

Super Fast Recovery Rectifier

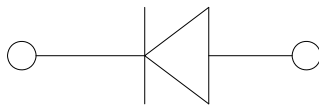


Features

- 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-204AL(DO-41)
Molding compound meets UL 94 V-0 flammability rating, -
- **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	SF11G	SF12G	SF13G	SF14G	SF15G	SF16G	SF17G	SF18G
Device marking code			SF11G	SF12G	SF13G	SF14G	SF15G	SF16G	SF17G	SF18G
Maximum Repetitive Peak Reverse Voltage	VRRM	V	50	100	150	200	300	400	500	600
Maximum RMS Voltage	VRMS	V	35	70	105	140	210	280	350	420
Maximum DC blocking Voltage	VDC	V	50	100	150	200	300	400	500	600
Average Forward Current @60Hz sine wave, Resistance load, Ta =60°C	I _{F(AV)}	A	1.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Tj=25°C	I _{FSM}	A	30							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25°C			60							
Current squared time @1ms≤t≤8.3ms Tj=25°C, Rating of per diode	I ² t	A ² s	3.735							
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	Cj	pF	18				12		9	
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	SF11G	SF12G	SF13G	SF14G	SF15G	SF16G	SF17G	SF18G
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	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 _{rr}	ns	I _F =0.5A, I _R =1.0A, I _r =0.25A	35							

SF11G THRU SF18G

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

PARAMETER	SYMBOL	UNIT	SF11G	SF12G	SF13G	SF14G	SF15G	SF16G	SF17G	SF18G
Typical Thermal Resistance	R _{θJA}	°C/W	60							

■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SF11G~SF18G	D1	Approximate 0.30	5000	5000	50000	Tape
SF11G~SF18G	C1	Approximate 0.30	1000	1000	50000	Bulk

■ Characteristics(Typical)

