

MUR3005PT-MUR3060PT

30A ULTRA FAST RECTIFIERS

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	MUR3005PT	MUR3010PT	MUR3015PT	MUR3020PT	MUR3030PT	MUR3040PT	MUR3050PT	MUR3060PT	Unit
Peak repetitive reverse voltage	V_{RRM}									
Working peak reverse voltage	V_{RWM}	50	100	150	200	300	400	500	600	V
DC blocking voltage	V_R									
Average rectified forward current (Rated V_R)	$I_{F(AV)}$	30 @ $T_C = 150^\circ\text{C}$						30 @ $T_C = 145^\circ\text{C}$		A
Peak repetitive forward current, per leg (Rated V_R , square wave, 20 kHz), $T_C = 150^\circ\text{C}$)	I_{FRM}	30 @ $T_C = 150^\circ\text{C}$						30 @ $T_C = 145^\circ\text{C}$		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								$^\circ\text{C}$
Thermal resistance										
Junction to case	$R_{\theta JC}$	1.5								$^\circ\text{C/W}$
Junction to ambient	$R_{\theta JA}$	40								

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

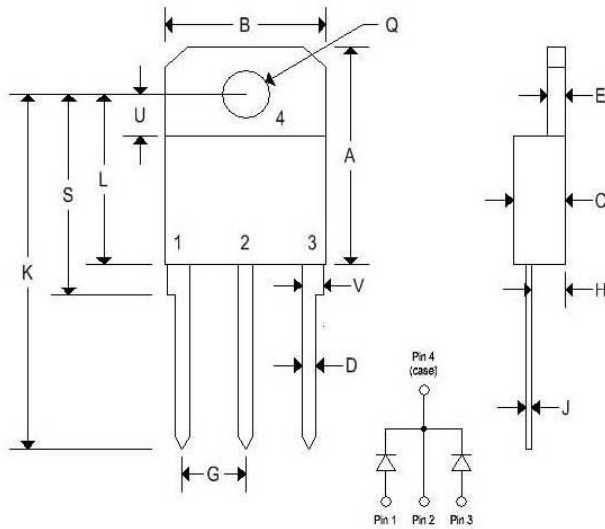
Parameter	Symbol	MUR3005PT	MUR3010PT	MUR3015PT	MUR3020PT	MUR3030PT	MUR3040PT	MUR3050PT	MUR3060PT	Unit
Maximum instantaneous forward voltage⁽¹⁾ ($I_F = 15\text{A}$, $T_J = 150^\circ\text{C}$) ($I_F = 15\text{A}$, $T_J = 25^\circ\text{C}$)	V_F		0.85 1.05			1.12 1.25		1.2 1.5		V
Maximum instantaneous reverse current⁽¹⁾ (Rated dc voltage, $T_J = 150^\circ\text{C}$) (Rated dc voltage, $T_J = 25^\circ\text{C}$)	I_R			500 10				1000 10		μA
Maximum reverse recovery time ($I_F = 1.0\text{A}$, $di/dt = 50\text{A}/\mu\text{s}$)	t_{rr}		35				60			ns

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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

