

1A, 50V - 600V Glass Passivated Super Fast Rectifiers

FEATURES

- High efficiency, low VF
- High current capability
- High reliability
- 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



DO-204AL (DO-41)

MECHANICAL DATA

Case: DO-204AL (DO-41)

Molding compound, UL flammability classification rating 94V-0

Part no. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

Terminal: Pure tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

Weight: 0.35 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)										
PARAMETER	SYMBOL	SF 11G	SF 12G	SF 13G	SF 14G	SF 15G	SF 16G	SF 17G	SF 18G	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)}	1								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30								A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V _F	0.95				1.3		1.7		V
Maximum reverse current @ rated V _R T _J =25°C T _J =125°C	I _R	5 100								μA
Maximum reverse recovery time (Note 2)	t _{rr}	35								ns
Typical junction capacitance (Note 3)	C _J	20				10				pF
Typical thermal resistance	R _{θJL} R _{θJA}	20 80								°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=300μs, 1% Duty Cycle

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

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

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
SF1xG (Note 1)	H	A0	G	DO-41	3,000 / Ammo box (52mm taping)
		R0		DO-41	5,000 / 13" Paper reel
		R1		DO-41	5,000 / 13" Paper reel (Reverse)
		B0		DO-41	1,000 / Bulk packing

Note 1: "x" defines voltage from 50V (SF11G) to 600V (SF18G)

*: Optional available

EXAMPLE					
PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
SF18GHA0G	SF18G	H	A0	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 MAXIMUM AVERAGE FORWARD CURRENT DERATING

