



Advance Information

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 — May Be Paralleled For Higher Current Output
- Low Leakage Current
- Low Forward Voltage
- 175°C Operating Junction Temperature
- Labor Saving POWERTAP® Package

MAXIMUM RATINGS

MAXIMUM RATINGS		MUR				
Rating	Symbol	20005CT	20010CT	20015CT	20020CT	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	150	200	Volts
Working Peak Reverse Voltage	V_{RWM}					
DC Blocking Voltage	V_R					
Average Rectified Forward Current, (Rated V_R), $T_C = 95^\circ\text{C}$	$I_{F(AV)}$					Amps
Per Device		200				
Per Leg		100				
Peak Repetitive Forward Current, Per Leg, (Rated V_R , Square Wave, 20 kHz), $T_C = 95^\circ\text{C}$	I_{FRM}	200				Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	800				Amps
Operating Junction and Storage Temperature	T_J, T_{stg}	- 65 to + 175				$^\circ\text{C}$

THERMAL CHARACTERISTICS PER LEG

Rating	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.70	°C/W

ELECTRICAL CHARACTERISTICS PER LEG

Instantaneous Forward Voltage (1) ($I_F = 100 \text{ Amp}$, $T_C = 25^\circ\text{C}$)	V_F	1.25	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	500 50	μA
Maximum Reverse Recovery Time ($I_F = 1.0 \text{ Amps}$, $di/dt = 50 \text{ Amps}/\mu\text{s}$)	t_{rr}	50	ns

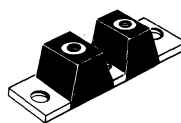
(1) Pulse Test: Pulse Width = 300 μ s, Duty Cycle $\leq$ 2.0%.
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This document contains information on a new product. Specifications and information herein are subject to change without notice.

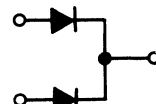
MUR20005CT
MUR20010CT
MUR20015CT
MUR20020CT

ULTRAFAST RECTIFIERS

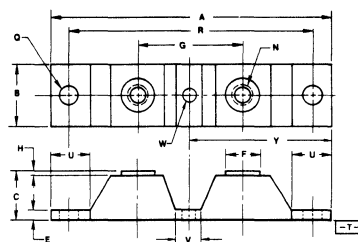
**200 AMPERES
50 TO 200 VOLTS**



CASE 357B-01
POWER Tap®



3



NOTES

- 1 DIMENSIONS A AND B ARE DATUMS AND
T IS A DATUM SURFACE AND SEATING
PLANE
- 2 POSITIONAL TOLERANCE FOR N HOLES
- | | | | | | | | |
|--|---------------------|-----|---|---|-----|---|-----|
| | $\phi 0.13 (0.005)$ | (M) | T | A | (M) | B | (M) |
|--|---------------------|-----|---|---|-----|---|-----|
- 3 POSITIONAL TOLERANCE FOR Q AND W
HOLES
- | | | | | | | | |
|--|---------------------|-----|---|---|-----|---|-----|
| | $\phi 0.25 (0.010)$ | (M) | T | A | (M) | B | (M) |
|--|---------------------|-----|---|---|-----|---|-----|
- 4 DIMENSIONING AND TOLERANCING PER
ANSI Y14.5 1973

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	-	92.20	-	3.630
B	17.78	20.32	0.700	0.800
C	-	15.87	-	0.625
E	3.05	3.30	0.120	0.130
F	12.45	12.95	0.490	0.510
G	34.92 BSC	-	1.375 BSC	-
H	-	1.27	-	0.050
N	-	-	1/4-20 UNC	-
Q	6.86	7.11	0.270	0.280
R	80.01 BSC	-	3.150 BSC	-
U	15.24	-	0.600	-
V	8.38	8.89	0.330	0.350
W	4.32	4.82	0.170	0.190
Y	46.10 BSC	-	1.815 BSC	-

CASE 357B-01

Terminal Penetration	0.300 Max
Terminal Torque	50–100 lb.-in.
Mounting Base Torque	30–40 lb.-in.

FIGURE 1 — TYPICAL FORWARD VOLTAGE (PER LEG)

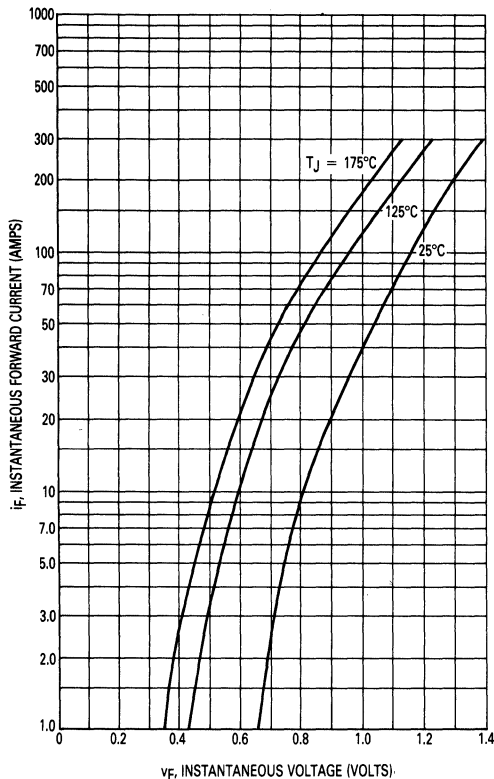
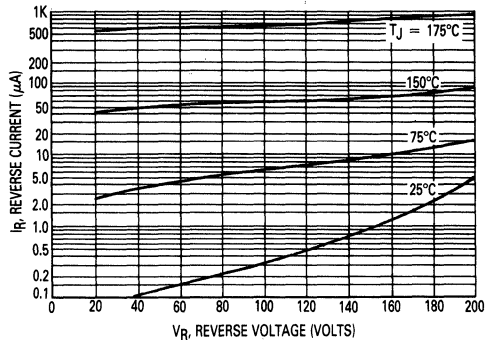


FIGURE 2 — TYPICAL REVERSE CURRENT*



*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these curves, if V_R is sufficiently below rated V_R .

FIGURE 3 — CURRENT DERATING (PER LEG)

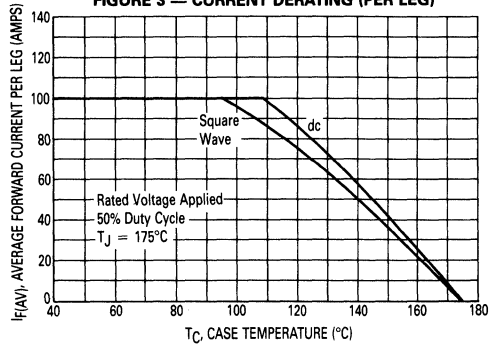


FIGURE 4 — POWER DISSIPATION (PER LEG)

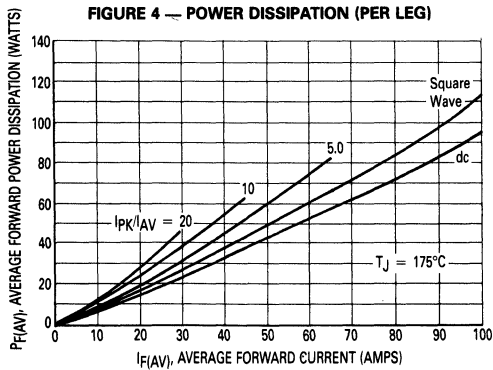


FIGURE 5 — CAPACITANCE (PER LEG)

