Super Fast Recovery Plastic Rectifiers

Reverse Voltage: 50 to 600V
Forward Current: 3.0 Amp

Features

- Glass passivated chip junction
- High forward surge capability
- Super fast reverse recovery time
- Low reverse leakage
- High temperature soldering guaranteed 260℃/10 seconds at terminals

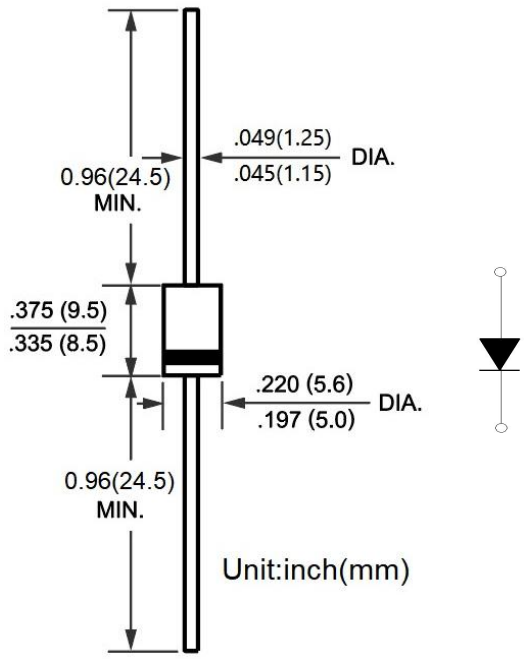
Mechanical Data

- **Package**: DO-27
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals**: Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity**: Cathode line denotes the cathode end

Typical Applications

For use in high frequency rectification of power supplies,inverters, converters, and freewheeling diodes for consumer,and telecommunication.

DO-27



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter&Test Conditions	SYM.	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF38G	Unit
Maximum Recurrent 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
Average rectified output current @60Hz sine wave, Resistance load, TL =100℃ (FIG.1)	$I_{O(AV)}$	3.0							A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load	I_{FSM}	125							A
Maximum Thermal Resistance, Junction To Ambient (Note 1)	$R_{\theta JA}$	30							℃/W
Operating junction and storage temperature range	T_j,T_{STG}	-55 to+150							℃

Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Parameter&Test Conditions		SYM.	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF38G	Unit
Maximum Instantaneous Forward Voltage IFM =3A		V_{FM}	0.95				1.3		1.7	V
Maximum DC reverse current at rated DC blocking voltage	TA = 25℃	I_R	5							μA
	TA = 125℃		200							
Maxinum reverse recovery time(Note 2)		Trr	35							ns
Typical junction capacitance(Note 3)		C_J	60				35		29	pF

Notes:

1. Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB mounted with 0.8" x 0.8" (20 mm x 20 mm) copper heatsinks .
2. Reverse recovery time test condition: IF=0.5A IR=1.0A Irr=0.25A .
3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
4. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

