

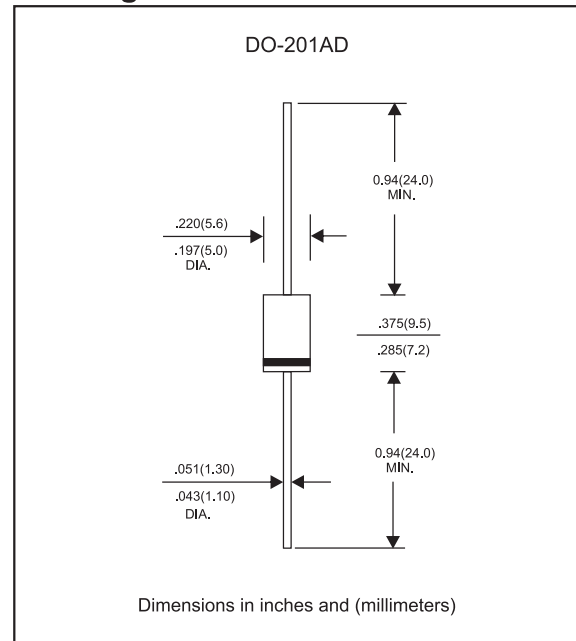
### Features

- 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 = $55^\circ\text{C}$	$I_O$			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	$\mu\text{A}$
	$V_R = V_{RRM}$ $T_J = 125^\circ\text{C}$				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			
SF38G	600	420	600	1.70	35	-55 to +150

\*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

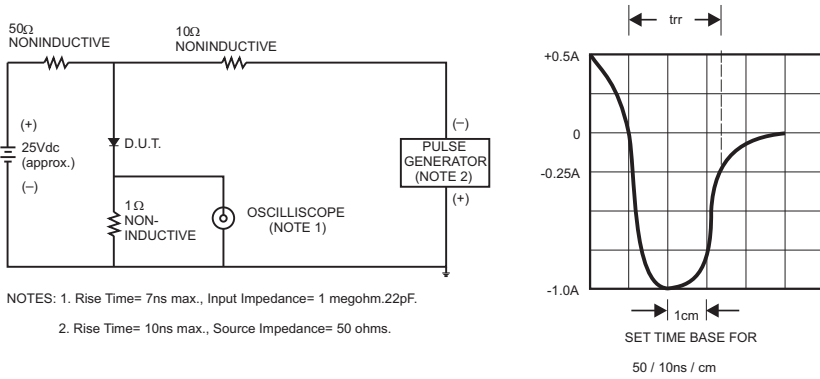


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

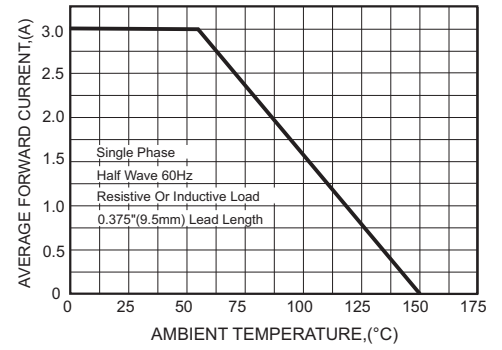


FIG.3-TYPICAL FORWARD CHARACTERISTICS

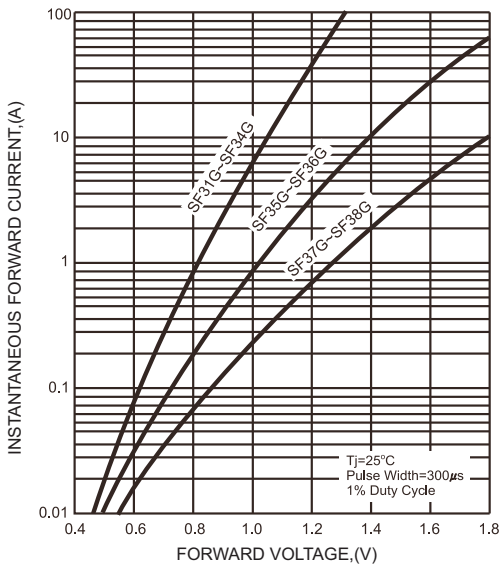


FIG.4-TYPICAL REVERSE CHARACTERISTICS

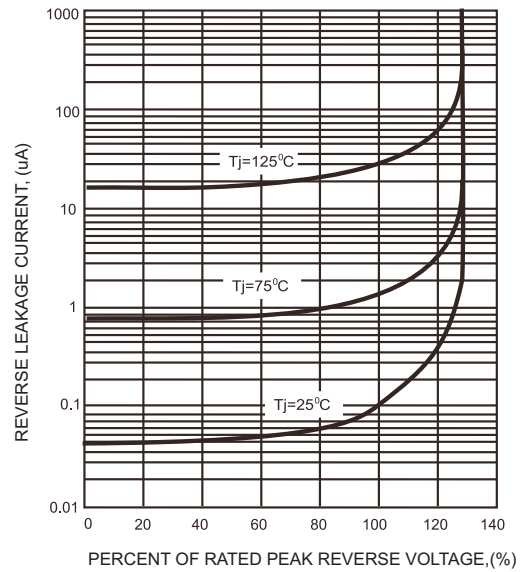


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

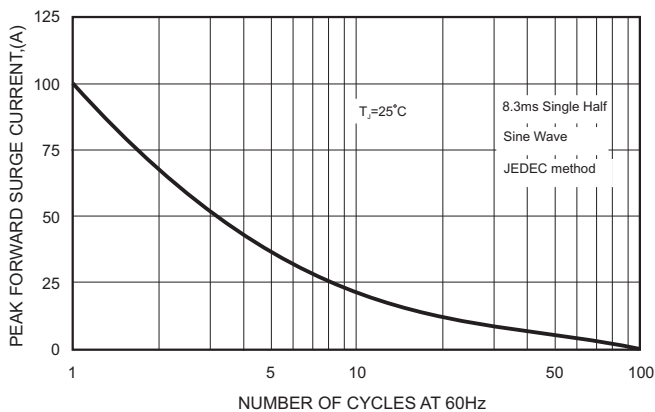
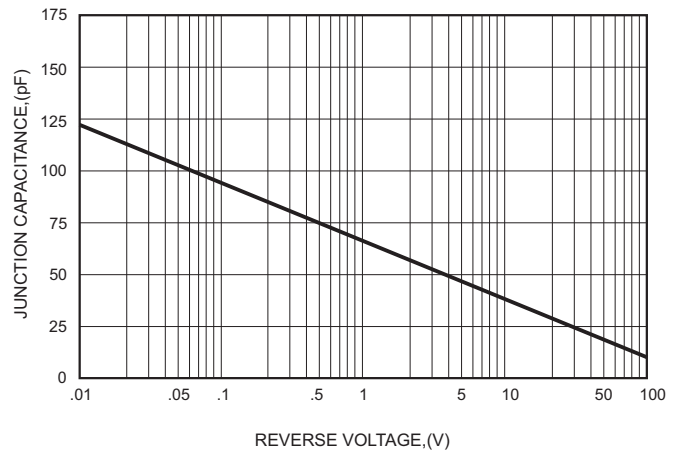




FIG.6-TYPICAL JUNCTION CAPACITANCE



## 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