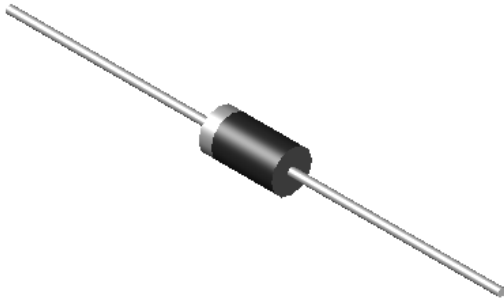


Super Fast Recovery Rectifier

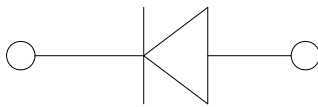


Features

- Ultrafast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Glass passivated chip junction
- Solder dip 275 °C max. 7 s, per JESD 22-B106

Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.



Mechanical Data

- **Package:** DO-201AD(DO-27)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes the cathode end

■ Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF57G	SF58G
Device marking code			SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF57G	SF58G
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	50	100	150	200	300	400	500	600
Maximum RMS Voltage	V _{RMS}	V	35	70	105	140	210	280	350	420
Maximum DC blocking Voltage	V _{DC}	V	50	100	150	200	300	400	500	600
Average Forward Current @60Hz sine wave, Resistance load, Ta =60°C	I _{F(AV)}	A	5.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Tj=25°C	I _{FSM}	A	150							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25°C			250							
Current squared time @1ms≤t≤8.3ms Tj=25°C, Rating of per diode	I ² t	A ² s	94							
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	C _j	pF	80				46		30	
Storage Temperature	T _{stg}	°C	-55 ~ +150							
Junction Temperature	T _j	°C	-55 ~ +150							

■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF57G	SF58G
Maximum instantaneous forward voltage drop per diode	V _F	V	I _F M=5.0A	0.95				1.3		1.7	
Maximum DC reverse current at rated DC blocking voltage per diode	I _R	μA	T _j =25°C	2.5							
			T _j =125°C	100							
Maximum reverse recovery time	t _r	ns	I _F =0.5A, I _R =1.0A, I _r =0.25A	35							



SF51G THRU SF58G

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF57G	SF58G
Typical Thermal Resistance	R _{θJ-A}	°C/W	15							

■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SF51G~SF58G	D1	Approximate 1.05	1250	1250	12500	Tape
SF51G~SF58G	C1	Approximate 1.05	250	250	12500	Bulk

■ Characteristics(Typical)

