FR6005 THRU FR610

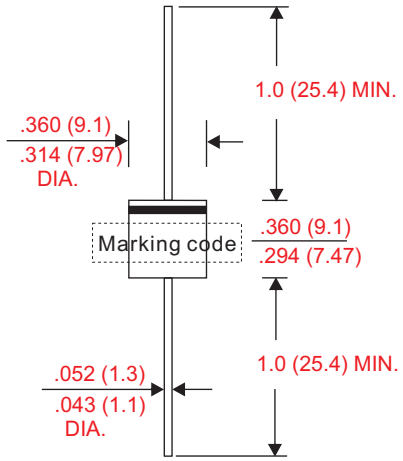
6A Leaded Type Fast Rectifiers

■ Features

- Axial lead type devices for through hole design.
- High current capability.
- Fast switching for high efficiency.
- High surge current capability.
- Glass passivated chip junction.
- Suffix "G" indicates Halogen free parts, ex. FR6005G
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Outline

R-6(P600)



Dimensions in inches and (millimeters)

■ Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, R-6(P600)
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guranteed
- Polarity : Color band denotes cathode end
- Weight : 0.07 ounce, 2.1 gram

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	0.375"(9.5mm) lead length at T_A = 75°C	I_O			6.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}			125	A
Reverse current	V_R = V_{RRM} T_A = 25°C	I_R			5.0	uA
	V_R = V_{RRM} T_A = 125°C				100	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		10		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		150		pF
Storage temperature		T_{STG}	-55		+150	°C

Symbol	Marking code	Max. repetitive peak reverse voltage V_{RRM} (V)	Max. RMS voltage V_{RMS} (V)	Max. DC blocking voltage V_R (V)	Max. forward voltage @6A, T_A = 25°C V_F (V)	Max. reverse recovery time(1) T_{rr} (ns)	Operating temperature T_J (°C)
FR6005	FR6005	50	35	50	1.30	150	-55 ~ +150
FR601	FR601	100	70	100			
FR602	FR602	200	140	200			
FR604	FR604	400	280	400			
FR606	FR606	600	420	600		250	
FR608	FR608	800	560	800		500	
FR610	FR610	1000	700	1000			

Note : 1. I_F = 0.5A, I_R = 1.0A , I_{RR} = 0.25A

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■ Rating and characteristic curves

Fig.1 - Forward Current Derating Curve

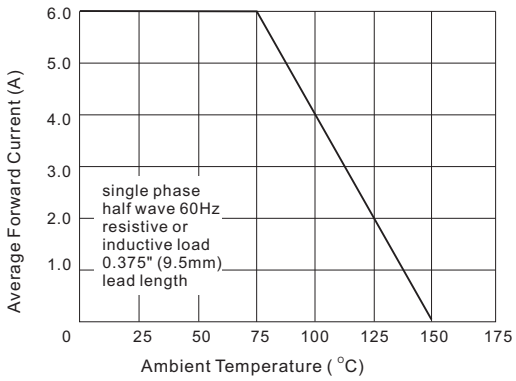


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

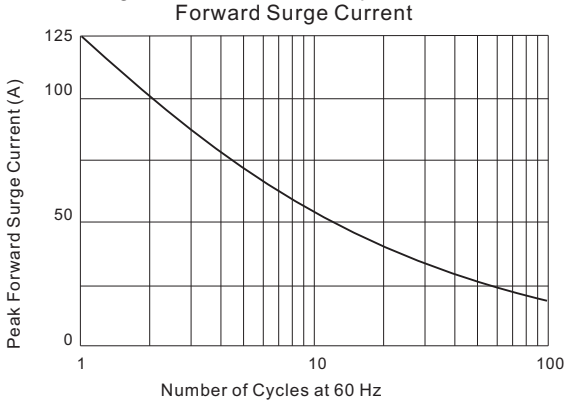


Fig. 3 - Typical Instantaneour Forward Characteristics

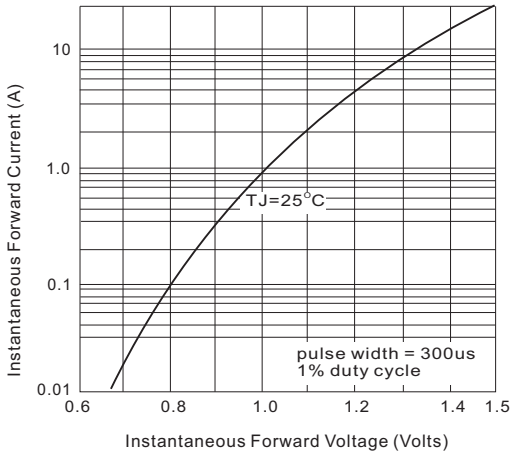


Fig. 4 - Typical Reverse Characteristics

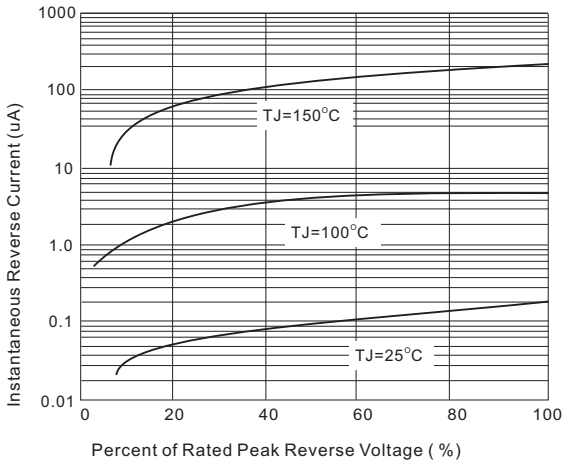
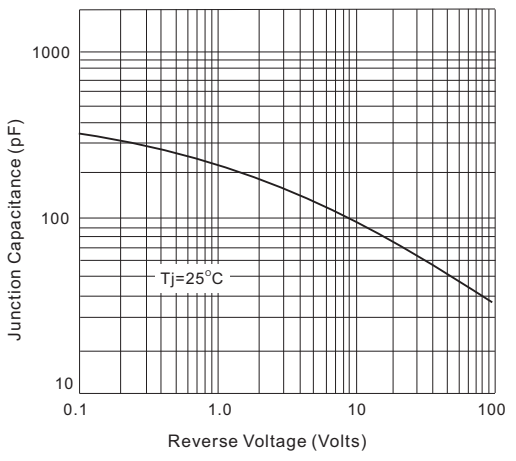


Fig. 5 - Typical Junction Capacitance



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