

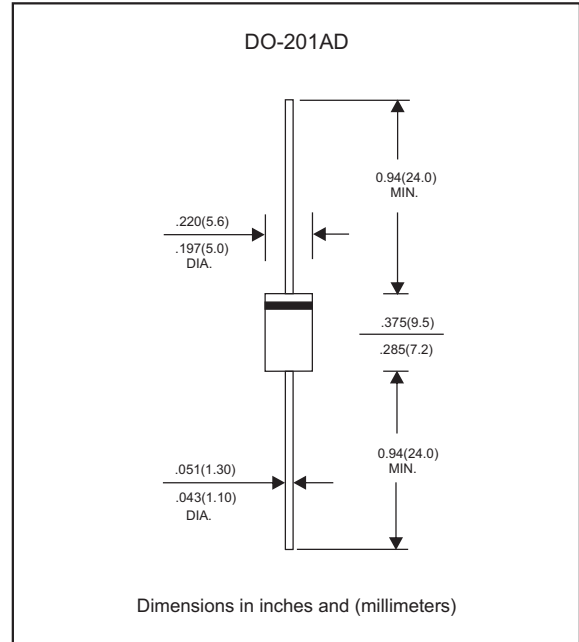
Features

- " 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 for green partner, meet RoHS requirements
- " Suffix "H" indicates halogen free parts, e.g. SF51G-H.

Mechanical data

- " Epoxy : UL94-V0 rated flame retardant
- " Case : Moulded 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 $T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOLS	SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF57G	SF58G	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	5.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150								A
Maximum instantaneous forward voltage at 5.0A	V_F	0.95			1.25		1.7			V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	10.0 100.0								mA
Maximum reverse recovery time (NOTE 1)	t_{rr}	35								ns
Typical junction capacitance (NOTE 2)	C_J	80.0								pF
Typical thermal resistance (NOTE 3)	R_{qJA}	30.0								$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150								$^\circ\text{C}$

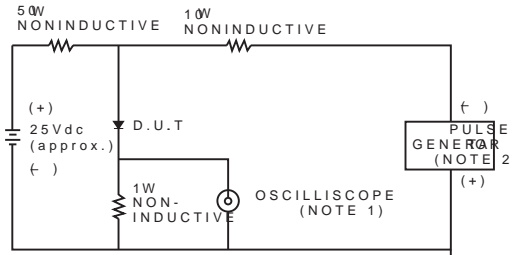
Note: 1.Reverse recovery condition $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$

2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3.Thermal resistance from junction to ambient at 0.375" (9.5mm)lead length,P.C.B. mounted

Rating and characteristic curves

FIG. 1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY CHARACTERISTICS FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE



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

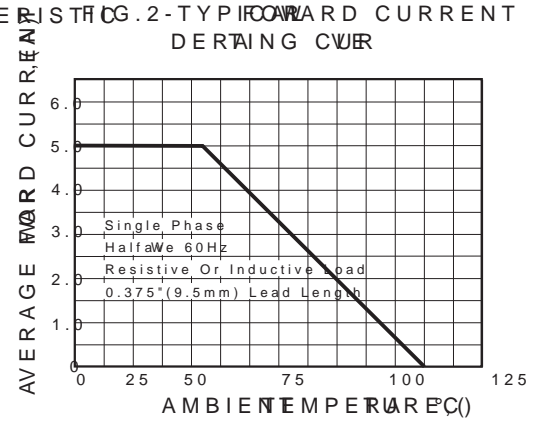
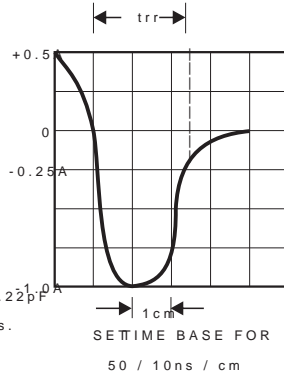


