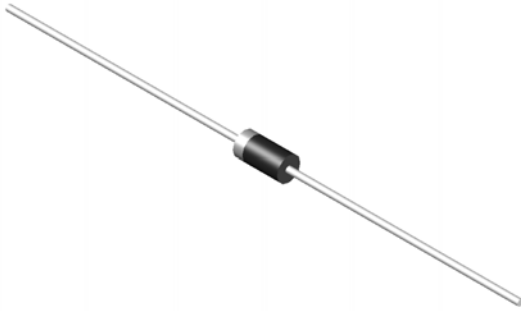


## Super Fast Rectifier

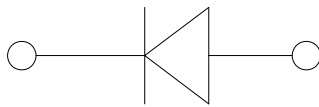


### Features

- 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, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes the cathode end

### ■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SF11	SF12	SF13	SF14	SF15	SF16	SF17	SF18
Device marking code			SF11	SF12	SF13	SF14	SF15	SF16	SF17	SF18
Repetitive Peak Reverse Voltage	VRRM	V	50	100	150	200	300	400	500	600
Average Forward Current @60Hz sine wave, Resistance load, T <sub>a</sub> =60°C	I <sub>F(AV)</sub>	A	1.0							
Surge(Non-repetitive)Forward Current @ 60Hz Half-sine wave,1 cycle, T <sub>a</sub> =25°C	I <sub>FSM</sub>	A	30							
Storage Temperature	T <sub>stg</sub>	°C	-55 ~+150							
Junction Temperature	T <sub>j</sub>	°C	-55~+150							

### ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	SF11	SF12	SF13	SF14	SF15	SF16	SF17	SF18
Maximum instantaneous forward voltage drop per diode	V <sub>F</sub>	V	I <sub>FM</sub> =1.0A	0.95			1.3		1.7		
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>R</sub>	μA	T <sub>a</sub> =25°C	5							
			T <sub>a</sub> =125°C	150							
Reverse Recovery time	t <sub>r</sub>	ns	I <sub>F</sub> =0.5A I <sub>R</sub> =1A I <sub>RR</sub> =0.25A	35							
Typical junction capacitance	C <sub>j</sub>	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C.	40				25			



# SF11 THRU SF18

## ■ Thermal Characteristics ( $T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SF11	SF12	SF13	SF14	SF15	SF16	SF17	SF18
Thermal Resistance	R $\theta$ J-A	$^{\circ}\text{C}/\text{W}$	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
SF11~SF18	D1	Approximate 0.27	5000	5000	50000	Tape
SF11~SF18	C1	Approximate 0.27	1000	1000	50000	Bulk

