



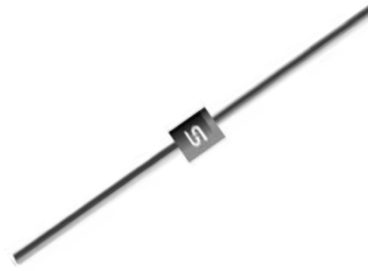
**THE DATASHEET OF  
SF38G A0G**



## Glass Passivated Super Fast Rectifiers

**FEATURES**

- Glass passivated chip junction
- High current capability, Low VF
- High reliability
- High surge current capability
- Low power loss
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition


**DO-201AD**

**MECHANICAL DATA**
**Case:** DO-201AD

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

with prefix "H" on packing code meet JESD 201 class 2 whisker test

**Weight:** 1.1 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)										
PARAMETER	SYMBOL	SF	SF	SF	SF	SF	SF	SF	SF	UNIT
		31G	32G	33G	34G	35G	36G	37G	38G	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	3								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	125								A
Maximum instantaneous forward voltage (Note 1) @ 3 A	V <sub>F</sub>	0.95			1.3		1.7		V	
Maximum reverse current @ rated VR T <sub>J</sub> =25 °C T <sub>J</sub> =125 °C	I <sub>R</sub>	5				100				μA
Maximum reverse recovery time (Note 2)	T <sub>rr</sub>	35								ns
Typical junction capacitance (Note 3)	C <sub>j</sub>	80				60				pF
Typical thermal resistance	R <sub>θjC</sub> R <sub>θjL</sub> R <sub>θjA</sub>	9				10				°C/W
		35								
Operating junction temperature range	T <sub>J</sub>	- 55 to +150								
Storage temperature range	T <sub>STG</sub>	- 55 to +150								°C

Note 1: Pulse Test with PW=300μs, 1% Duty Cycle

 Note 2: Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
SF3xG (Note 1)	Prefix "H"	A0	Suffix "G"	DO-201AD	500 / Ammo box
		R0		DO-201AD	1,250 / 13" Paper reel
		B0		DO-201AD	500 / Bulk packing
		X0		DO-201AD	Forming

Note 1: "x" defines voltage from 50V (SF31G) to 600V (SF38G)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
SF38G A0	SF38G		A0		
SF38G A0G	SF38G		A0	G	Green compound
SF38GHA0	SF38G	H	A0		AEC-Q101 qualified

