

**MOTOROLA**

SEMICONDUCTORS

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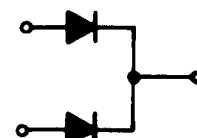
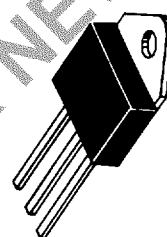
**MUR3005PT
MUR3010PT
MUR3015PT
MUR3020PT**

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:

- Ultrafast 35 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-218 Package

ULTRAFAST RECTIFIERS

**30 AMPERES
50 to 200 VOLTS****CASE 340-01
TO-218AC**

MAXIMUM RATINGS

Rating	Symbol	Maximum	Unit
Peak Repetitive Reverse Voltage	MUR3005PT	50	Volts
Working Peak Reverse Voltage	MUR3010PT	100	
DC Blocking Voltage	MUR3015PT	150	
	MUR3020PT	200	
Average Rectified Forward Current $T_C = 150^\circ\text{C}$ (Rated V_R)	Per Device Per Leg	15 30	Amps
Peak Repetitive Forward Current, Per Leg (Rated V_R , Square Wave, 20 kHz) $T_C = 150^\circ\text{C}$	I_{FRM}	30	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	200	Amps
Operating Junction Temperature and Storage Temperature	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$

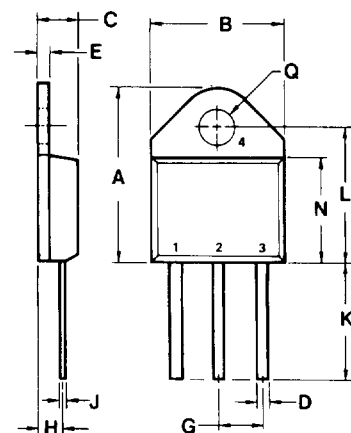
THERMAL CHARACTERISTICS

Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.5	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	40	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS

Instantaneous Forward Voltage (1) ($I_F = 15$ Amp, $T_C = 150^\circ\text{C}$) ($I_F = 15$ Amp, $T_C = 25^\circ\text{C}$)	V_F	0.85 1.05	Volts
Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 150^\circ\text{C}$) (Rated dc Voltage, $T_C = 25^\circ\text{C}$)	I_R	500 10	μA
Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amp/ μs)	t_{rr}	35	ns

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$
Switchmode is a trademark of Motorola Inc.



1. ANODE 1
2. CATHODE(S)
3. ANODE 2
4. CATHODE(S)

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	20.32	21.08	0.800	0.830
B	15.49	15.90	0.610	0.626
C	4.19	5.08	0.165	0.200
D	1.02	1.65	0.040	0.065
E	1.35	1.65	0.053	0.065
G	5.21	5.72	0.205	0.225
H	2.41	3.20	0.095	0.126
J	0.38	0.64	0.015	0.025
K	12.70	15.49	0.500	0.610
L	15.88	16.51	0.625	0.650
N	12.19	12.70	0.480	0.500
Q	4.04	4.22	0.159	0.166

**CASE 340-01
TO-218AC**

FIGURE 1 — TYPICAL FORWARD VOLTAGE

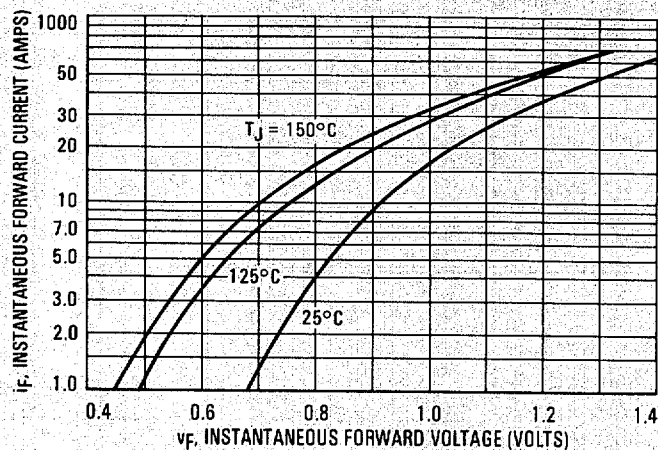


FIGURE 2 — TYPICAL REVERSE CURRENT

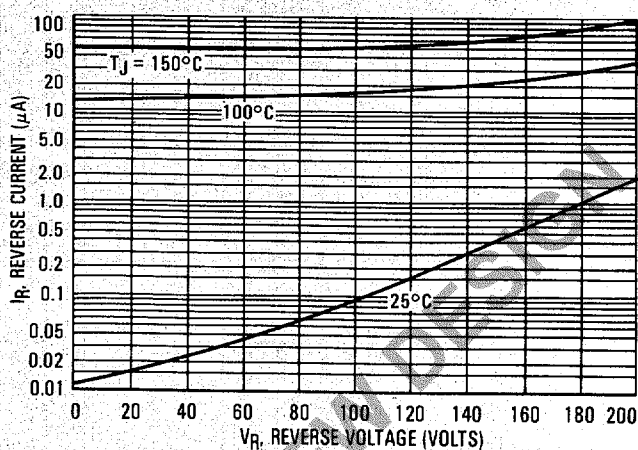


FIGURE 3 — CURRENT DERATING, CASE (PER LEG)

