

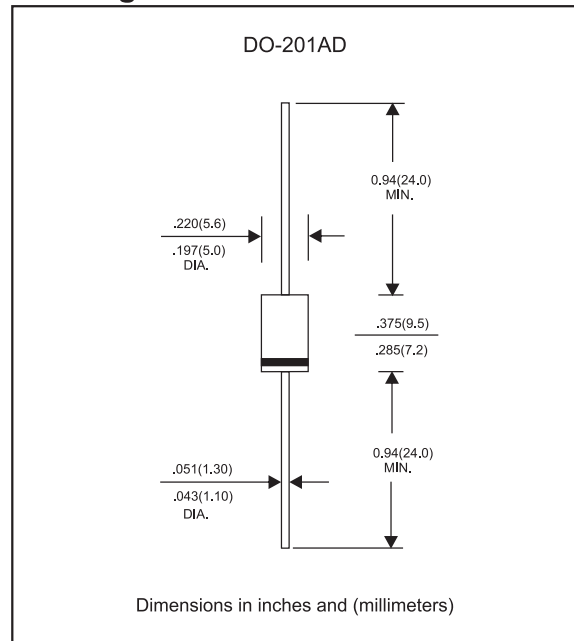
Features

- Axial lead type devices for through hole design
- High current capability.
- Superfast recovery time for switching mode application,
- High surge capability.
- Glass passivated chip junction structure.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen free parts, ex. SF31G-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	Ambient temperature = 55°C	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
	$V_R = V_{RRM}$ $T_J = 125^\circ\text{C}$				100	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		20		$^\circ\text{C/W}$
	Junction to case	$R_{\theta JC}$		12		$^\circ\text{C/W}$
	Junction to lead	$R_{\theta JL}$		8		$^\circ\text{C/W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		50		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 , ($^\circ\text{C}$)
SF31G	50	35	50	0.95	35	-55 to +150
SF32G	100	70	100			
SF33G	150	105	150			
SF34G	200	140	200			
SF35G	300	210	300	1.25	35	-55 to +150
SF36G	400	280	400			
SF37G	500	350	500	1.70	35	-55 to +150
SF38G	600	420	600			

*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 (SF31G THRU SF38G)