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

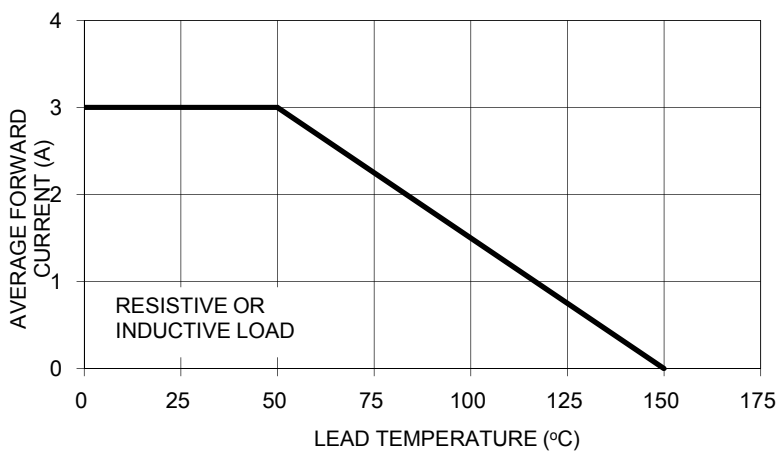


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

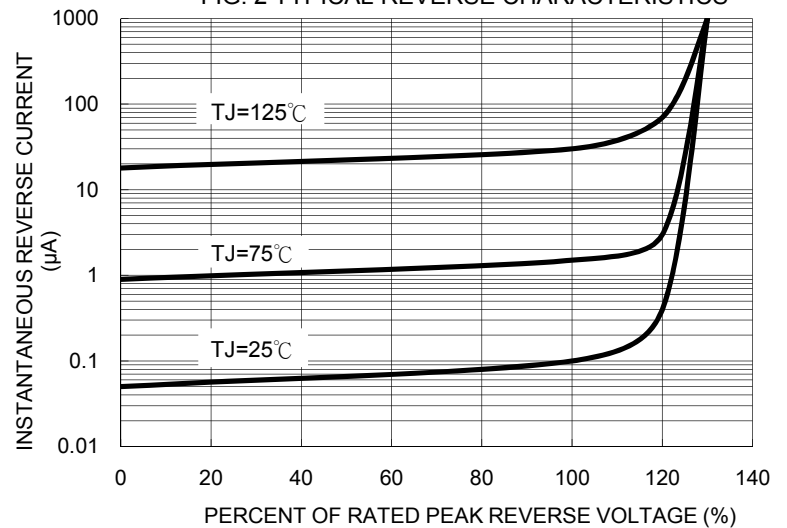


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

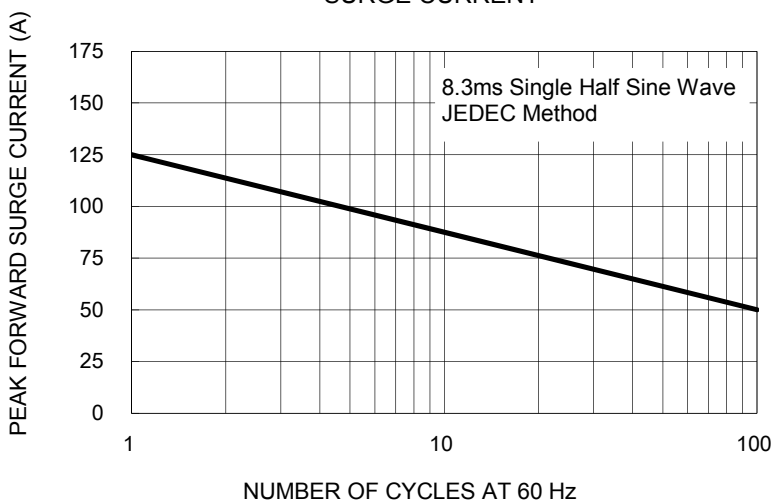


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

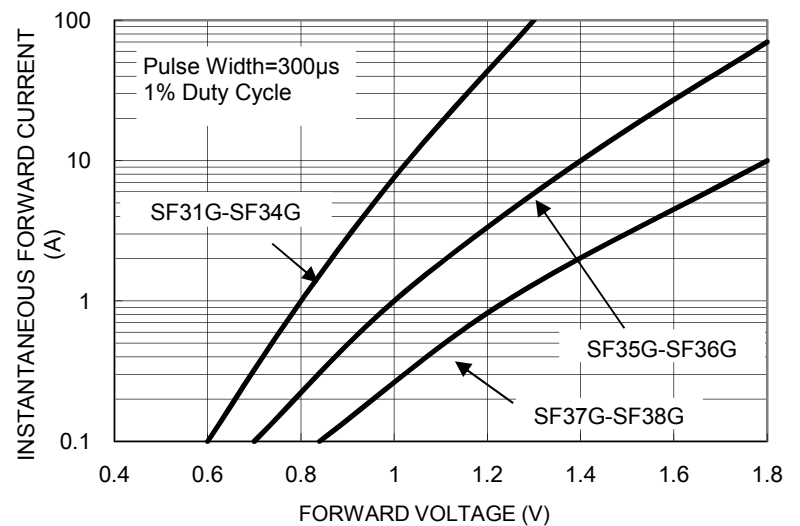


FIG. 5 TYPICAL JUNCTION CAPACITANCE

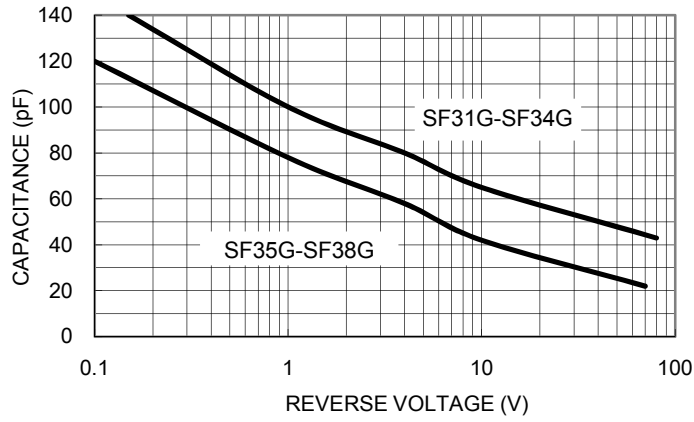
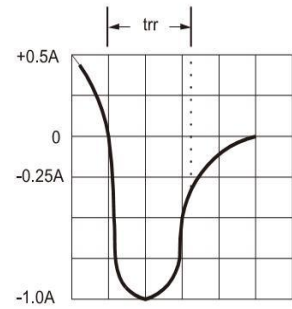
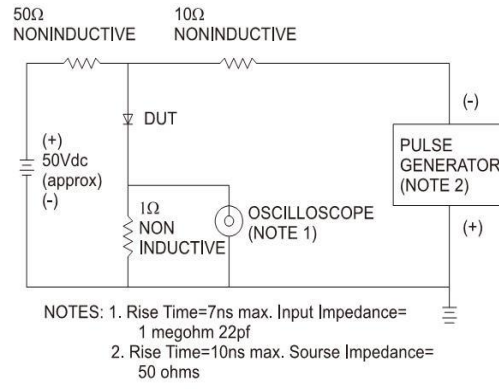
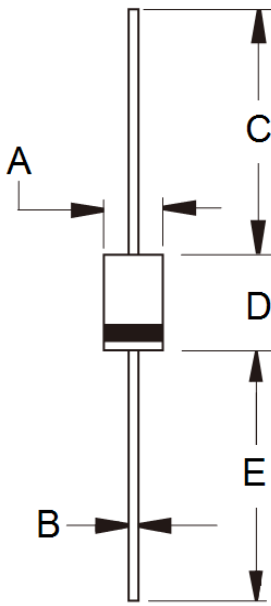


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	5.00	5.60	0.197	0.220
B	1.20	1.30	0.048	0.052
C	25.40	-	1.000	-
D	8.50	9.50	0.335	0.375
E	25.40	-	1.000	-

MARKING DIAGRAM



P/N = Specific Device Code  
G = Green Compound  
YWW = Date Code  
F = Factory Code

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