MUR3005PT, 3010PT, and 3015PT

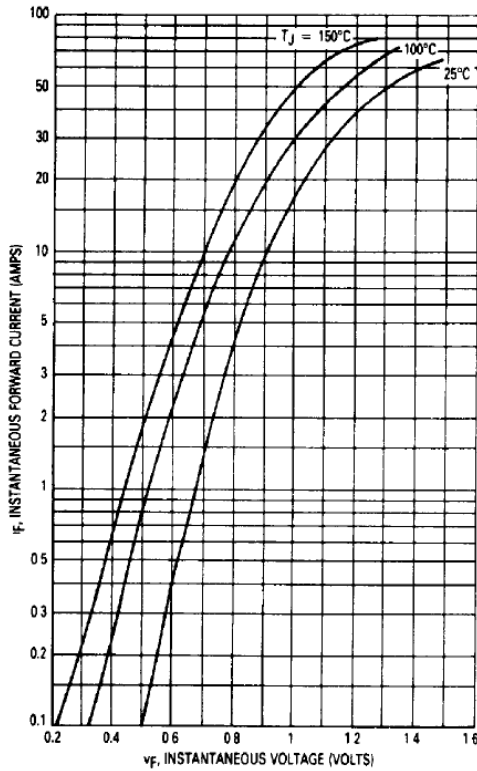
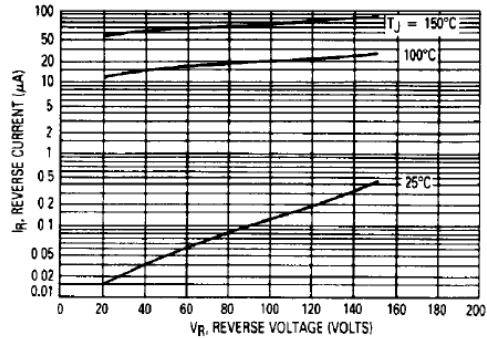


Figure 1. Typical Forward Voltage (Per Leg)



*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)*

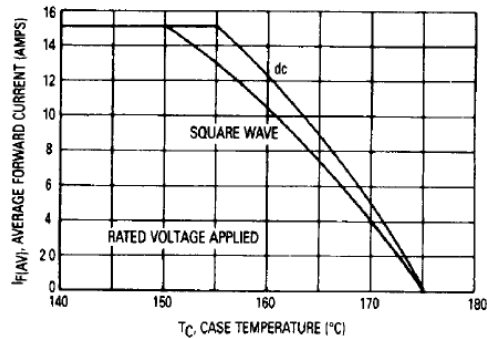


Figure 3. Current Derating, Case (Per Leg)

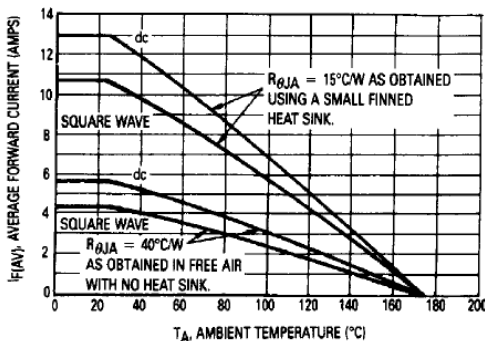


Figure 4. Current Derating, Ambient (Per Leg)

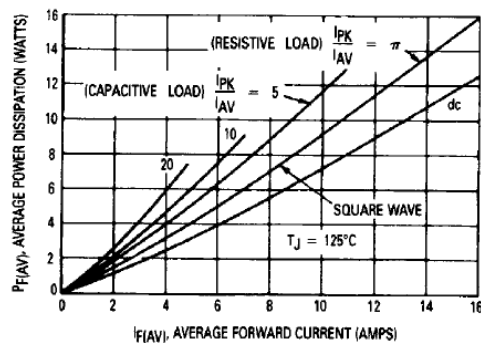


Figure 5. Power Dissipation (Per Leg)

