DIGITRON SEMICONDUCTORS

MUR3005PT-MUR3060PT **30A ULTRAFAST RECTIFIER**

MAXIMUM RATINGS

Rating	Symbol	MUR 3005 PT	3010 PT	3015 PT	3020 PT	3030 PT	3040 PT	3050 PT	3060 PT	Unit
Peak repetitive reverse voltage **Working peak reverse voltage** **DC blocking voltage**	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	500	600	V
Average rectified forward current (Rated V_R)	$I_{F(AV)}$	30 @ T_C = 150°C						30 @ T_C = 145°C		A
Peak repetitive forward current, per leg (Rated V_R, square wave, 20 kHz), T_C = 150°C)	I_{FRM}	30 @ T_C = 150°C						30 @ T_C = 145°C		A
Non-repetitive peak surge current (surge applied at rated load conditions halfwave, single phase, 60Hz)	I_{FSM}	200				150				A
Operating and storage junction temperature range	T_J, T_{stg}	-65 to +175								°C
Thermal resistance Junction to case Junction to ambient	 $R_{\Theta JC}$ $R_{\Theta JA}$	 1.5 40								°C/W

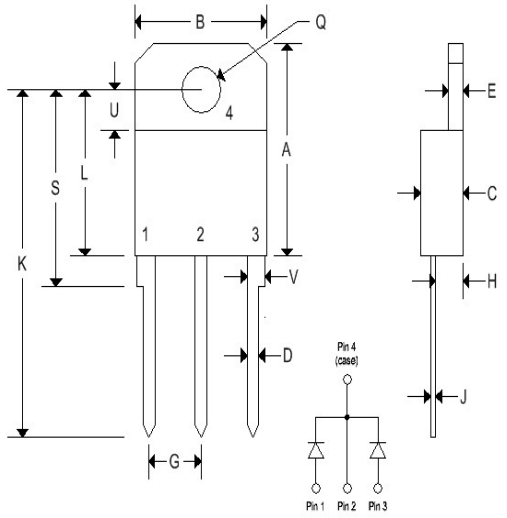
ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise noted)

Parameter	Symbol	MUR 3005 PT	3010 PT	3015 PT	3020 PT	3030 PT	3040 PT	3050 PT	3060 PT	Unit
Maximum instantaneous forward voltage(1) (I_F = 15A, T_J = 150°C) (I_F = 15A, T_J = 25°C)	V_F	0.85 1.05				1.12 1.25		1.2 1.5		V
Maximum instantaneous reverse current (1) (Rated dc voltage, T_J = 150°C) (Rated dc voltage, T_J = 25°C)	I_R	500 10						1000 10		µA
Maximum reverse recovery time (I_F = 1.0A, di/dt = 50A/µs)	t_{rr}	35				60				ns

Note 1: Pulse test: Pulse width = 300µs, duty cycle ≤ 2%.

MECHANICAL CHARACTERISTICS

Case	TO-218AC
Marking	Alpha-numeric
Pin out	See below



	TO-218AC			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.749	0.771	19.000	19.600
B	0.551	0.570	14.000	14.500
C	0.165	0.185	4.200	4.700
D	0.040	0.051	1.000	1.300
E	0.058	0.064	1.450	1.650
G	0.206	0.225	5.210	5.720
H	0.103	0.118	2.600	3.000
J	0.016	0.023	0.400	0.600
K	1.123	1.259	28.500	32.000
L	0.579	0.602	14.700	15.300
Q	0.158	0.167	4.000	4.250
S	0.689	0.712	17.500	18.100
U	0.134	0.149	3.400	3.800
V	0.060	0.078	1.500	2.000

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MUR3005PT-MUR3060PT 30A ULTRAFAST RECTIFIER

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).
Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