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

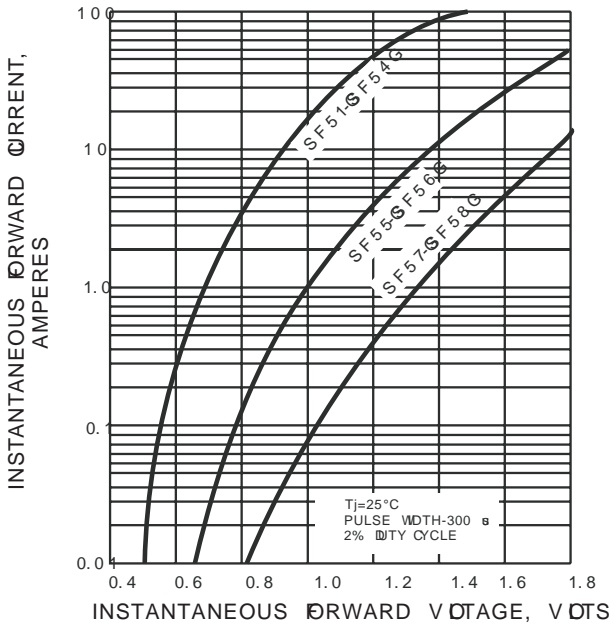


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

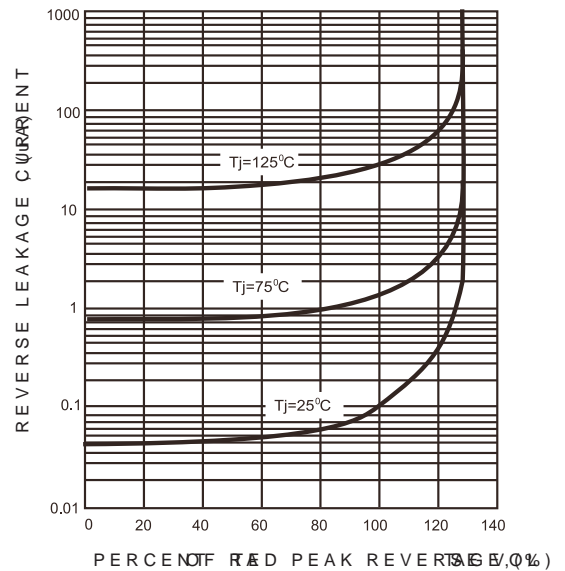


FIG. 5-MAXIMUM NON-REPEATING SURGE CURRENT

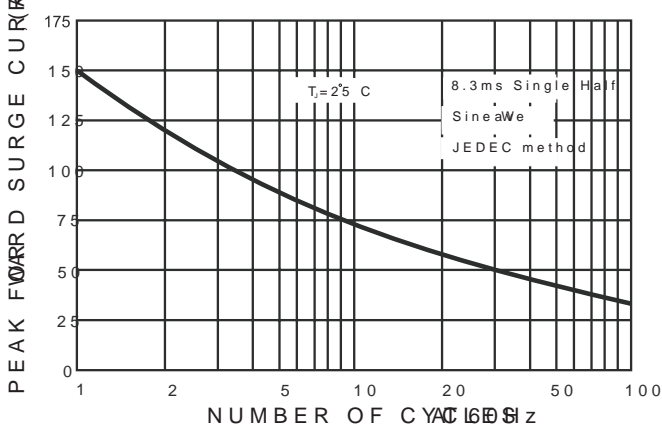
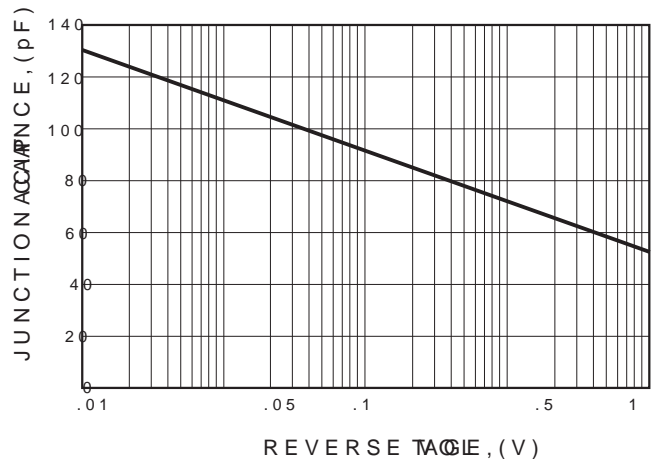




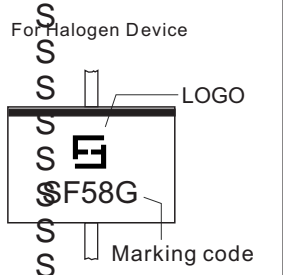
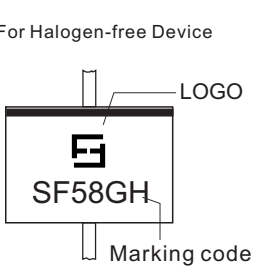
FIG. 6-TYPICAL JUNCTION CAPACITANCE



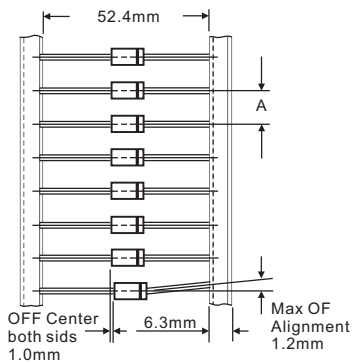
Pinning information

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

