

MURP20020CT, MURP20040CT

Preferred Devices

POWERTAP™ II Ultrafast SWITCHMODE™ Power Rectifiers

... 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

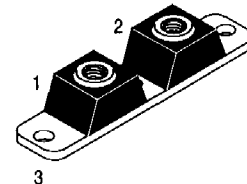
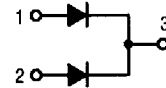
Mechanical Characteristics:

- 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, UP20040

MAXIMUM RATINGS

Please See the Table on the Following Page

ULTRAFAST RECTIFIERS 200 AMPERES 200-400 VOLTS



PLASTIC
CASE 357C
POWERTAP II

MARKING DIAGRAM



UP200x0 = Device Code
x = 2 or 4
YY = Year
WW = Work Week



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

MURP20020CT, MURP20040CT

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)	Per Device Per Leg $I_{F(AV)}$	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
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)

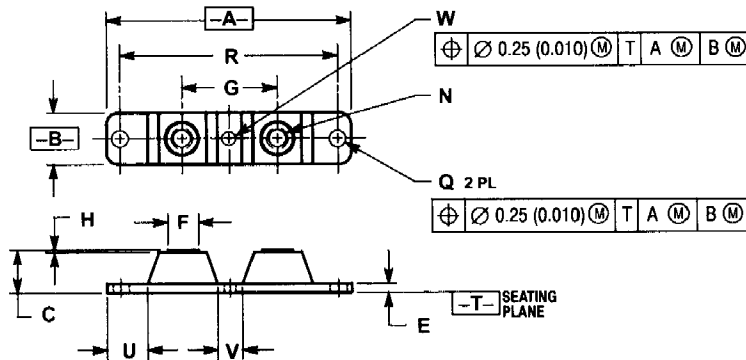
Instantaneous Forward Voltage (Note 1.) ($I_F = 100$ Amps, $T_C = +25^\circ\text{C}$) ($I_F = 200$ Amps, $T_C = 25^\circ\text{C}$) ($I_F = 100$ Amps, $T_C = 125^\circ\text{C}$)	V_F	1.00 1.10 0.95	1.30 1.75 1.15	Volts
Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, $T_C = 125^\circ\text{C}$) (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 $\leq 2.0\%$.

MURP20020CT, MURP20040CT

PACKAGE DIMENSIONS

POWERTAP II
CASE 357C-03
ISSUE E



NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: INCH.
- 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	15.63	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	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