MUR3005PT, 3010PT, and 3015PT

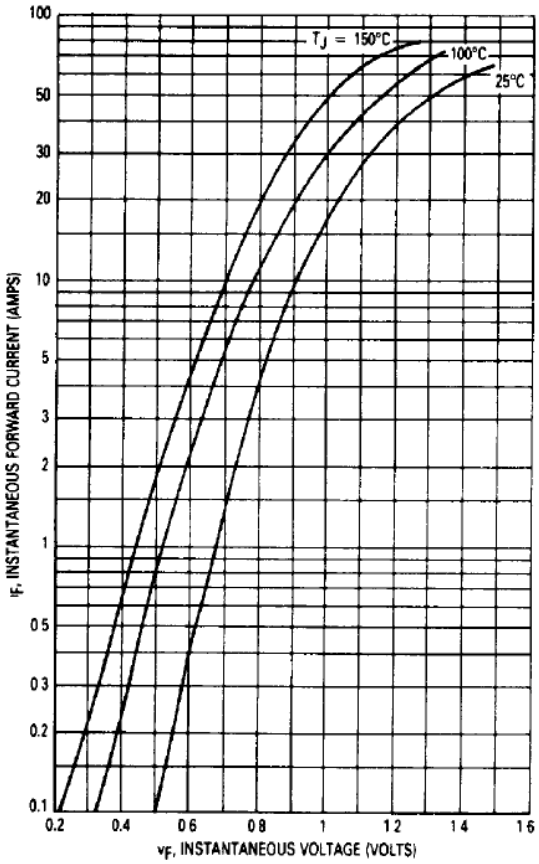
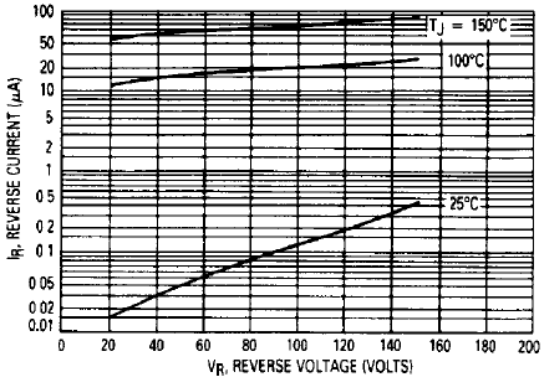


Figure 1. Typical Forward Voltage (Per Leg)



*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 same curves if V_R is sufficiently below rated V_R

Figure 2. Typical Reverse Current (Per Leg)*

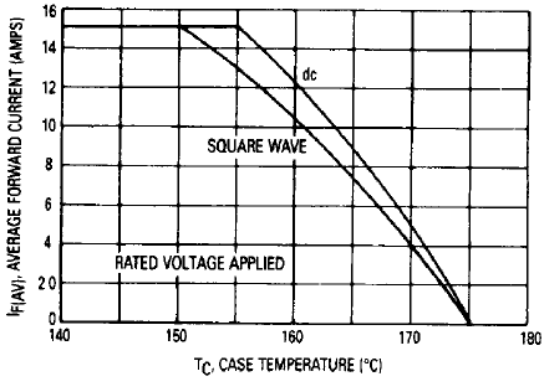


Figure 3. Current Derating, Case (Per Leg)

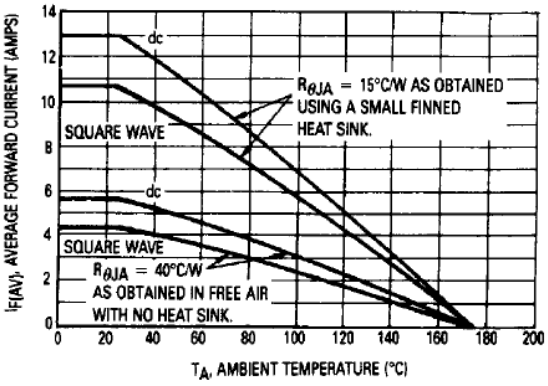


Figure 4. Current Derating, Ambient (Per Leg)

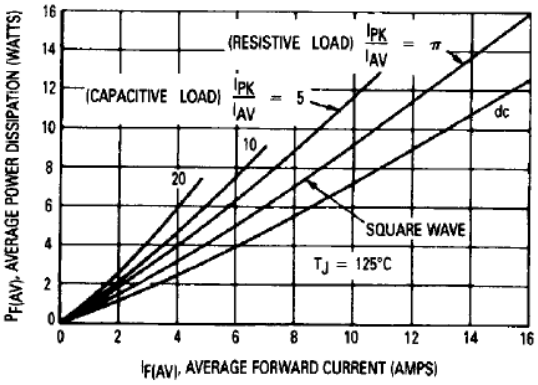


Figure 5. Power Dissipation (Per Leg)