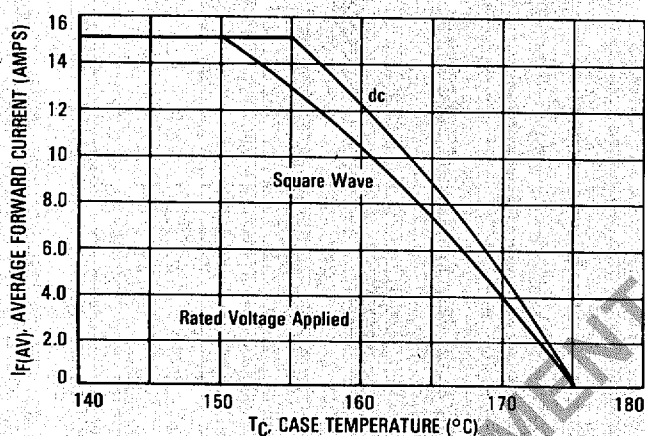


FIGURE 4 — CURRENT DERATING, AMBIENT (PER LEG)

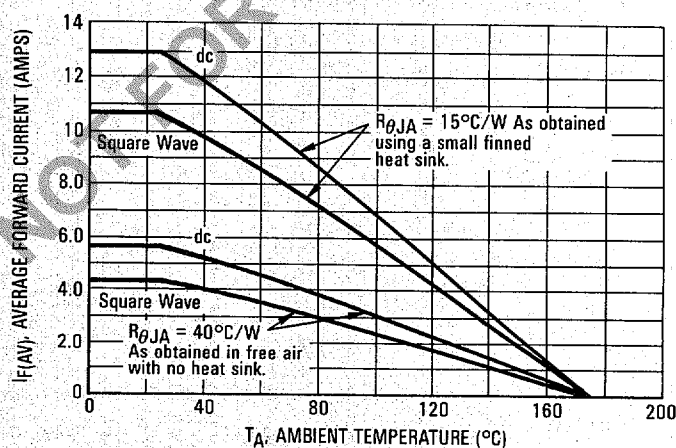


FIGURE 5 — POWER DISSIPATION (PER LEG)

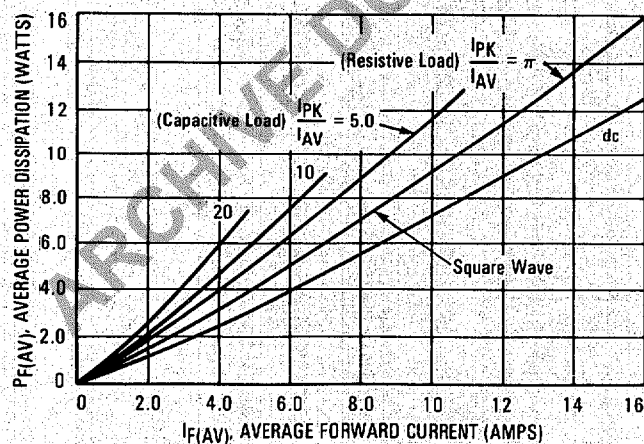
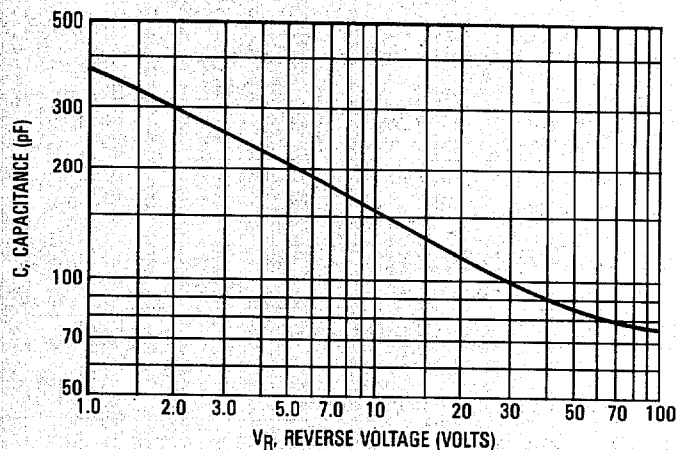


FIGURE 6 — TYPICAL CAPACITANCE



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