

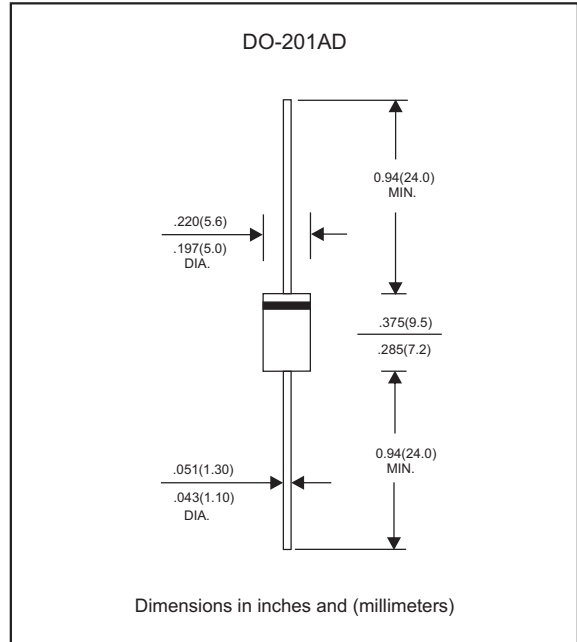
Features

- " Low reverse leakage current
- " Low forward drop & high current capability
- " High surge current capability
- " Super fast switching speed of high efficiency
- " Glass passivated bip junction
- " High reliability
- " Lead-free parts or green partner, meet RoHS requirements
- " Suffix "H" indicates halogen free parts, e.g. SF51G-H.

Mechanical data

- " Epoxy : UL94-V0 rated flame retardant
- " Case : Molded plastic, DO-201AD
- " Lead : Axial leads, solderable per ML-STD-202, method M08 guaranteed
- " Polarity: Color band denotes cathode end
- " Mounting Position : Any

Package outline



Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	Ambient temperature = 55°C	I _o			5.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC method)	I _{FSM}			150	A
Reverse current	V _R = V _{RRM} , T _J = 50°C	I _R			5.0	μA
	V _R = V _{RRM} , T _J = 25°C				100	
Thermal resistance	Junction to ambient	R _{JA}		30		°C/W
Diode junction capacitance	f=1MHz and applied V _R reverse voltage	C _J		80		pF
Storage temperature		T _{STG}	-65		+175	°C

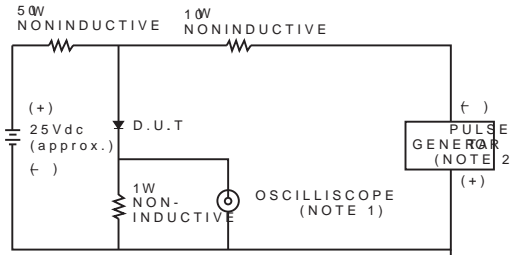
SYMBOLS	V _{RRM} ^{*1} (V)	V _{RMS} ^{*2} (V)	V _R ^{*3} (V)	V _F ^{*4} (V)	t _r ^{*5} (ns)	Operating temperature T _J , (°C)
SF51G	50	35	50	0.95	35	-55 to +150
SF52G	100	70	100			
SF53G	150	105	150			
SF54G	200	140	200			
SF55G	300	210	300	1.25		
SF56G	400	280	400			
SF57G	500	350	500	1.70		
SF58G	600	420	600			

- *1 Repetitive peak reverse voltage
- *2 RMS voltage
- *3 Continuous reverse voltage
- *4 Maximum forward voltage @ I_F=5.0A
- *5 Maximum reverse recovery time, note 1

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

Rating and characteristic curves

FIG. 1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY CHARACTERISTICS OF SF51GHRU SF58G



NOTES: 1. Trise = 7ns max., Input Impedance = 1 megohm, 22pF
Tm = 10ns max., Source Impedance = 50 ohms.