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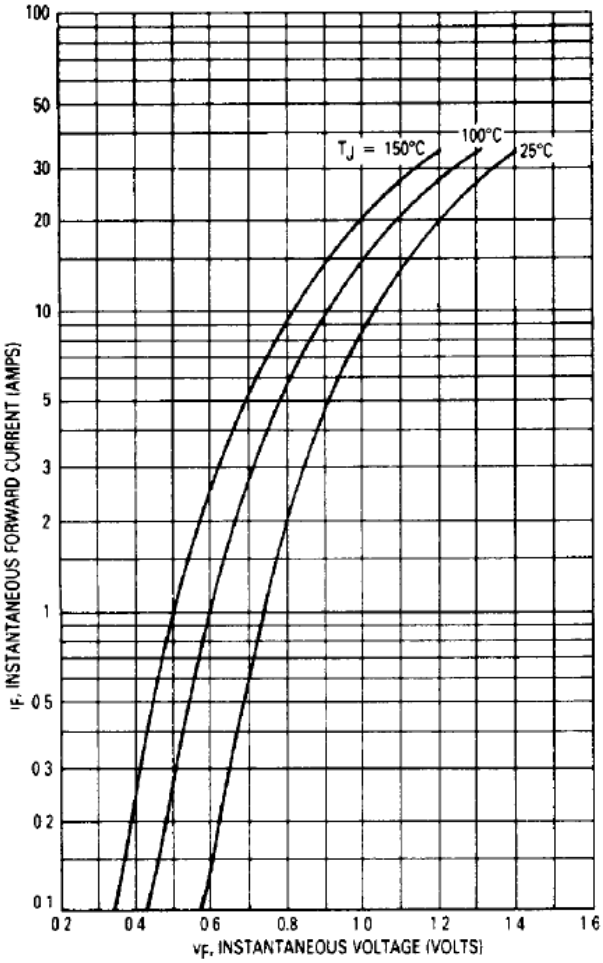

Figure 6. Typical Forward Voltage (Per Leg)

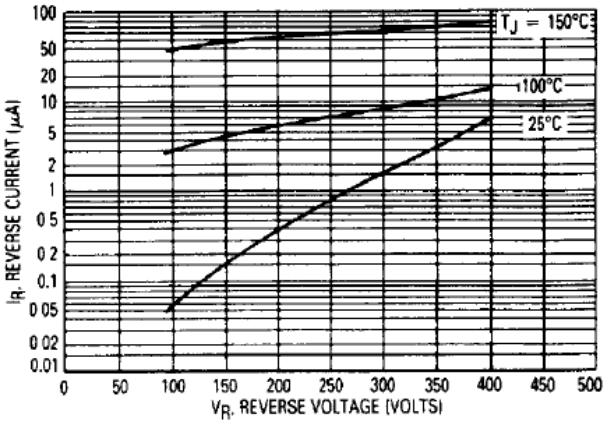

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Figure 7. Typical Reverse Current (Per Leg)*

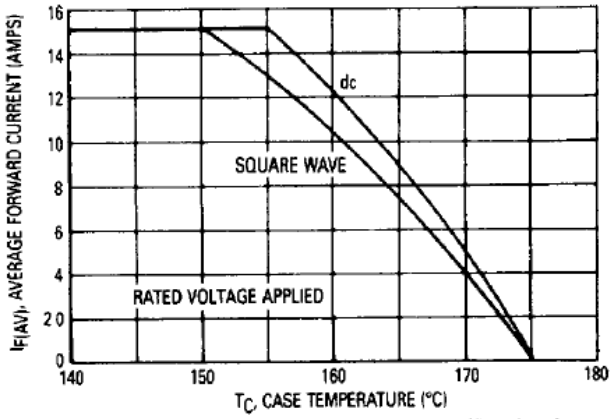

Figure 8. Current Derating, Case (Per Leg)

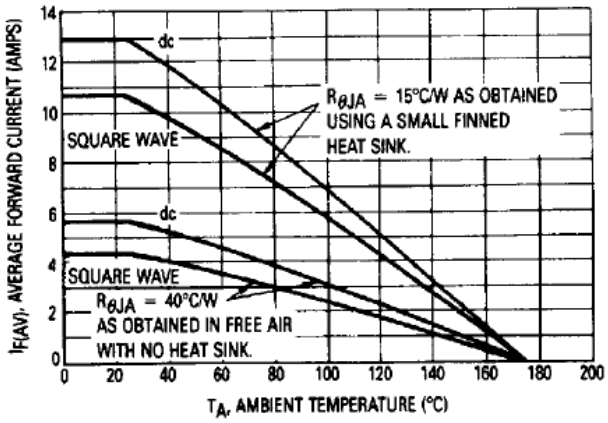

Figure 9. Current Derating, Ambient (Per Leg)

