

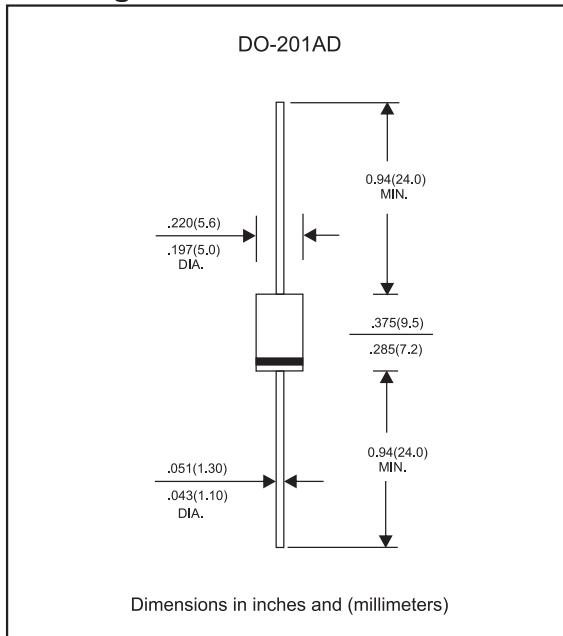
Features

- Axial lead type devices for through hole design.
- High current capability.
- Fast switching for high efficiency.
- High surge capability.
- Glass passivation junction chip insid.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex. FR301G-H.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-201AD
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position : Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_o			3.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			100	A
Reverse current	$V_R = V_{RRM} T_J = 25^\circ\text{C}$	I_R		5.0	μA	
	$V_R = V_{RRM} T_J = 125^\circ\text{C}$					
Diode junction capacitance	$f=1\text{MHz}$ and applied 4V DC reverse voltage	C_J		60		pF
Storage temperature		T_{STG}	-65		+175	$^\circ\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	t_{rr}^{*5} (ns)	Operating temperature T_J , ($^\circ\text{C}$)
FR301G	50	35	50			
FR302G	100	70	100			
FR303G	200	140	200			
FR304G	400	280	400			
FR305G	600	420	600			
FR306G	800	560	800			
FR307G	1000	700	1000			

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=3.0\text{A}$

*5 Maximum Reverse recovery time, note 1

Note 1. Reverse recovery time test condition, $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Rating and characteristic curves (FR301G THRU FR307G)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

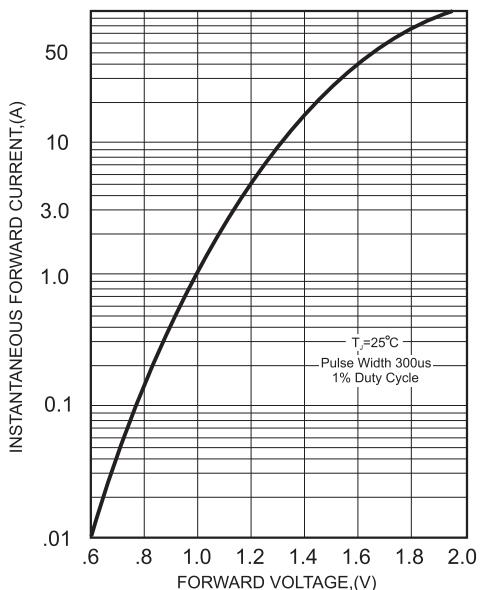
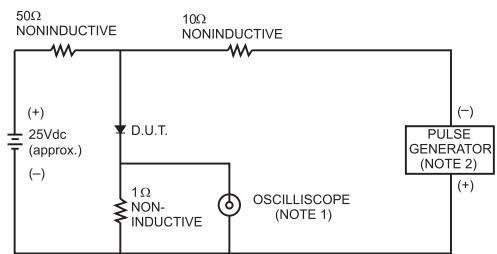
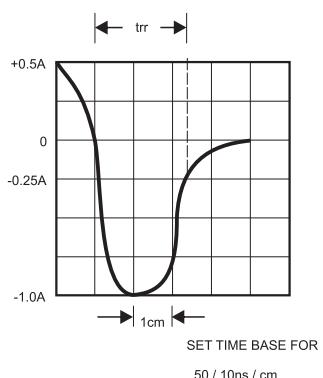


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.



SET TIME BASE FOR
50 / 10ns / cm

FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

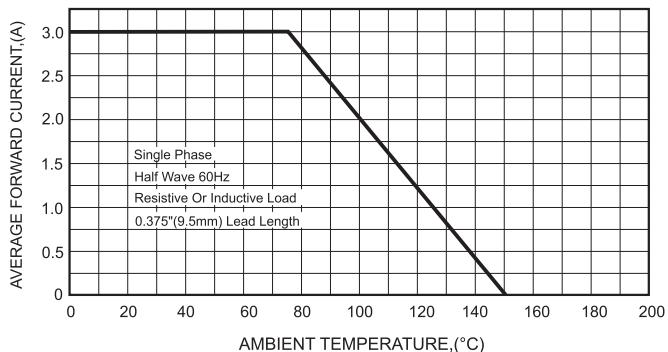


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

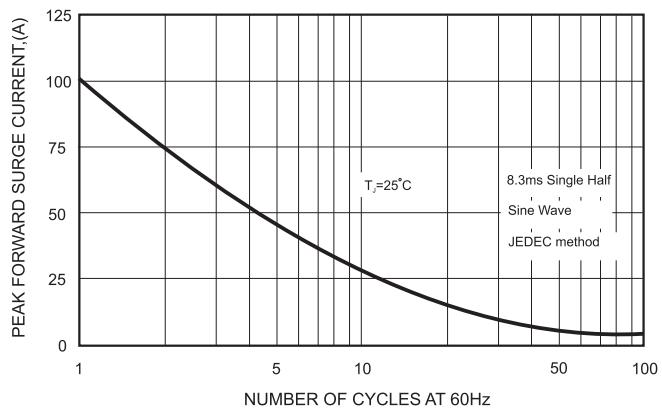
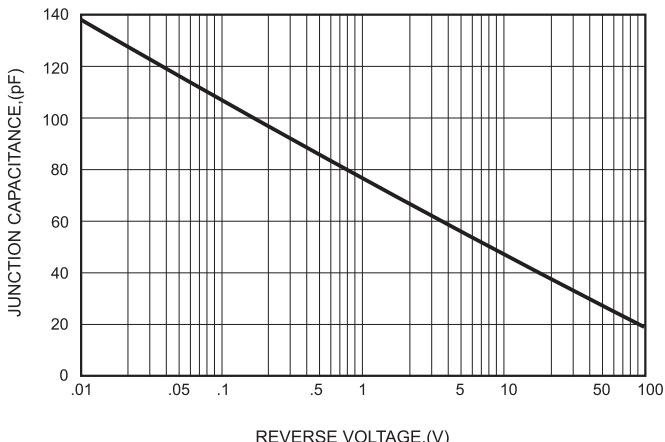


FIG.5-TYPICAL JUNCTION CAPACITANCE



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode		
Pin2 anode		

Marking

Type number	Marking code
FR301G	FR301G
FR302G	FR302G
FR303G	FR303G
FR304G	FR304G
FR305G	FR305G
FR306G	FR306G
FR307G	FR307G