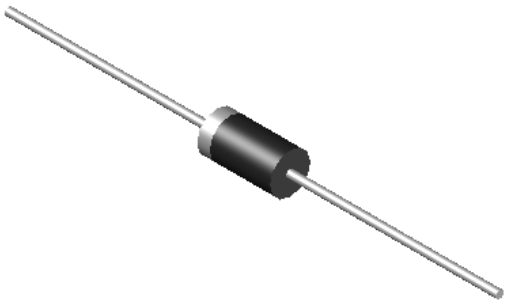
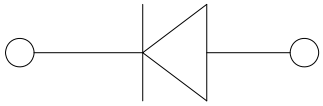
SF31G THRU SF38G

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℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G
Device marking code			SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G
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 =50℃	$I_{F(AV)}$	A	3.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	125							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			250							
Current squared time @1ms≤t8.3≤ms Tj=25℃， Rating of per diode	I^2t	A^2s	65							
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	Cj	pF	62				33		30	
Storage Temperature	T_{stg}	℃	-55 ~ +150							
Junction Temperature	T_j	℃	-55 ~ +150							

■Electrical Characteristics（Ta=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G
Maximum instantaneous forward voltage drop per diode	V_F	V	I_{FM}=3.0A	0.95				1.3		1.7	
Maximum DC reverse current at rated DC blocking voltage per diode	I_R	μA	T_j =25℃	2.5							
			T_j =125℃	100							
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	35							

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G
Typical Thermal Resistance	$R_{\theta J-A}$	℃/W	30							

■Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SF31G~SF38G	D1	Approximate 1.05	1250	1250	12500	Tape
SF31G~SF38G	C1	Approximate 1.05	250	250	12500	Bulk

■ Characteristics(Typical)