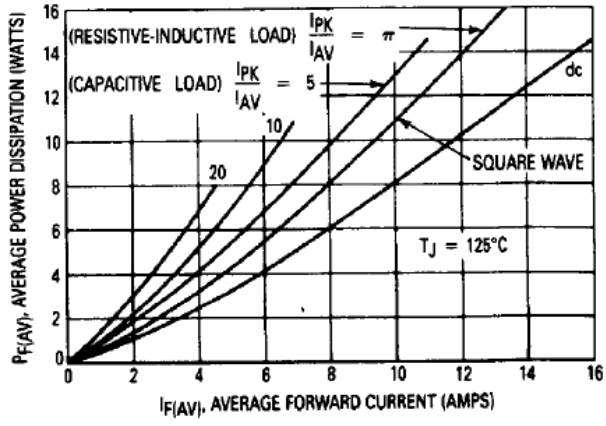

Figure 10. Power Dissipation (Per Leg)

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MUR3050PT and MUR3060PT

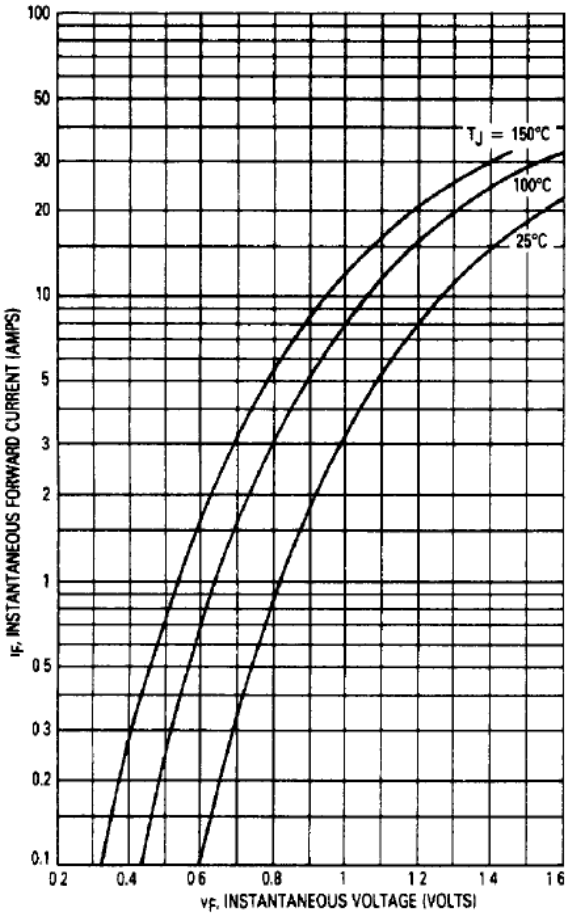

Figure 11. Typical Forward Voltage

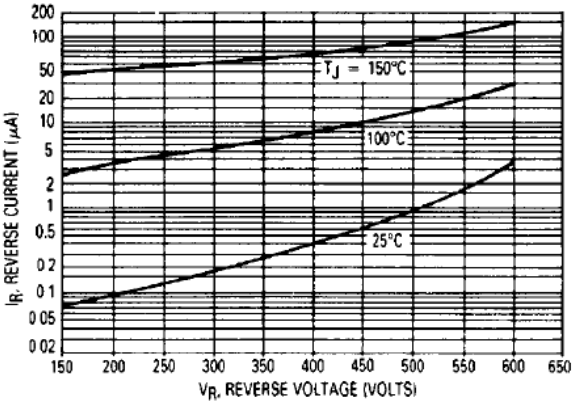

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Figure 12. Typical Reverse Current*

