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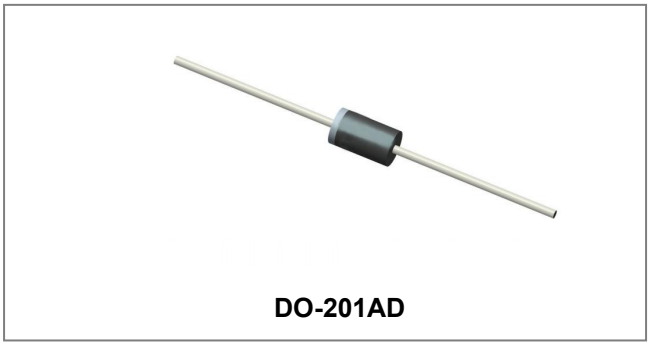
SF51G-SF58G SUPER FAST RECTIFIER



DO-201AD

Features

- Super fast switching for high efficiency
- Low leakage current
- High forward surge capability
- Solder dip 260 ° C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- Terminals finish: 100% Pure Tin
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram

Mechanical Data

- Case: JEDEC DO-201AD molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 1.02 gram

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF58G	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current 0.375"(9.5mm) lead length at T_A(FIG1)	$I_{(AV)}$	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150.0							A
Maximum instantaneous forward voltage at 5.0A	V_F	0.95				1.3		1.7	V
Maximum DC reverse current T_A=25 ℃ at rated DC blocking voltage T_A=125 ℃	I_R	5.0 150.0							μA
Maximum Reverse Recovery Time (Note 1)	Trr	35							ns
Typical Junction Capacitance (Note 2)	C_J	100.0				80.0			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	15.0							°C/W
Junction Temperature	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

Note: 1. Reverse recovery condition IF=0.5A, IR=1.0A. Irr=0.25A
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.

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Ratings and Characteristics Curves