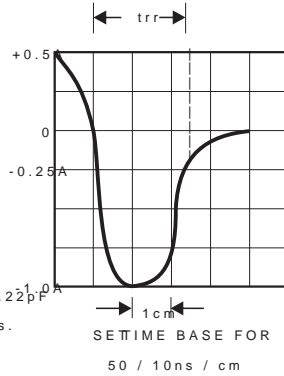


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

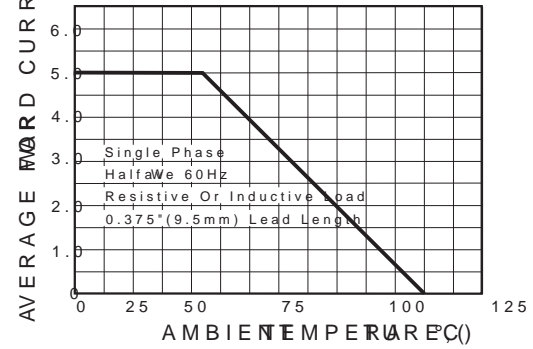


FIG. 3-TYPICAL FORWARD CHARACTERISTICS

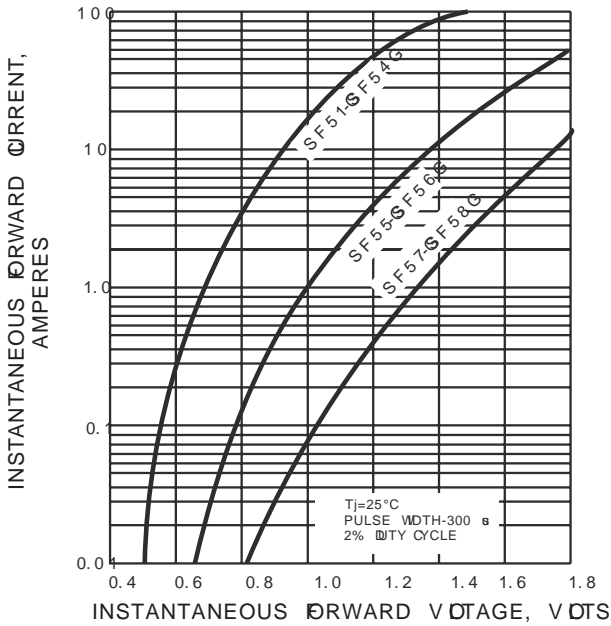


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

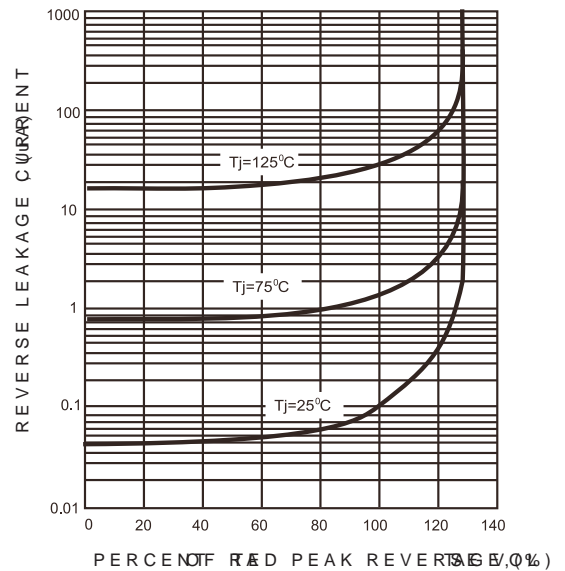


FIG. 5-MAXIMUM NON-REPEATED SURGE CURRENT

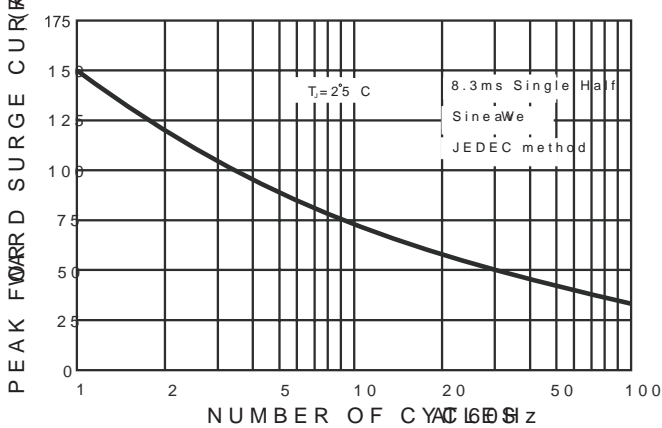
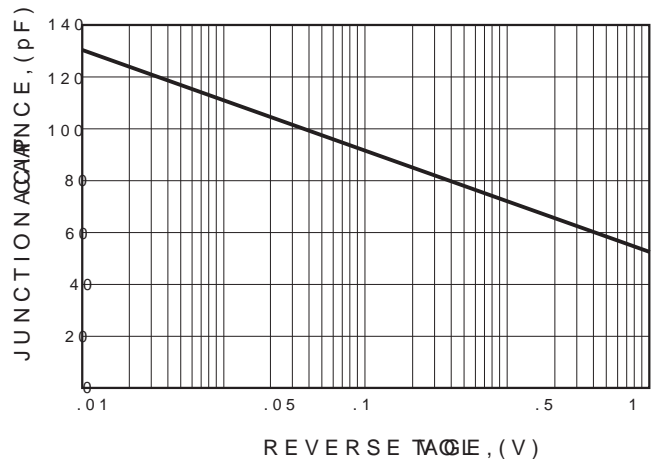




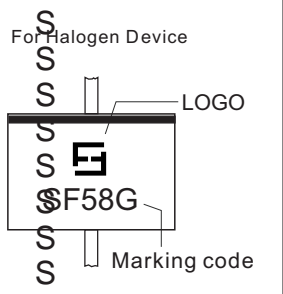
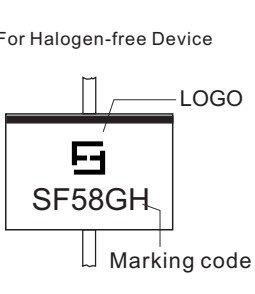
FIG. 6-TYPICAL JUNCTION CAPACITANCE



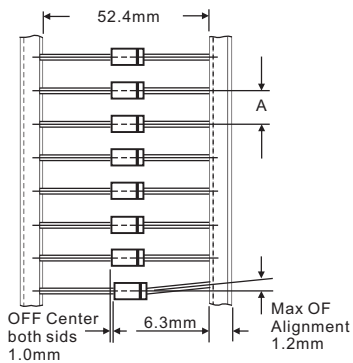
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code	Example	
SF51G	F51G	 <p>For Halogen Device</p>	 <p>For Halogen-free Device</p>
SF52G	F52G		
SF53G	F53G		
SF54G	F54G		
SF55G	F55G		
SF56G	F56G		
SF57G	F57G		
SF58G	F58G		

Taping specifications for AXIAL devices



AMMO PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-201AD	1,250	258 * 75 * 143	405 * 270 * 320	12,500	14.0

Suggested thermal profiles for soldering processes

1. Lead free temperature profile wave-soldering