FIG.1: I_o-T_a Curve

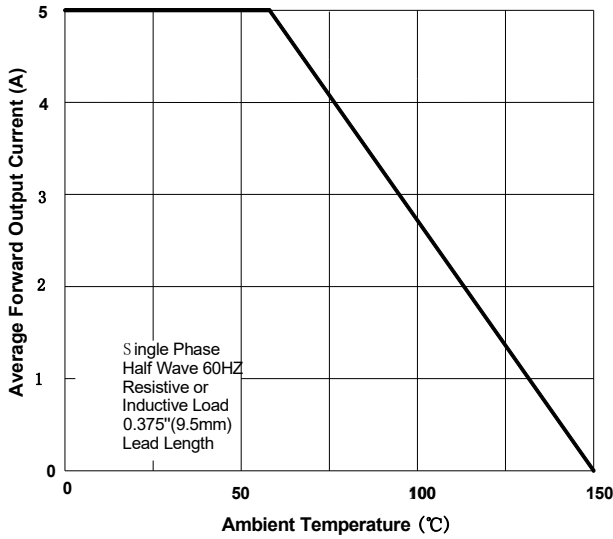


FIG.2: Forward Surge Current Capability

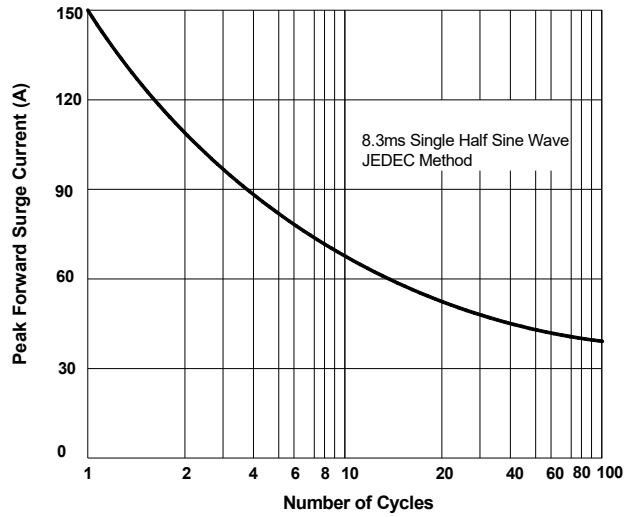


FIG.3: Forward Voltage

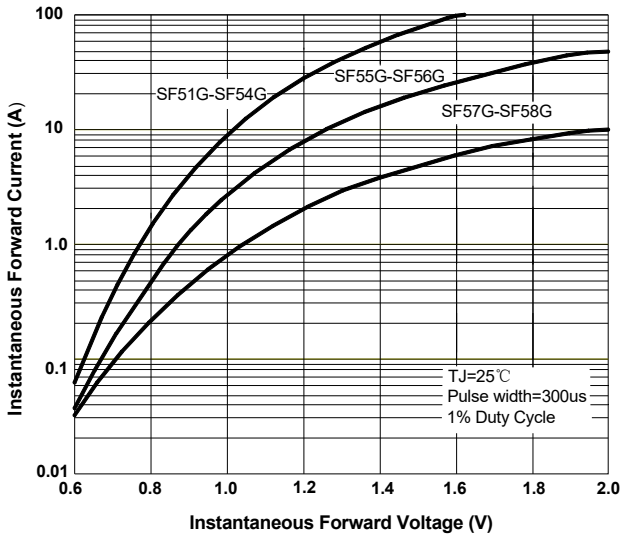
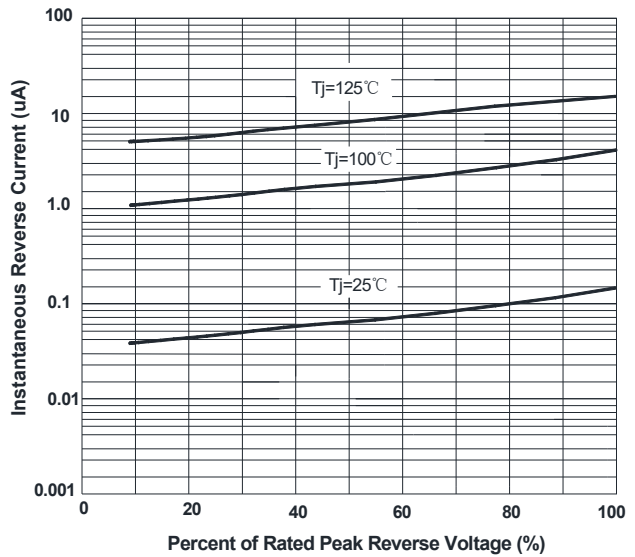


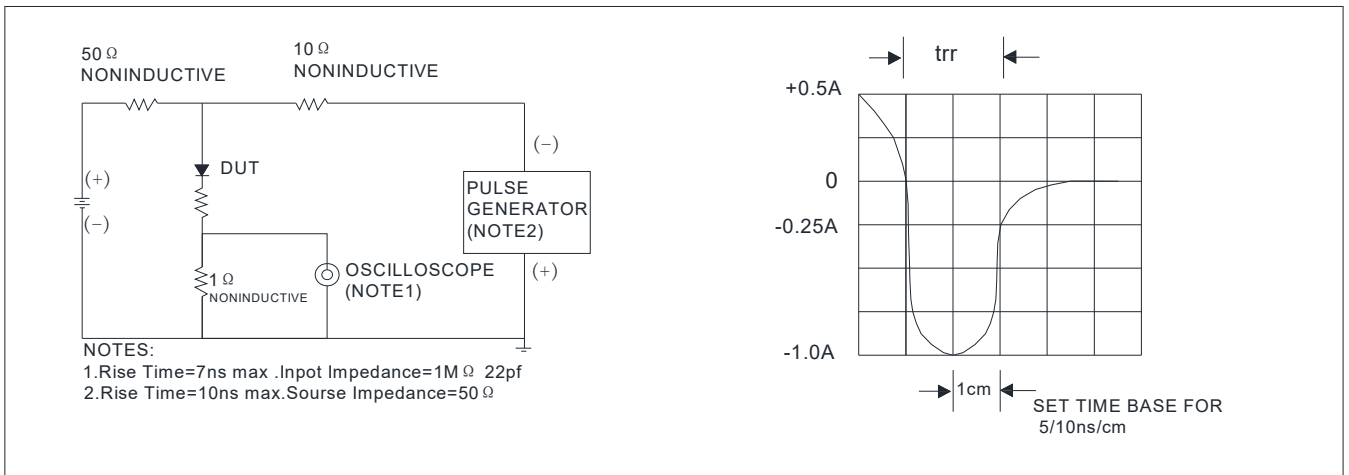
FIG.4: Typical Reverse Characteristics



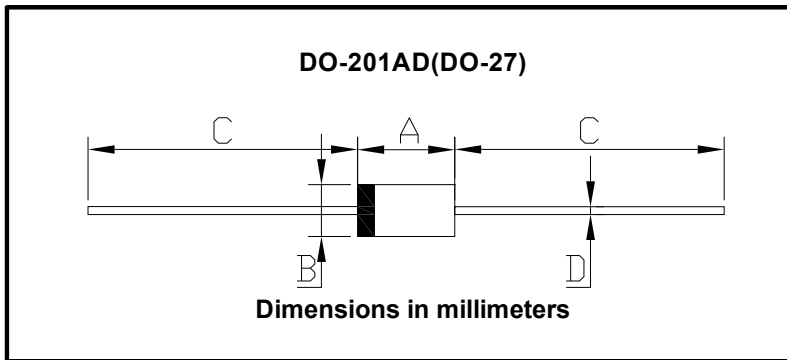


SF51G THRU SF58G

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



■ Outline Dimensions



DO-201AD(DO-27)		
Dim	Min	Max
A	8.50	9.50
B	5.00	5.60
C	25.4	/
D	1.20	1.30



SF51G THRU SF58G

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