FIG.1 FORWARD CURRENT DERATING CURVE

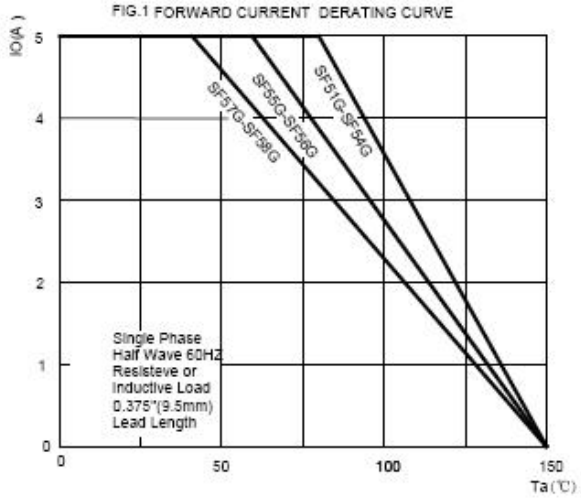


FIG.2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

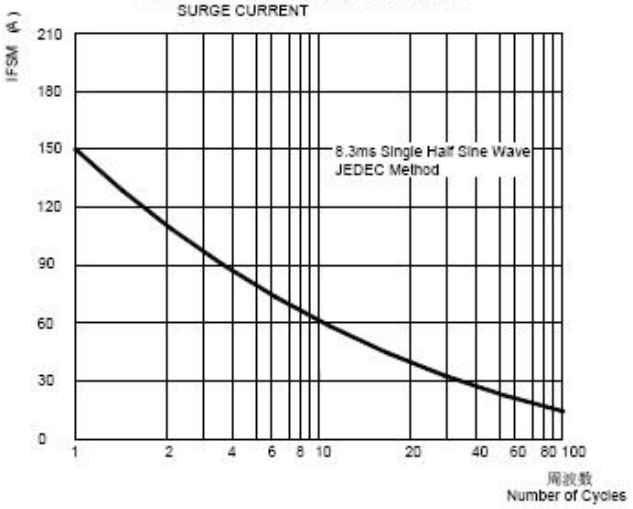


FIG.3 TYPICAL FORWARD CHARACTERISTICS

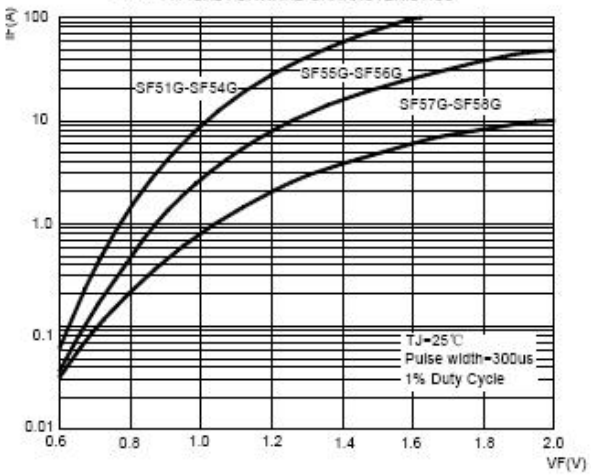


FIG.4 TYPICAL REVERSE CHARACTERISTICS

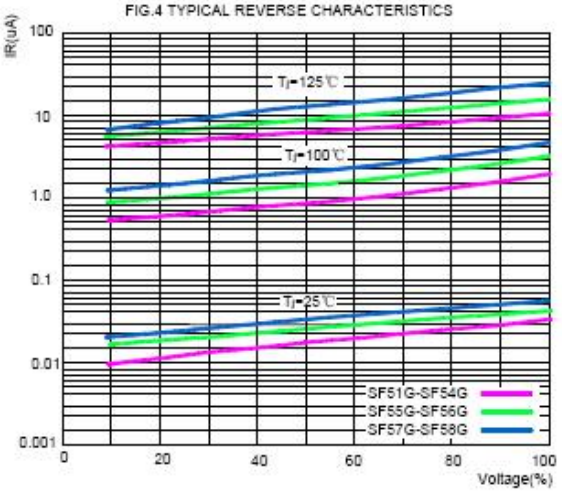
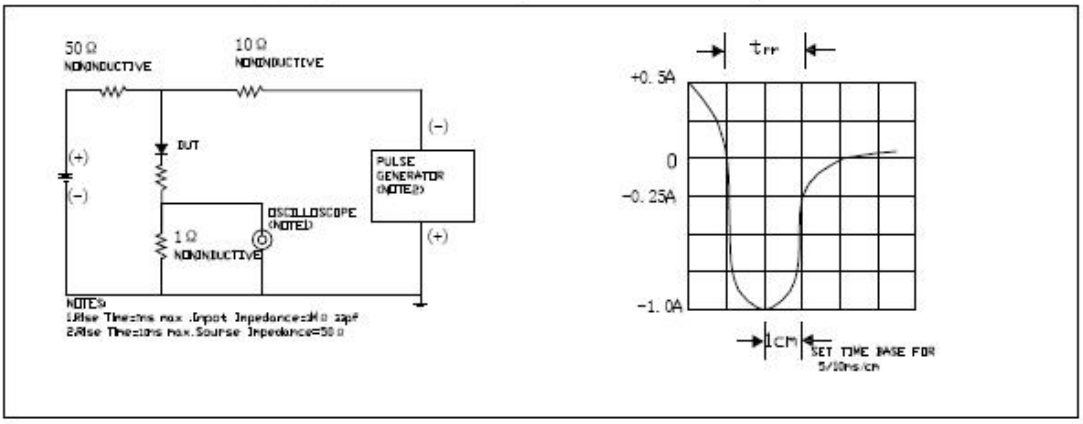


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time



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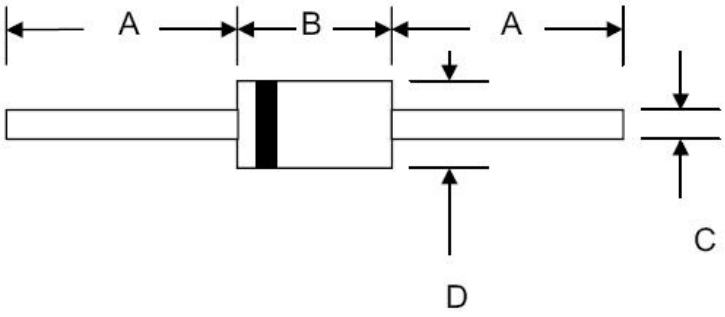
RoHS

Mechanical Dimensions DO-201AD



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	8.50	9.50	0.335	0.374
C	1.2	1.3	0.048	0.052
D	5.0	5.6	0.197	0.220

Ordering Information

Device	Package	Shipping
SF51G THRU SF58G	DO-201AD (Pb-Free)	1250pcs / tape

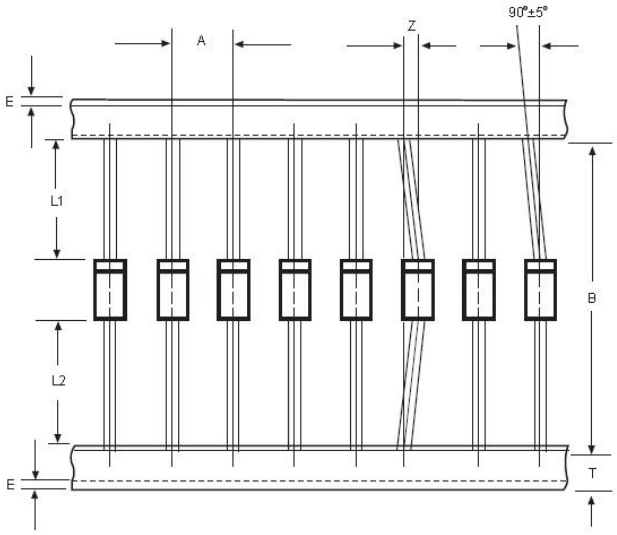
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram

Where XXXXX is YYWWL

SF51G	= Part Name
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

Carrier Tape Specification DO-201AD



SYMBOL	Millimeters	
	Min.	Max.
A	9.50	10.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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