

# MUR405-MUR460

## 4 AMP ULTRA FAST RECTIFIER

### 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	MUR405	MUR410	MUR415	MUR420	MUR440	MUR460	Unit
<b>Peak repetitive reverse voltage</b>	$V_{RRM}$							
<b>Working peak reverse voltage</b>	$V_{RWM}$	50	100	150	200	400	600	V
<b>DC blocking voltage</b>	$V_R$							
<b>Average rectified forward current</b> (square wave) Mounting method per note 2	$I_{F(AV)}$	4.0 @ $T_A = 80^\circ\text{C}$				4.0 @ $T_A = 40^\circ\text{C}$		A
<b>Non-repetitive peak surge current</b> (surge applied at rated load conditions halfwave, single phase, 60Hz)	$I_{FSM}$	125				110		A
<b>Operating and storage junction temperature range</b>	$T_J, T_{stg}$	-65 to +175						$^\circ\text{C}$
<b>Maximum thermal resistance</b> Junction to ambient	$R_{\theta JA}$	Note 2						$^\circ\text{C/W}$

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

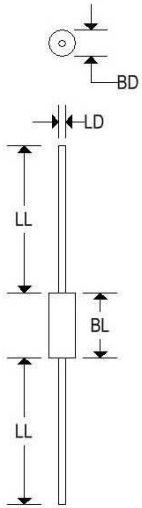
Parameter	Symbol	MUR405	MUR410	MUR415	MUR420	MUR440	MUR460	Unit
<b>Maximum instantaneous forward voltage</b> <sup>(1)</sup> ( $I_F = 3.0\text{A}, T_J = 150^\circ\text{C}$ ) ( $I_F = 3.0\text{A}, T_J = 25^\circ\text{C}$ ) ( $I_F = 4.0\text{A}, T_J = 25^\circ\text{C}$ )	$V_F$		0.71			1.05		V
			0.88			1.25		
			0.89			1.28		
<b>Maximum instantaneous reverse current</b> <sup>(1)</sup> (Rated dc voltage, $T_J = 150^\circ\text{C}$ ) (Rated dc voltage, $T_J = 25^\circ\text{C}$ )	$I_R$		150			250		$\mu\text{A}$
			5			10		
<b>Maximum reverse recovery time</b> ( $I_F = 1.0\text{A}, di/dt = 50\text{A}/\mu\text{s}$ ) ( $I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{REC} = 0.25\text{A}$ )	$t_{rr}$		35			75		ns
			25			50		
<b>Maximum forward recovery time</b> ( $I_F = 1.0\text{A}, di/dt = 100\text{A}/\mu\text{s}, I_{REC}$ to 1.0V)	$t_{fr}$		25			50		ns
<b>Controlled avalanche energy</b>	$W_{AVAL}$		-		5		-	mJ

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**MECHANICAL CHARACTERISTICS**

<b>Case</b>	DO-201A
<b>Marking</b>	Body painted, alpha-numeric
<b>Polarity</b>	Cathode band



	DO-201A			
	Inches		Millimeters	
	Min	Max	Min	Max
<b>BD</b>	0.190	0.260	4.826	6.604
<b>BL</b>	0.265	0.375	7.240	9.530
<b>LD</b>	0.048	0.062	1.219	1.321
<b>LL</b>	1.000	-	25.400	-

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### MUR405, MUR410, MUR415, MUR420

