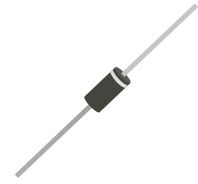


Super Fast Rectifiers

SF51-G Thru. SF58-G

Reverse Voltage: 50 to 600 Volts
Forward Current: 5.0 Amp
RoHS Device

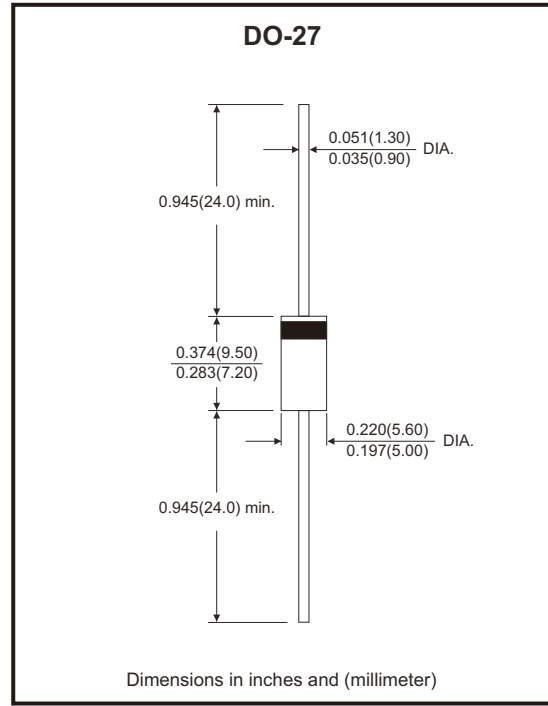


Features

- Open junction chip.
- Low reverse leakage.
- High forward surge current capability.
- High temperature soldering guaranteed 250°C/10 seconds at terminals.

Mechanical data

- Epoxy: UL 94V-0 rate flame retardant.
- Case: DO-27, molded plastic.
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode.
- Weight: 0.98 grams approx.
- Mounting position: Any.



Circuit Diagram



Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load derate current by 20%.

Parameter	Symbol	SF51-G	SF52-G	SF53-G	SF54-G	SF55-G	SF56-G	SF58-G	Unit
Max. repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	V
Max. RMS voltage	V_{RMS}	35	70	105	140	210	280	420	V
Max. DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	V
Max. average forward rectified current at $T_L=100^\circ\text{C}$	$I_{(AV)}$	5.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	200							A
Max. instantaneous forward voltage at 5.0A	V_F	0.95				1.25		1.7	V
Max. DC reverse current at rated DC blocking voltage	@ $T_A=25^\circ\text{C}$	10							μA
	@ $T_A=125^\circ\text{C}$	500							
Max. reverse recovery time (Note 1)	T_{rr}	35				nS			
Typical Junction capacitance (Note 2)	C_J	80				pF			
Typical thermal resistance	$R_{\theta JA}$	45				$^\circ\text{C/W}$			
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

Notes: 1. Reverse recovery time test condition: $I_F=0.5\text{A}$, $I_R=0.1\text{A}$, $I_{rr}=0.25\text{A}$
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

Rating and Characteristic Curves (SF51-G Thru. SF58-G)