FIG.1: Io-Ta Curve

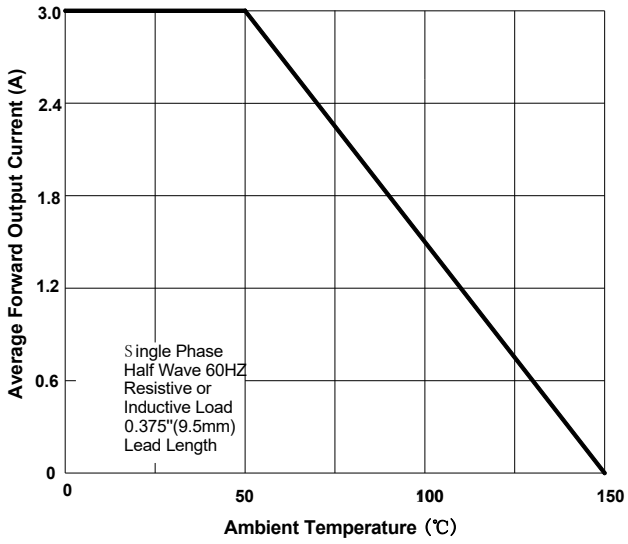


FIG.2: Forward Surge Current Capability

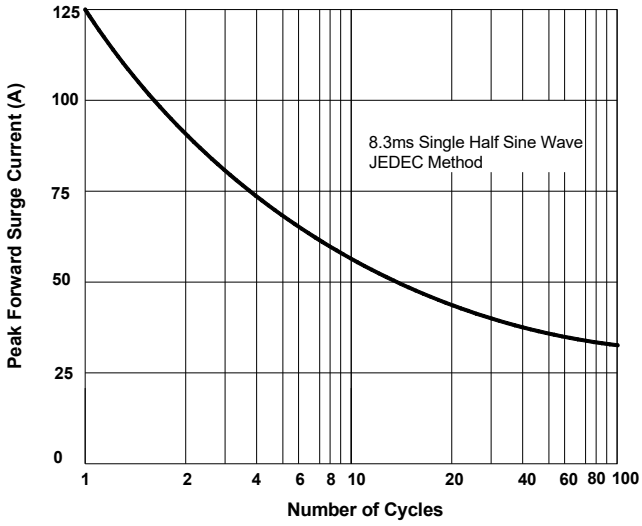


FIG.3: Forward Voltage

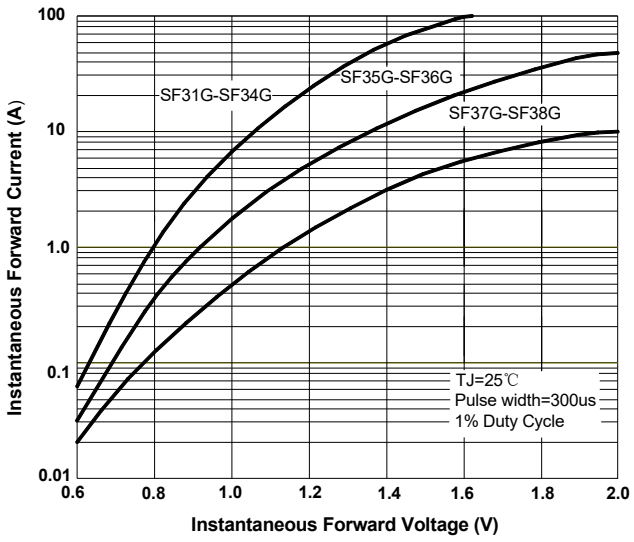


FIG.4: Typical Reverse Characteristics

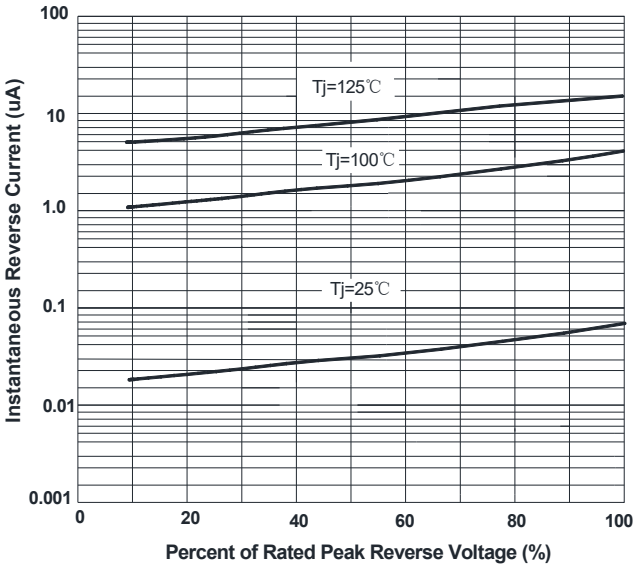
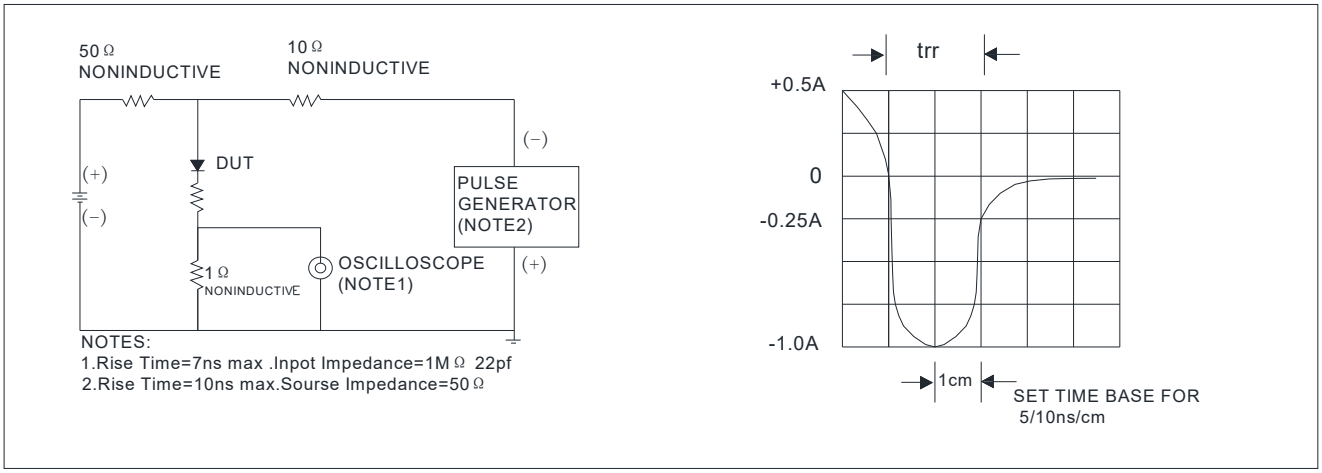
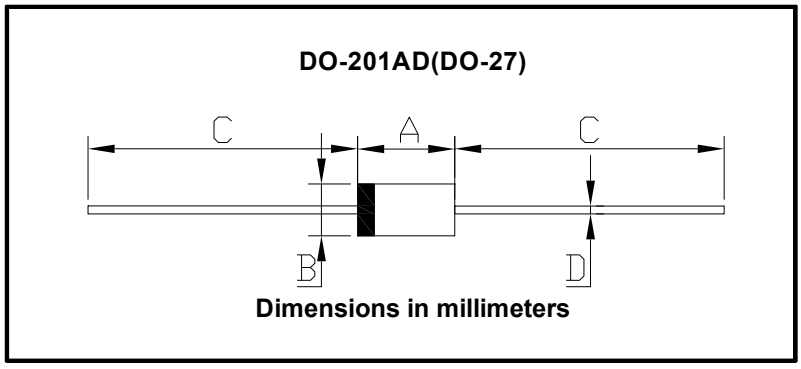


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■ 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

Disclaimer

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.
Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.