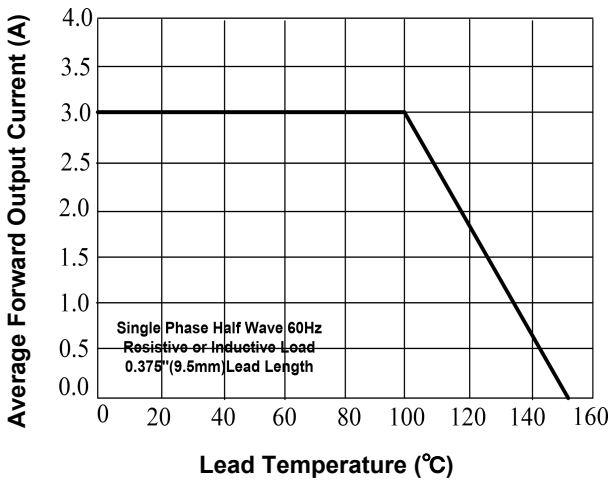


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

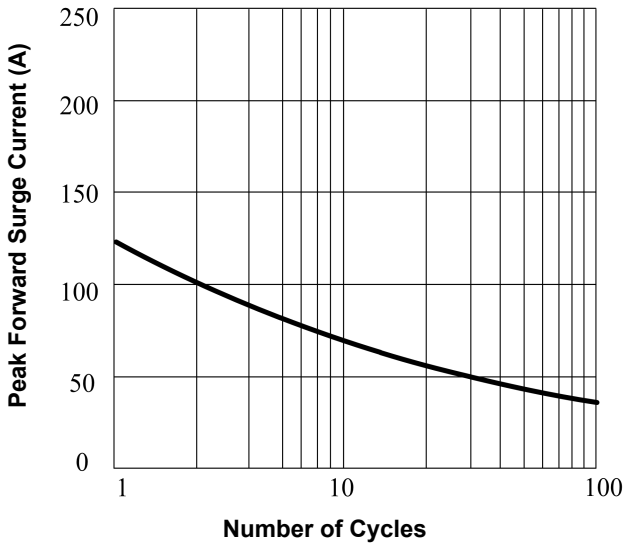


FIG. 3- TYPICAL FORWARD VOLTAGE

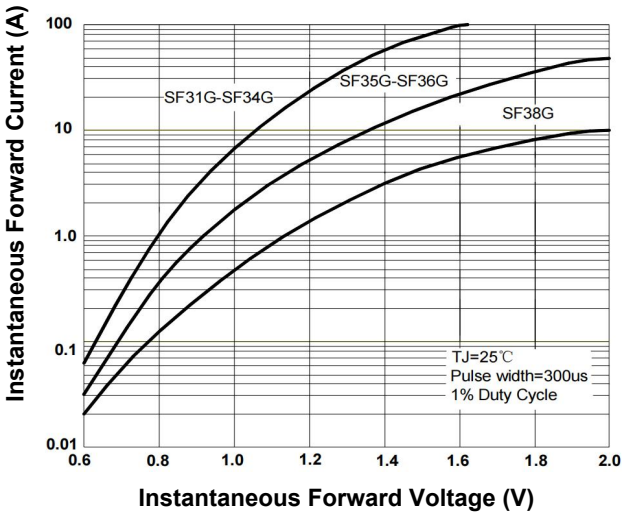


FIG. 4- TYPICAL REVERSE LEAKAGE

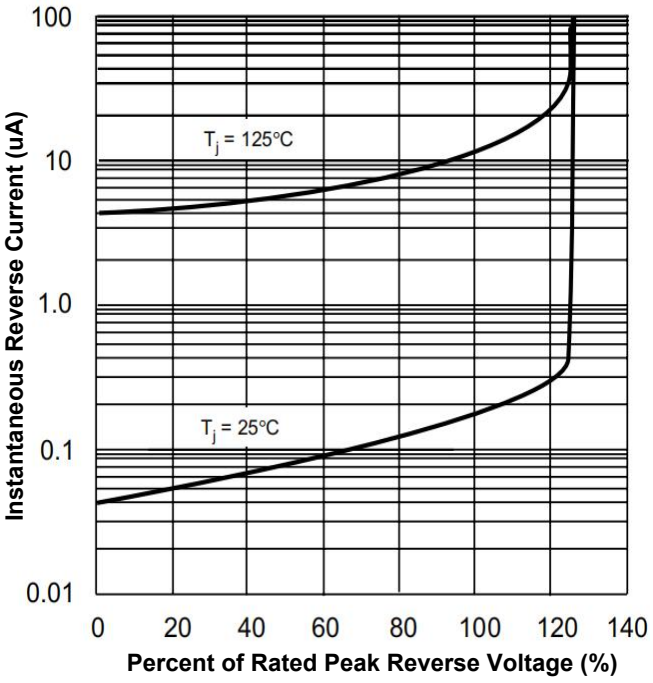
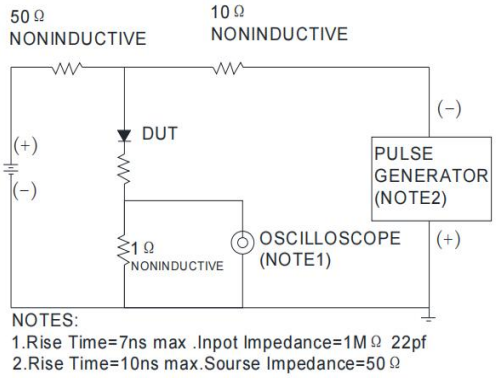
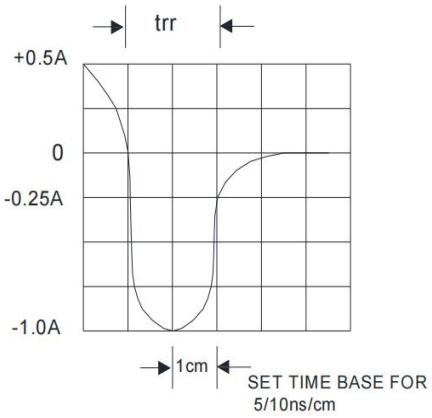


FIG. 5- Diagram of circuit and Testing wave form of reverse recovery





The curve above is for reference only.

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