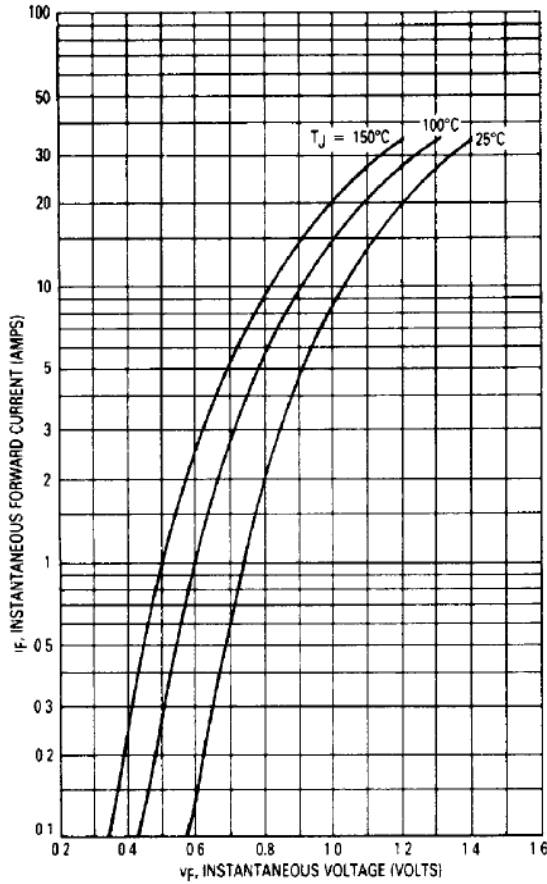
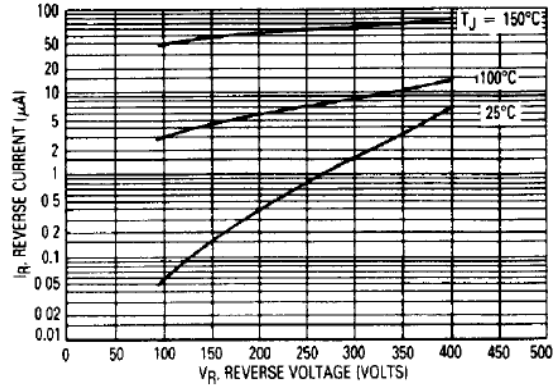


Figure 6. Typical Forward Voltage (Per Leg)



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Figure 7. Typical Reverse Current (Per Leg)*

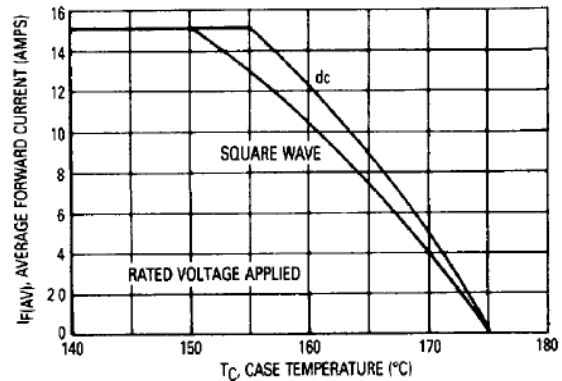


Figure 8. Current Derating, Case (Per Leg)

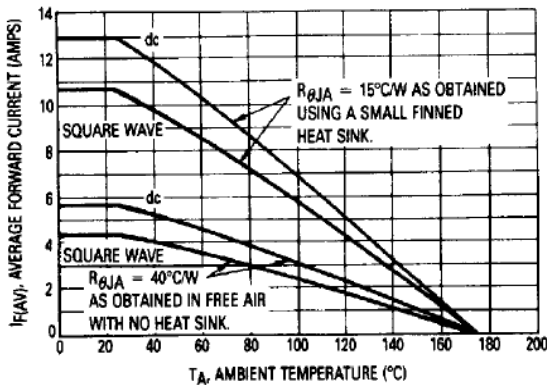


Figure 9. Current Derating, Ambient (Per Leg)

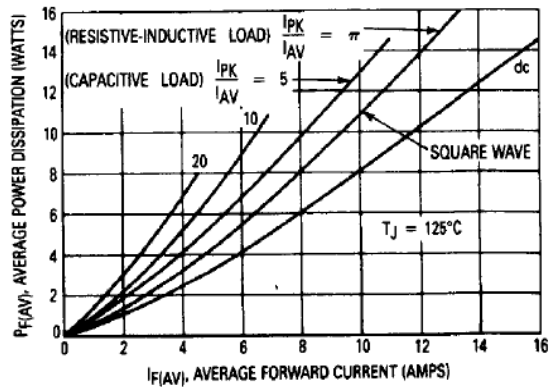


Figure 10. Power Dissipation (Per Leg)