FIG.1- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

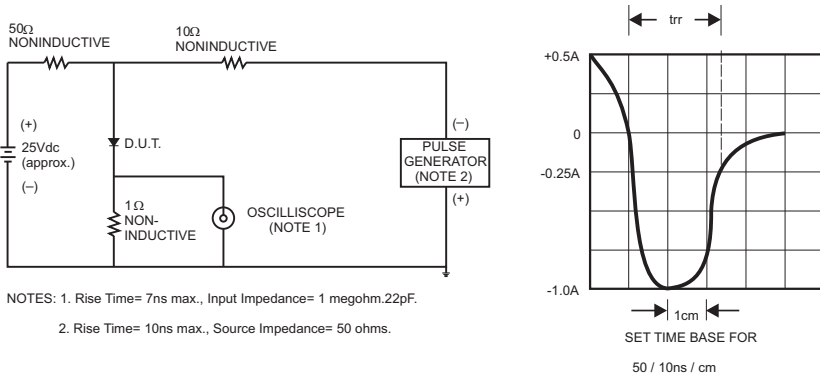


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

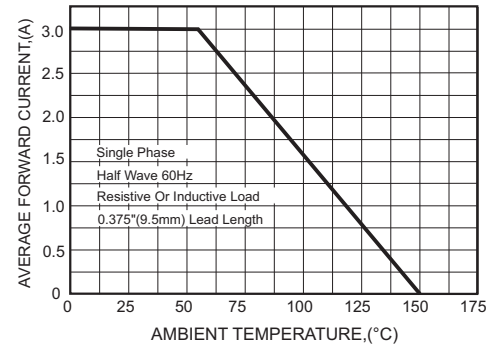


FIG.3-TYPICAL FORWARD CHARACTERISTICS

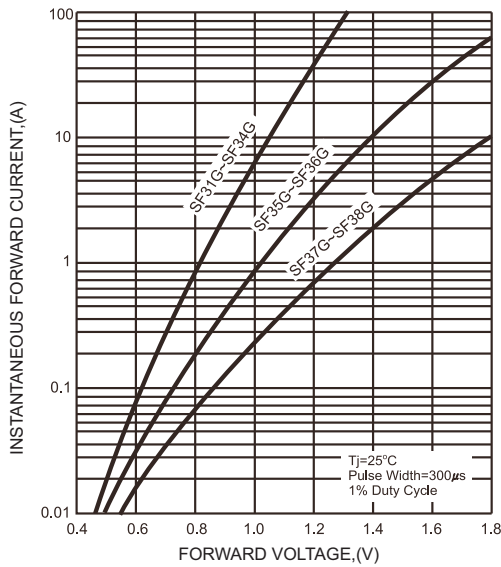


FIG.4-TYPICAL REVERSE CHARACTERISTICS

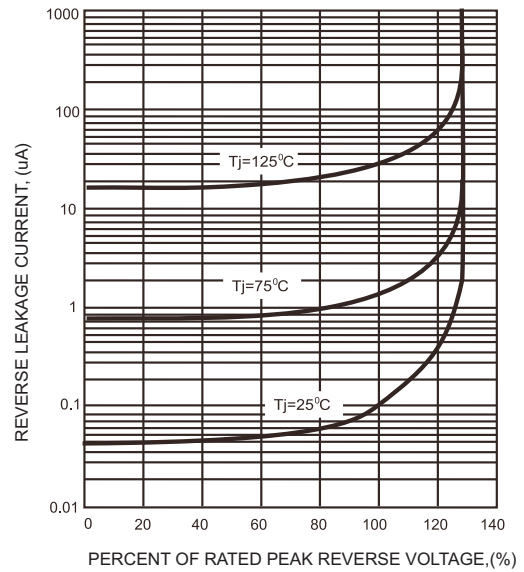


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

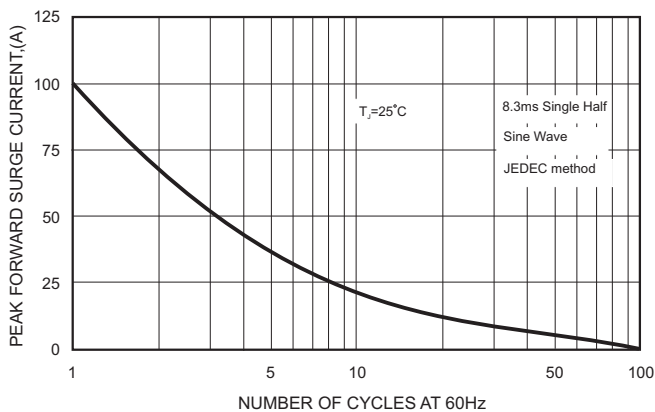
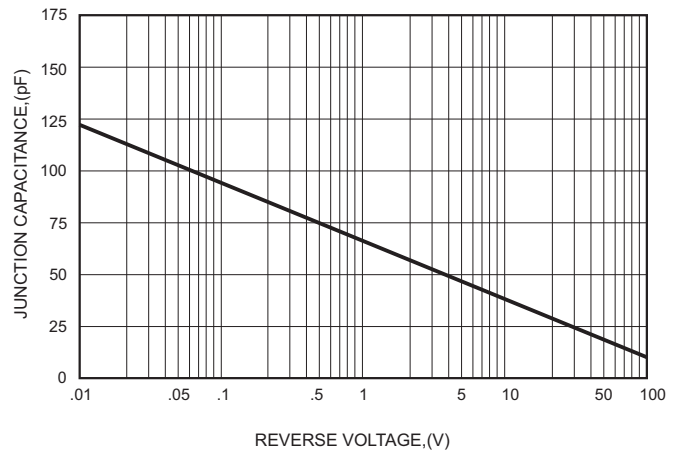




FIG.6-TYPICAL JUNCTION CAPACITANCE



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
SF31G	SF31G
SF32G	SF32G
SF33G	SF33G
SF34G	SF34G
SF35G	SF35G
SF36G	SF36G
SF37G	SF37G
SF38G	SF38G