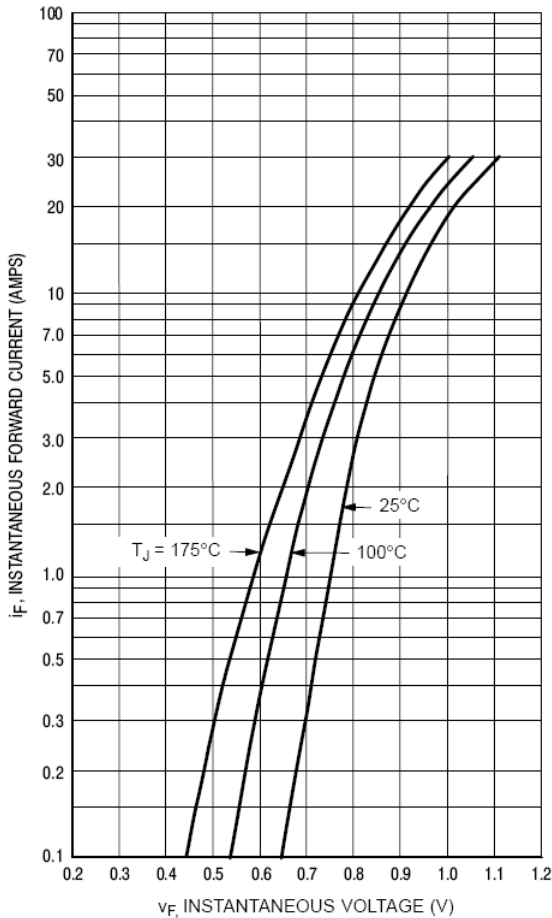


Figure 1. Typical Forward Voltage

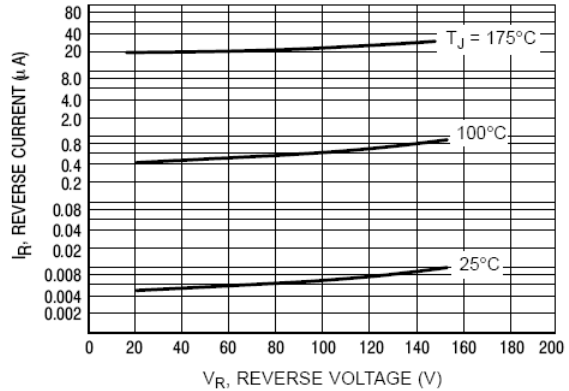


Figure 2. Typical Reverse Current

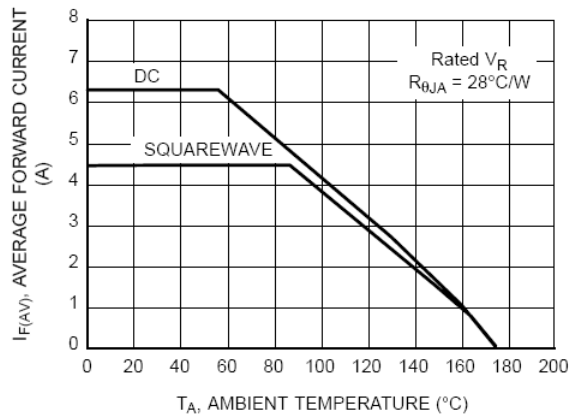


Figure 3. Current Derating  
(Mounting Method #3 Per Note 2)

