\circ\text{C}$	$T_J = 100^\circ\text{C}$	μA
		100 50	500 250	
Typical Reverse Recovery Time (2) ($V_R = 30 \text{ V}$, $I_F = 10 \text{ A}$, $\text{d}i/\text{d}t = 200 \text{ A}/\mu\text{s}$)	t_{rr}	75		ns
Typical Peak Reverse Recovery Current ($V_R = 30 \text{ V}$, $I_F = 10 \text{ A}$, $\text{d}i/\text{d}t = 200 \text{ A}/\mu\text{s}$)	I_{rm}	7.0		Amps

This document contains information on a product under development. Motorola reserves the right to change or discontinue this product without notice.

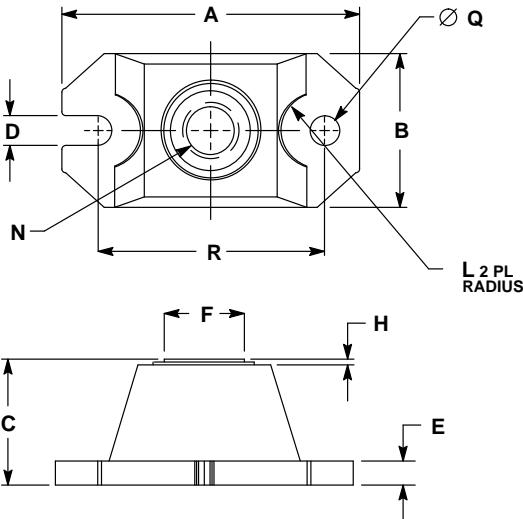
(1) Pulse Test: Pulse Width $\leq 250 \mu\text{s}$, Duty Cycle $\leq 2\%$.

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

POWERTAP III and SWITCHMODE are trademarks of Motorola, Inc.

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**

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Motorola data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and  are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

Mfax is a trademark of Motorola, Inc.

How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 5405, Denver, Colorado 80217. 1-303-675-2140 or 1-800-441-2447

JAPAN: Motorola Japan Ltd.; SPD, Strategic Planning Office, 141, 4-32-1 Nishi-Gotanda, Shinagawa-ku, Tokyo, Japan. 81-3-5487-8488

Customer Focus Center: 1-800-521-6274

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 1-602-244-6609
Motorola Fax Back System – US & Canada ONLY 1-800-774-1848
– <http://sps.motorola.com/mfax/>

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; Silicon Harbour Centre, 2, Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong.
852-26629298

HOME PAGE: <http://motorola.com/sps/>