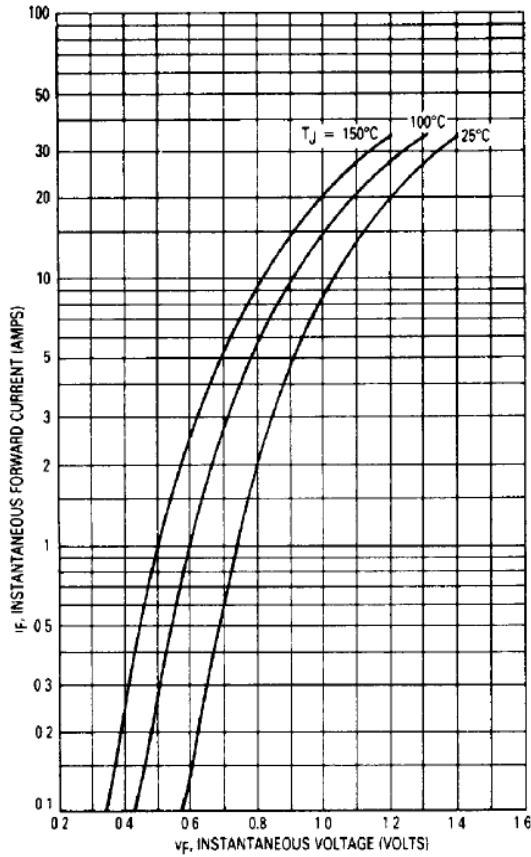
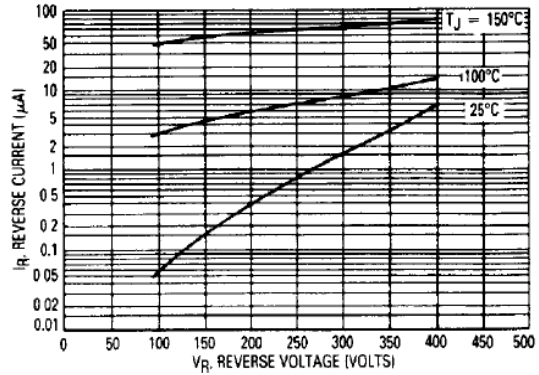


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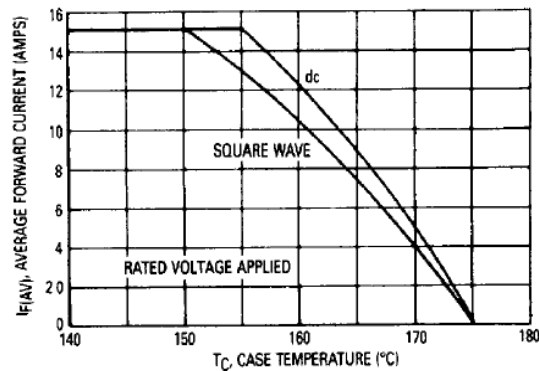


Figure 8. Current Derating, Case (Per Leg)

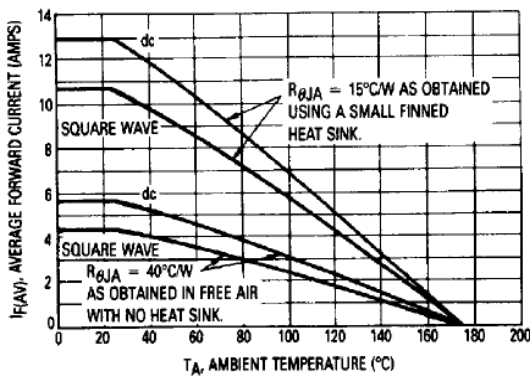


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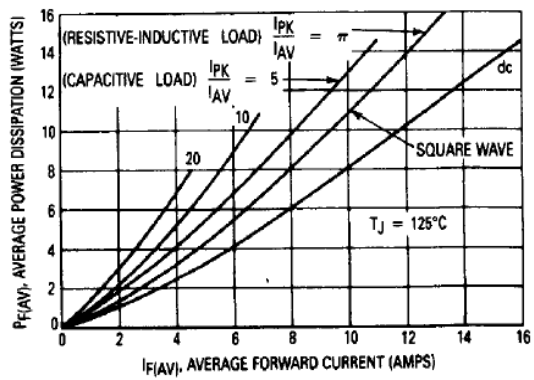


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