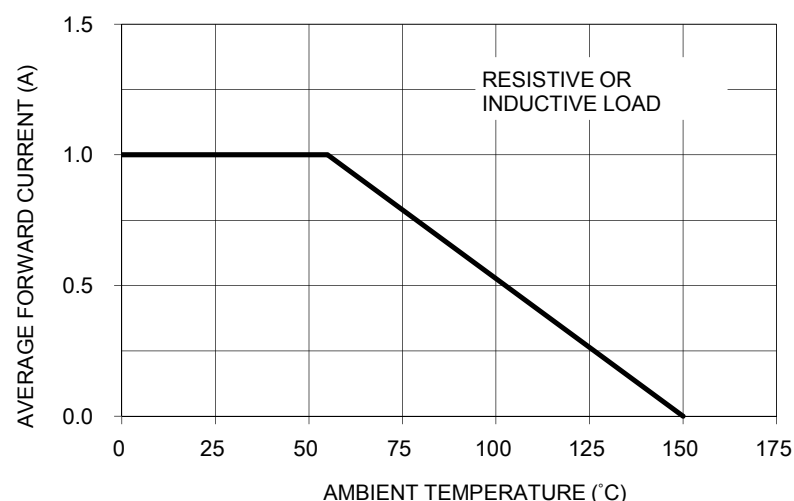


FIG.2 TYPICAL REVERSE CHARACTERISTICS

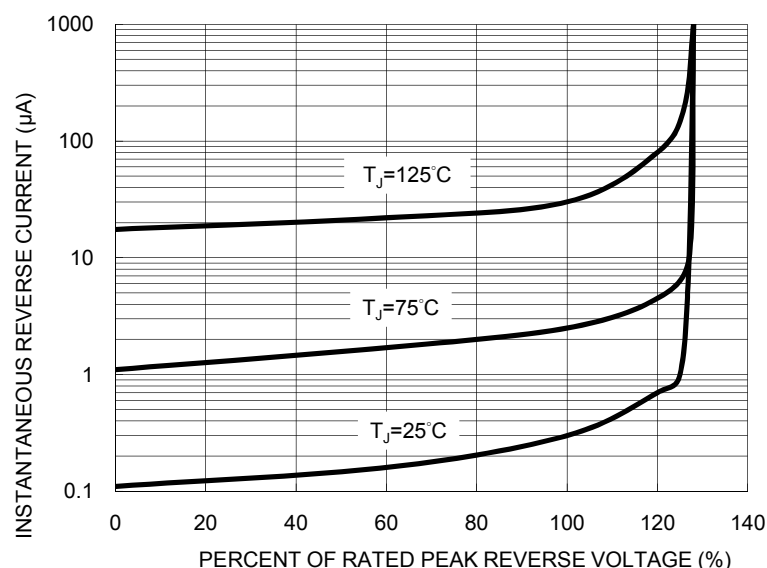


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

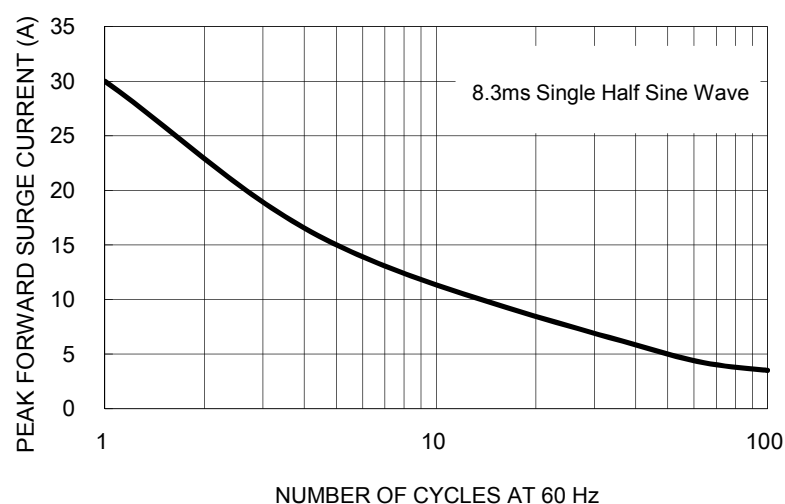


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

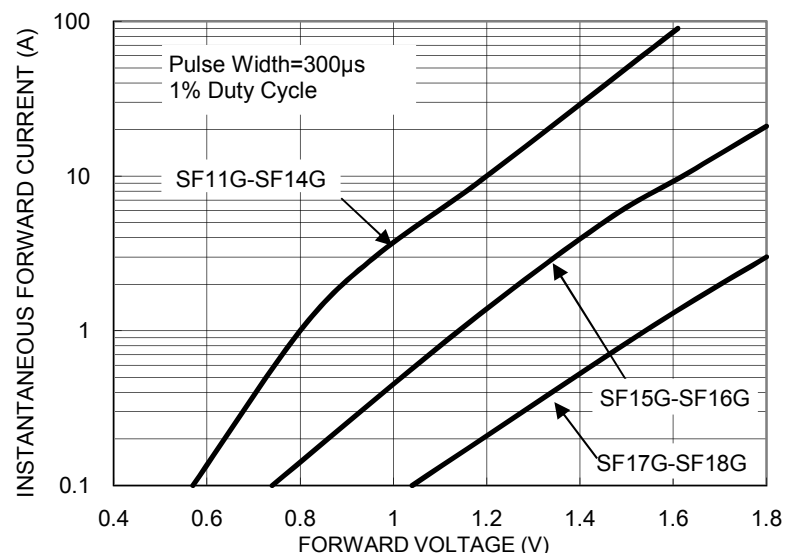


FIG. 5 TYPICAL JUNCTION CAPACITANCE

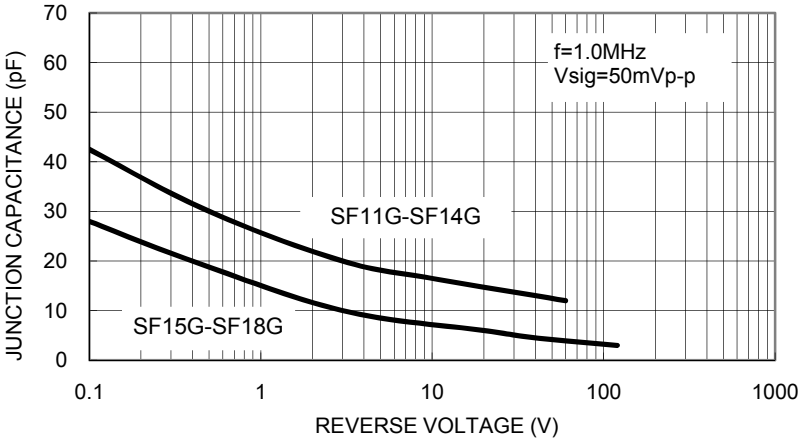
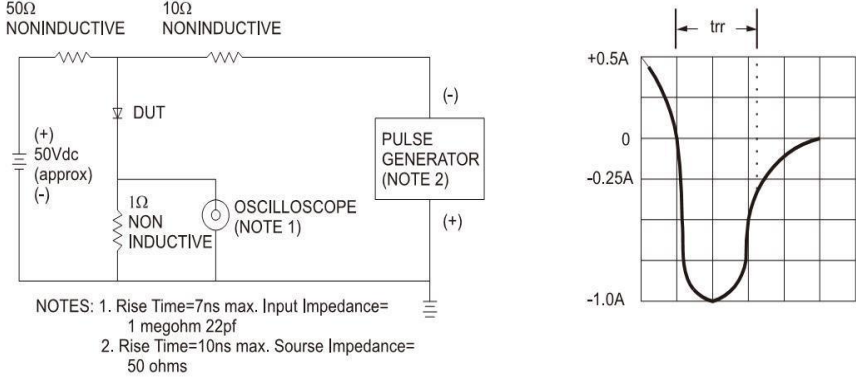
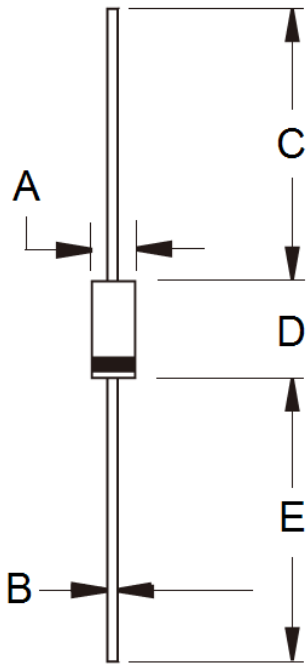


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.00	2.70	0.079	0.106
B	0.71	0.86	0.028	0.034
C	25.40	-	1.000	-
D	4.20	5.20	0.165	0.205
E	25.40	-	1.000	-

PACKAGE OUTLINE DIMENSIONS
DO-204AL (DO-41)



MARKING DIAGRAM



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

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