FIG.1: I_o-T_a Curve

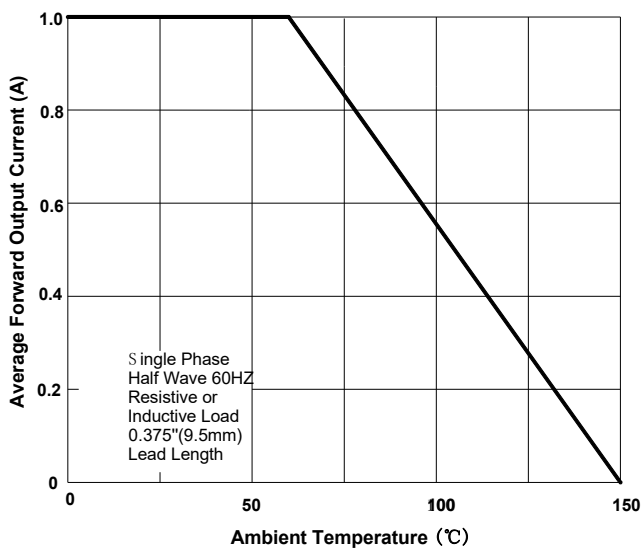


FIG.2: Forward Surge Current Capability

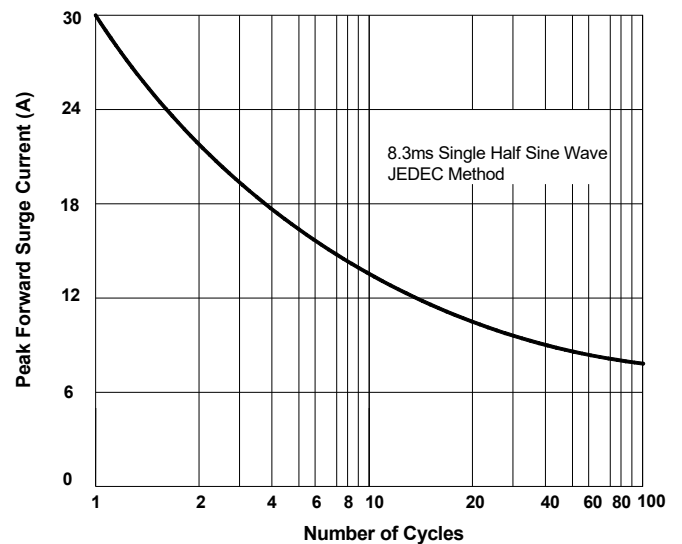


FIG.3: Forward Voltage

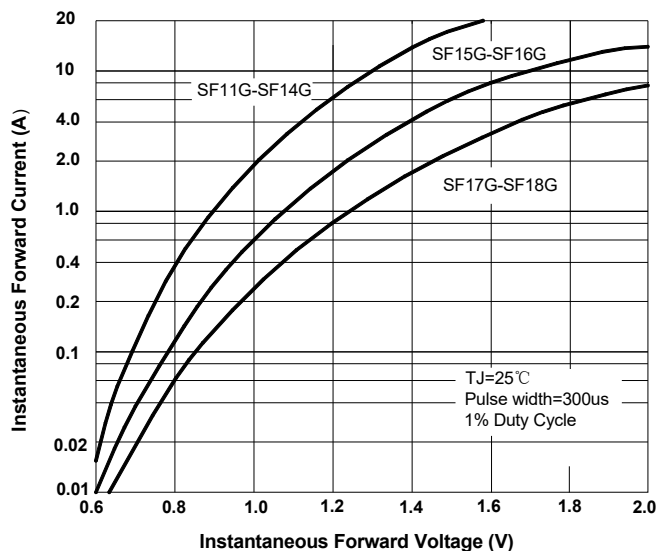
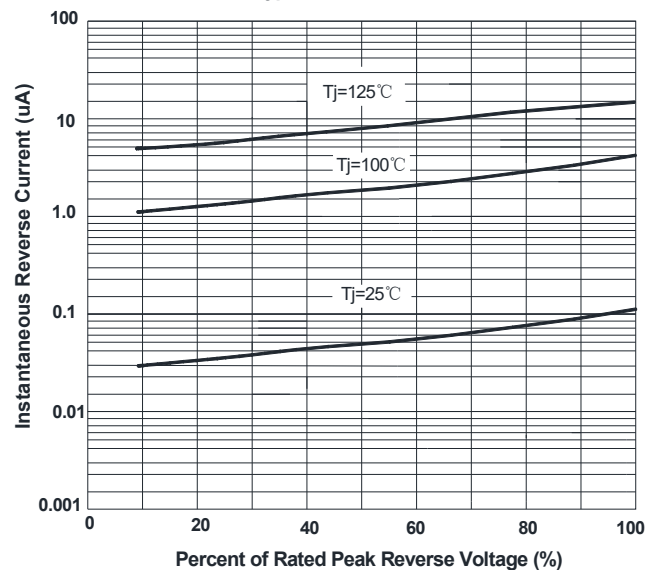
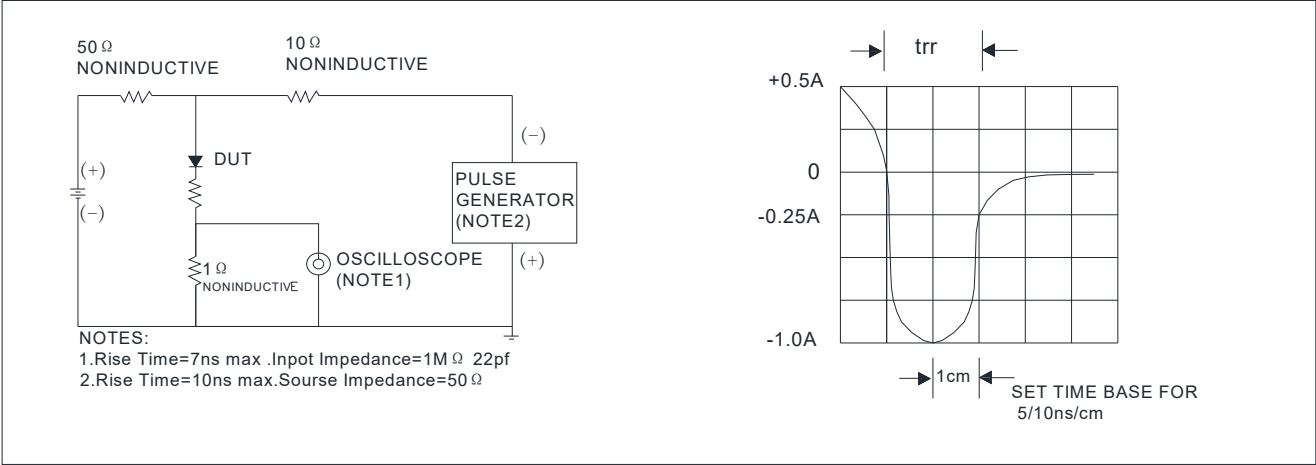


FIG.4: Typical Reverse Characteristics

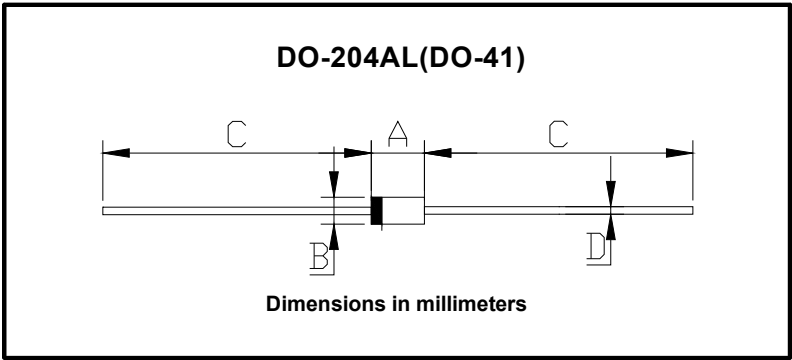


SF11G THRU SF18G

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



■ Outline Dimensions



DO-204AL(DO-41)		
Dim	Min	Max
A	4.22	5.21
B	2.03	2.72
C	25.4	/
D	0.69	0.86

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