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02166766957 - 02166766927



info@atrinelec.com



تهران پاساژ امجد طبقه 1 واحد 16



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Preliminary Data Sheet

POWERTAP II Ultrafast SWITCHMODE™ Power Rectifiers

MURP20020CT
MURP20040CT

Motorola Preferred Devices

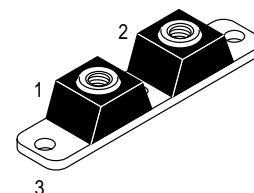
... designed for use in switching power supplies, inverters, and as free wheeling diodes. These state-of-the-art devices have the following features:

- Dual Diode Construction
- Low Leakage Current
- Low Forward Voltage
- 175°C Operating Junction Temperature
- Labor Saving POWERTAP Package

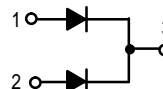
Mechanical Characteristics:

- 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: UP20020

**ULTRAFAST
RECTIFIERS
200 AMPERES
200–400 VOLTS**



**CASE 357C-03
POWERTAP II**



MAXIMUM RATINGS

Rating	Symbol	MURP20020CT	MURP20040CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	400	Volts
Average Rectified Forward Current (Rated V_R)	$I_{F(AV)}$	200 ($T_C = 130^\circ\text{C}$) 100 ($T_C = 130^\circ\text{C}$)	200 ($T_C = 100^\circ\text{C}$) 100 ($T_C = 100^\circ\text{C}$)	Amps Per Device Per Leg
Peak Repetitive Forward Current, Per Leg (Rated V_R , Square Wave, 20 kHz), $T_C = 95^\circ\text{C}$	I_{FRM}	200	200	Amps
Nonrepetitive Peak Surge Current Per Leg (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	800	800	Amps
Operating Junction Temperature	T_J	-55 to +175	-55 to +175	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS PER LEG

Rating	Symbol	Max		Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.45	0.45	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER LEG

Instantaneous Forward Voltage (1) ($i_F = 100$ Amps, $T_C = +25^\circ\text{C}$) ($i_F = 200$ Amps, $T_C = 25^\circ\text{C}$) ($i_F = 100$ Amps, $T_C = 125^\circ\text{C}$)	V_F	1.00 1.10 0.95	1.30 1.75 1.15	Volts
Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 125^\circ\text{C}$) (Rated dc Voltage, $T_C = 25^\circ\text{C}$)	i_R	1000 150	500 50	μA
Maximum Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amps/ μs)	t_{rr}	50	75	ns

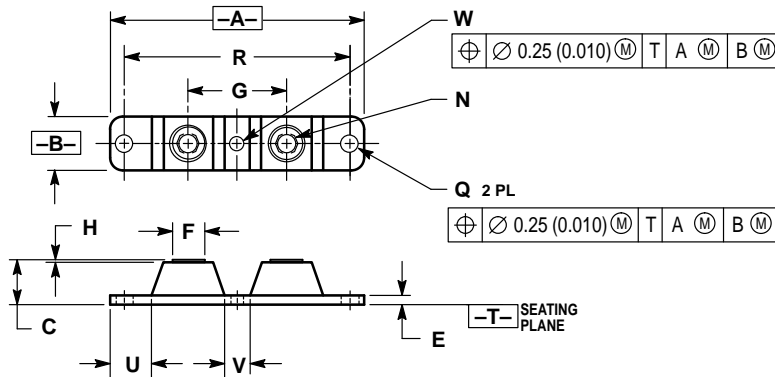
(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

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

Preferred devices are Motorola recommended choices for future use and best overall value.

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	3.450	3.635	87.63	92.33
B	0.700	0.810	17.78	20.57
C	0.615	0.640	15.53	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	7.32
R	31.50 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

CASE 357C-03
ISSUE C

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How to reach us:

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

JAPAN: Nippon Motorola Ltd.; Tatsumi-SPD-JLDC, 6F Seibu-Butsuryu-Center,
3-14-2 Tatsumi Koto-Ku, Tokyo 135, Japan. 81-3-3521-8315

Mfax™: RMFA00@email.sps.mot.com - TOUCHTONE 602-244-6609
- US & Canada ONLY 1-800-774-1848

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298

INTERNET: <http://motorola.com/sp>