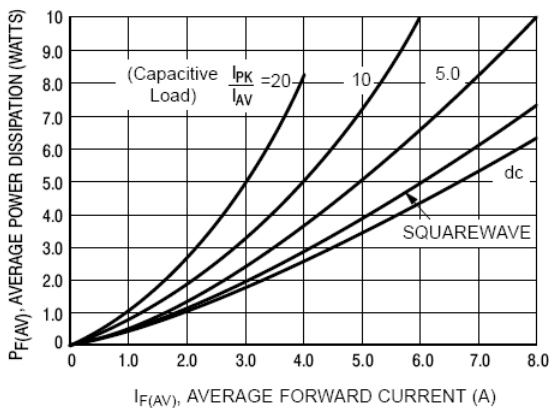


Figure 4. Power Dissipation

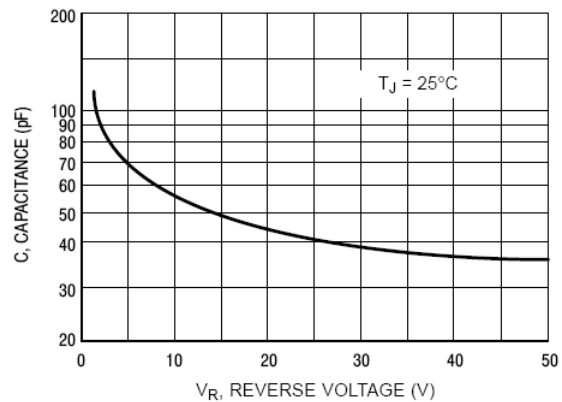


Figure 5. Typical Capacitance



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### MUR440, MUR460

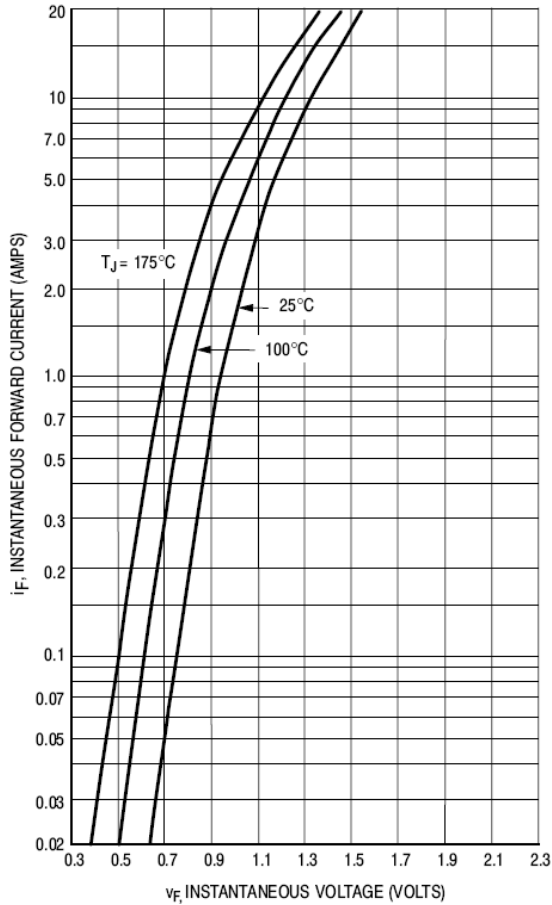


Figure 6. Typical Forward Voltage

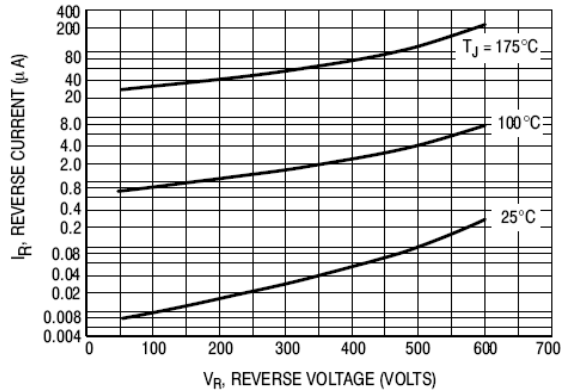


Figure 7. Typical Reverse Current

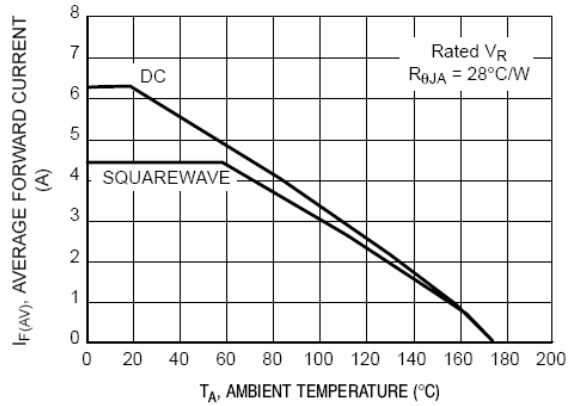


Figure 8. Current Derating  
(Mounting Method #3 Per Note 2)

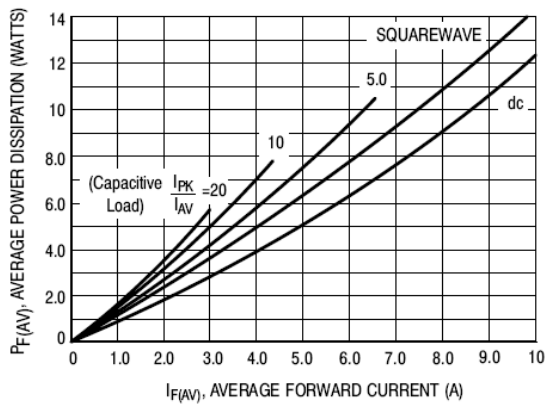


Figure 9. Power Dissipation

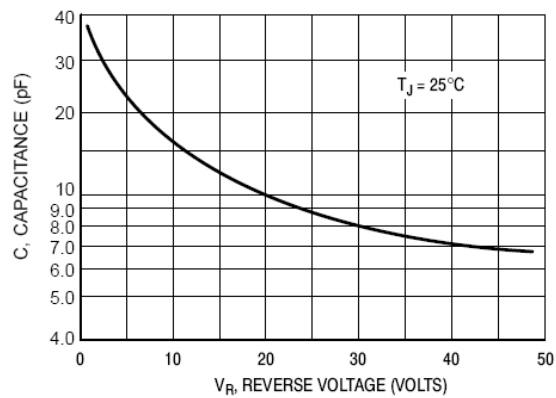


Figure 10. Typical Capacitance