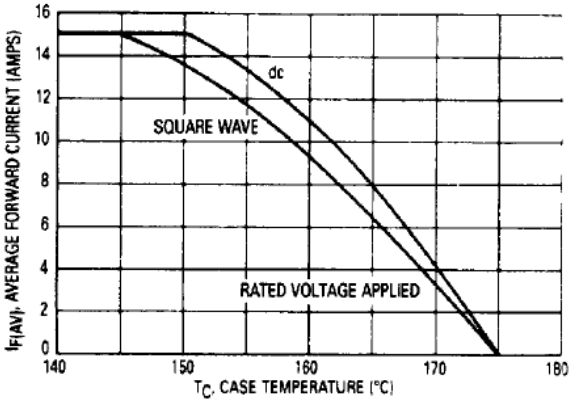

Figure 13. Current Derating, Case

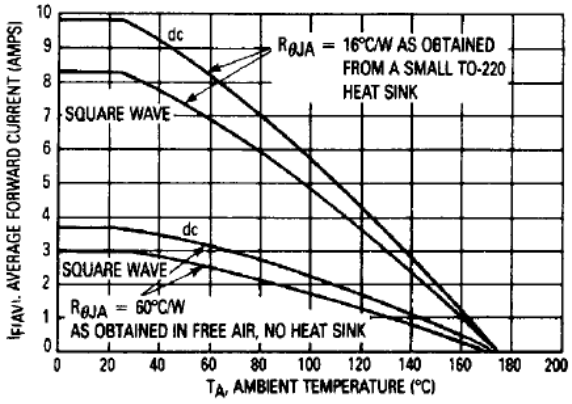

Figure 14. Current Derating, Ambient

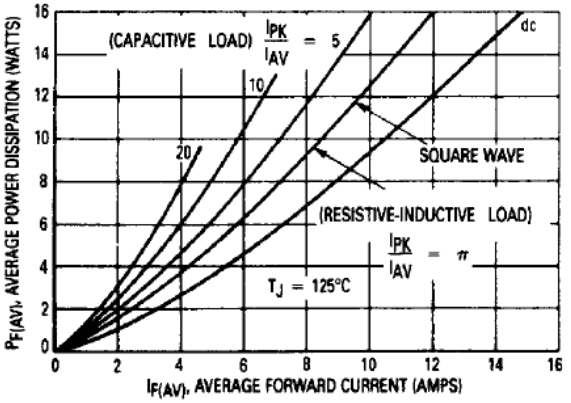

Figure 15. Power Dissipation

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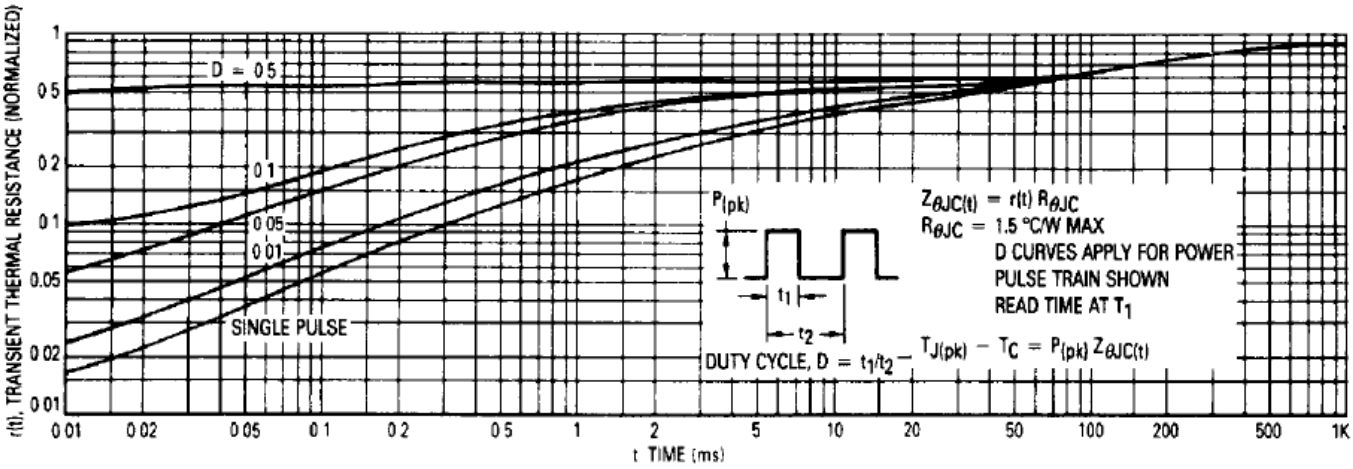

Figure 16. Thermal Response

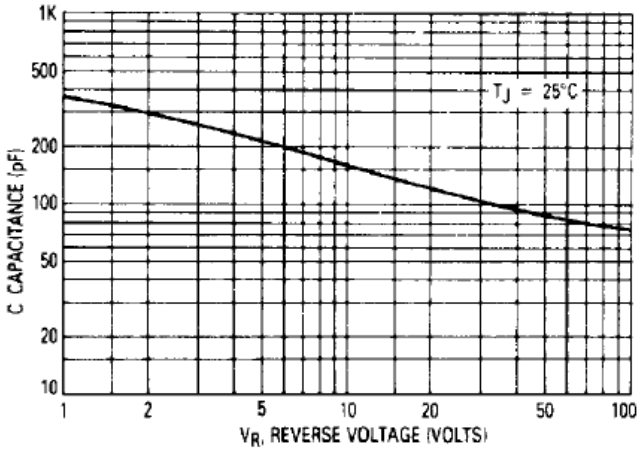

Figure 17. Typical Capacitance (Per Leg)

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