## ■ Characteristics(Typical)

FIG.1:  $I_o$ - $T_a$  Curve

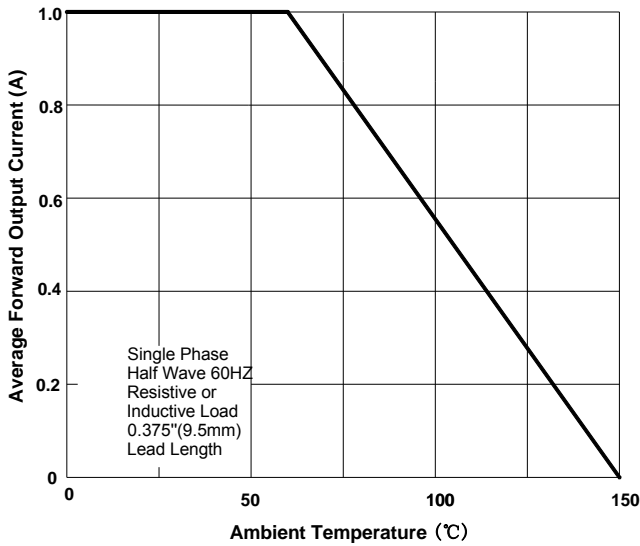


FIG.2: Surge Forward Current Capability

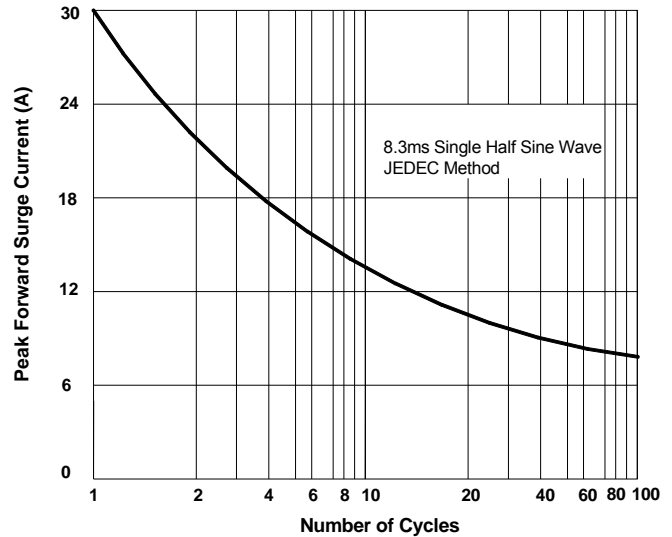


FIG.3: Forward Voltage

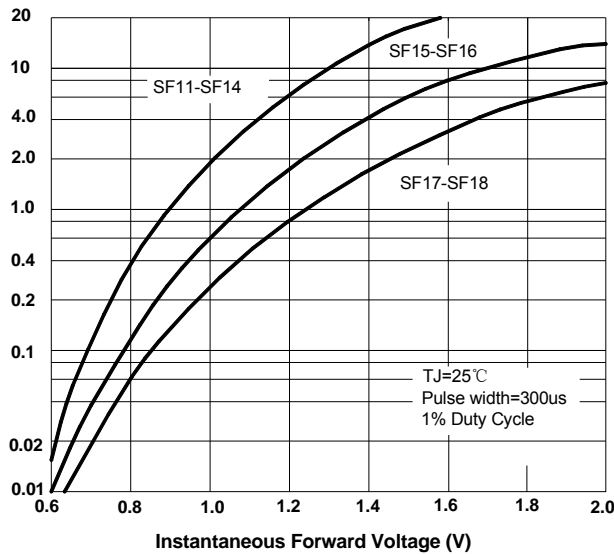
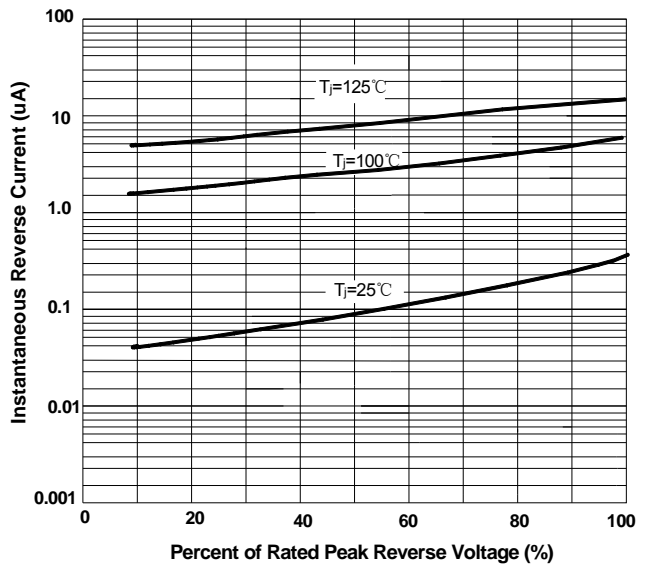


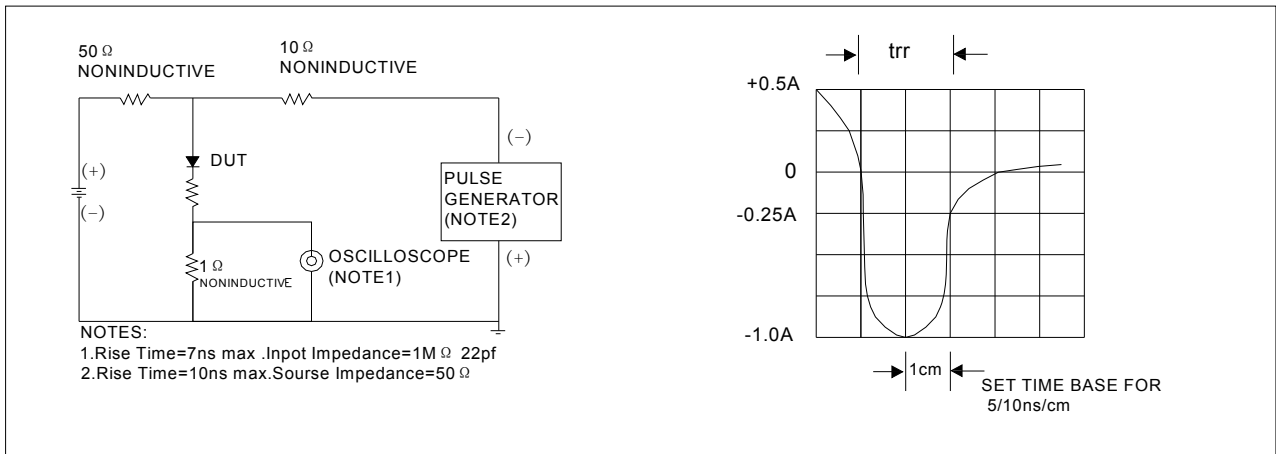
FIG.4: Typical Reverse Characteristics



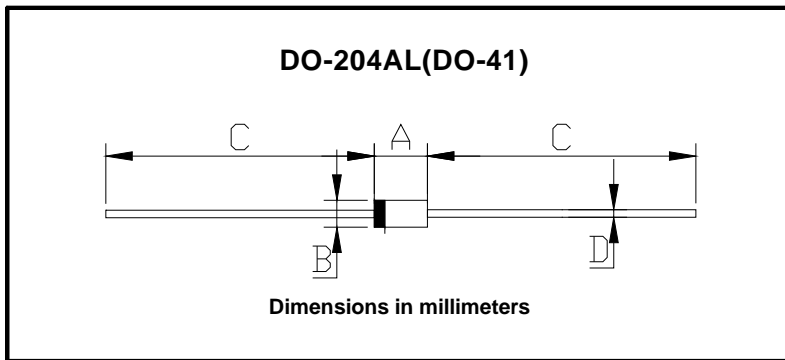


# SF11 THRU SF18

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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