Fig.1 - Derating Curve Output Rectified Current

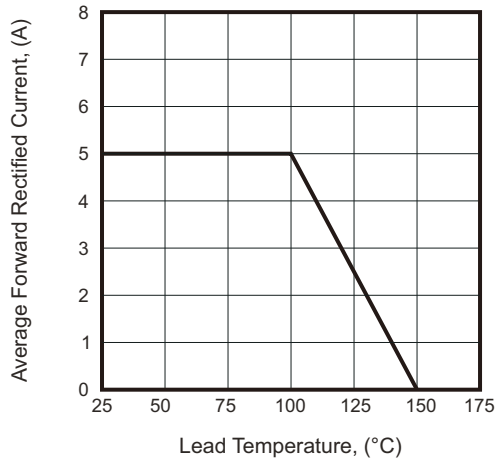


Fig.2 - Max. Non-Repetitive Peak Forward Surge Current Per Leg

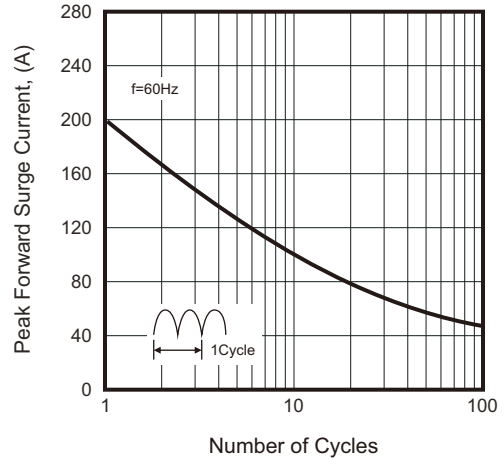


Fig.3 - Typical Forward Voltage Characteristics

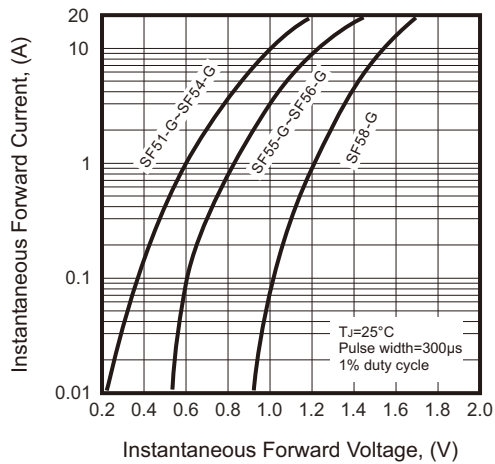
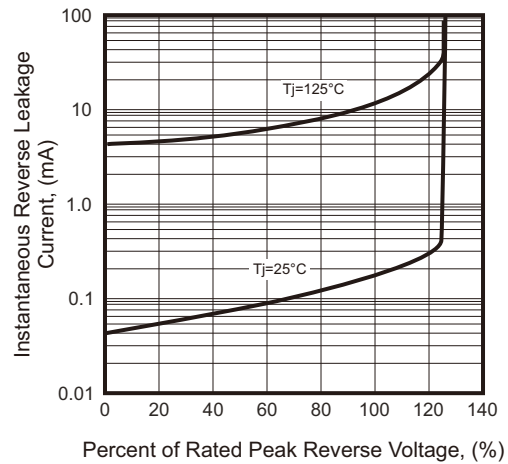
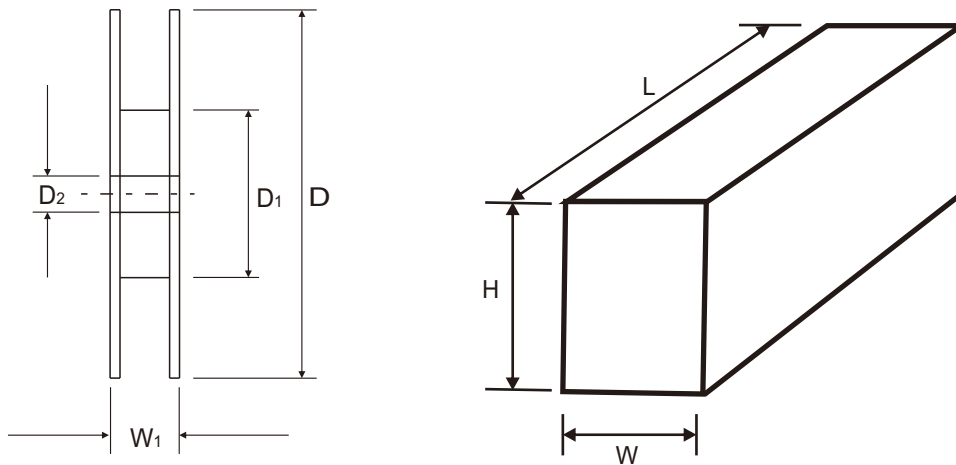
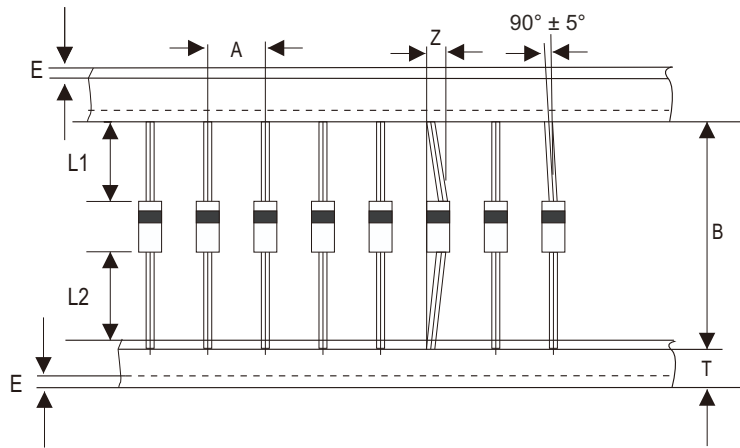


Fig.4 - Typical Reverse Leakage Characteristics



Taping Specification For Axial Lead Diodes



DO-27	SYMBOL	A	B	Z	T	E	L1-L2
	(mm)	10.00 ± 0.50	52.40 + 1.50 - 0.40	1.20 (max)	6.00 ± 0.40	0.80 (max)	1.00 (max)
	(inch)	0.394 ± 0.020	2.063 + 0.059 - 0.016	0.047 (max)	0.236 ± 0.016	0.031 (max)	0.039 (max)

DO-27	SYMBOL	L	W	H	D	D1	D2	W1
	(mm)	255.00 ± 5.00	75.00 ± 5.00	150.00 ± 5.00	330	85.70 ± 0.30	16.60 ± 0.40	79.00 ± 1.00
	(inch)	10.039 ± 0.197	2.953 ± 0.197	5.906 ± 0.197	12.992	3.374 ± 0.012	0.654 ± 0.016	3.110 ± 0.039

Company reserves the right to improve product design, functions and reliability without notice.

REV:B

Marking Code

Part Number	Marking code	Packaging
SF51T-G	SF51	REEL
SF52T-G	SF52	REEL
SF53T-G	SF53	REEL
SF54T-G	SF54	REEL
SF55T-G	SF55	REEL
SF56T-G	SF56	REEL
SF58T-G	SF58	REEL
SF51A-G	SF51	AMMO
SF52A-G	SF52	AMMO
SF53A-G	SF53	AMMO
SF54A-G	SF54	AMMO
SF55A-G	SF55	AMMO
SF56A-G	SF56	AMMO
SF58A-G	SF58	AMMO
SF51B-G	SF51	BULK
SF52B-G	SF52	BULK
SF53B-G	SF53	BULK
SF54B-G	SF54	BULK
SF55B-G	SF55	BULK
SF56B-G	SF56	BULK
SF58B-G	SF58	BULK



SFXX = Product type marking code

Note:

1) Suffix code after part number to specify packaging item .

Packaging	Code
REEL PACK	T
AMMO PACK	A
BULK PACK	B

Standard Packaging

Case Type	REEL PACK	
	Reel (pcs)	Reel Size (inch)
DO-27	1,200	13

Case Type	BULK PACK
	BOX (pcs)
DO-27	200

Case Type	AMMO PACK
	BOX (pcs)
DO-27	1,200