

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



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)

DO-201AD

MAXIMUM RATINGS AND ELECTRICAL CHARACTERSTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	SF 31G	SF 32G	SF 33G	SF 34G	SF 35G	SF 36G	SF 37G	SF 38G	UNIT				
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V				
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V				
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V				
Maximum average forward rectified current	$I_{F(AV)}$	3								A				
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	125								A				
Maximum instantaneous forward voltage (Note 1) @ 3 A	V_F	0.95			1.3		1.7		V					
Maximum reverse current @ rated VR $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_R	5 100												
μA														
Maximum reverse recovery time (Note 2)	T_{rr}	35								ns				
Typical junction capacitance (Note 3)	C_J	80			60				pF					
Typical thermal resistance	R_{ejC} R_{ejL} R_{ejA}	9 10 35								°C/W				
Operating junction temperature range	T_J	- 55 to +150								°C				
Storage temperature range	T_{STG}	- 55 to +150								°C				

Note 1: Pulse Test with $PW=300\mu\text{s}$, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

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)

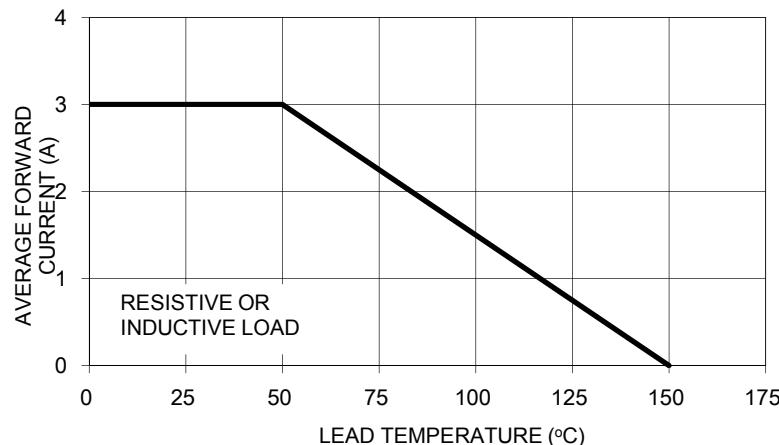
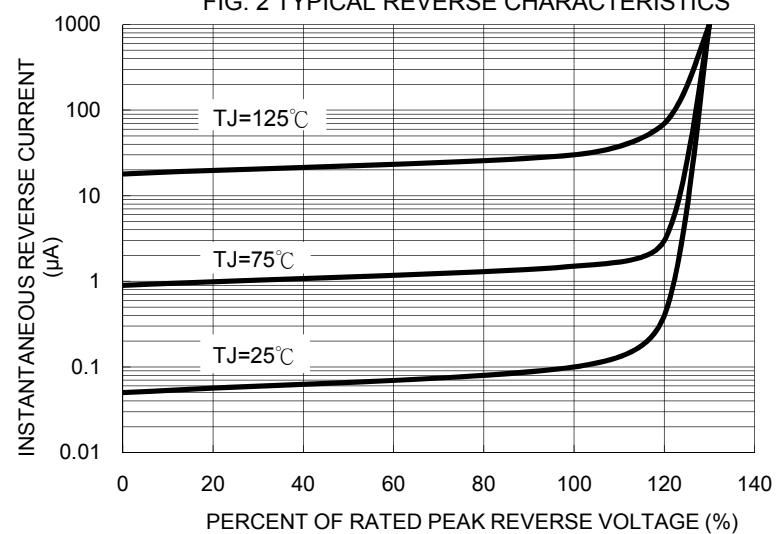
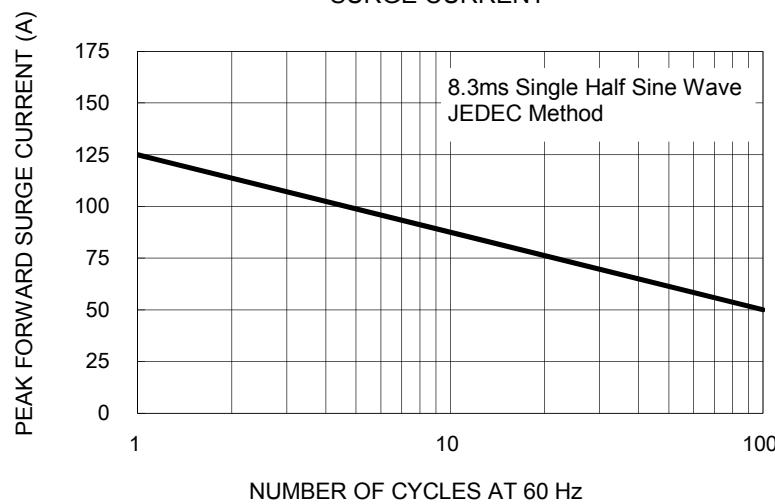
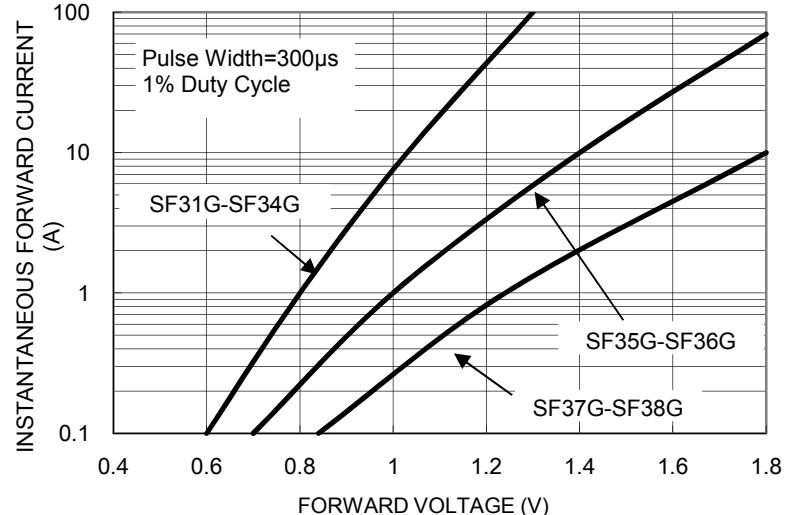
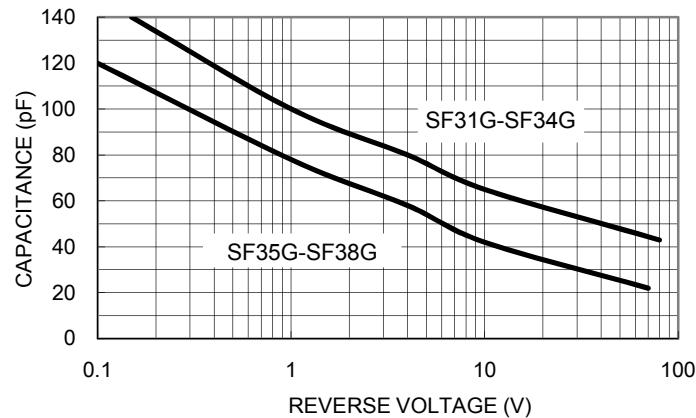
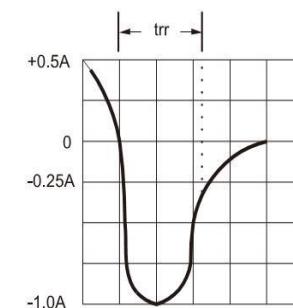
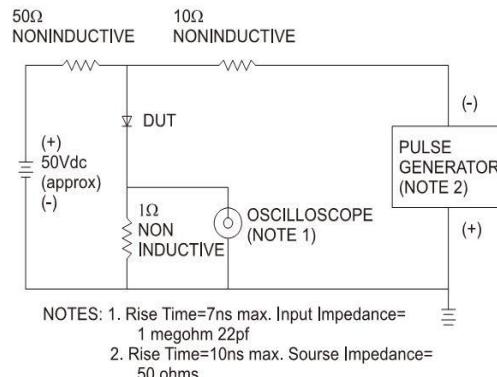
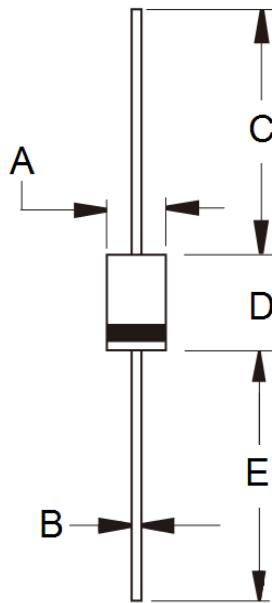
FIG.1 FORWARD CURRENT DERATING CURVE

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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors inaccuracies.

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 TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.