4A, 50V - 600V 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

DO-201AD

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: DO-201AD

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: 1.1 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)										
PARAMETER	SYMBOL	SF 41G	SF 42G	SF 43G	SF 44G	SF 45G	SF 46G	SF 47G	SF 48G	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	$I_{F(AV)}$	4								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) @ 4 A	V_F	1.0				1.3		1.7		V
Maximum reverse current @ rated V_R T_J=25°C	I_R	5								μA
T_J=125°C		500								
Maximum reverse recovery time (Note 2)	t_{rr}	35								ns
Typical junction capacitance (Note 3)	C_J	100				80				pF
Typical thermal resistance	$R_{\theta JA}$	25								°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: 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 DC.

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
SF4xG (Note 1)	H	A0	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 (SF41G) to 600V (SF48G)

*: Optional available

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
SF48GHA0G	SF48G	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

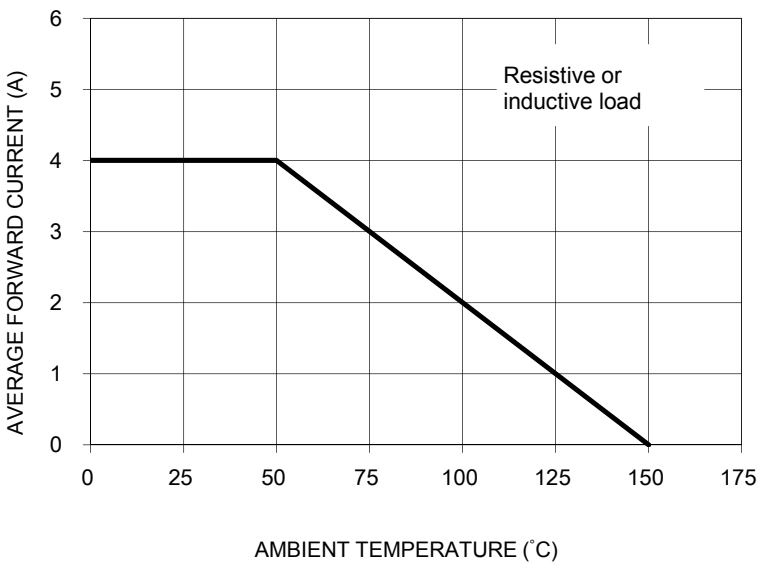


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

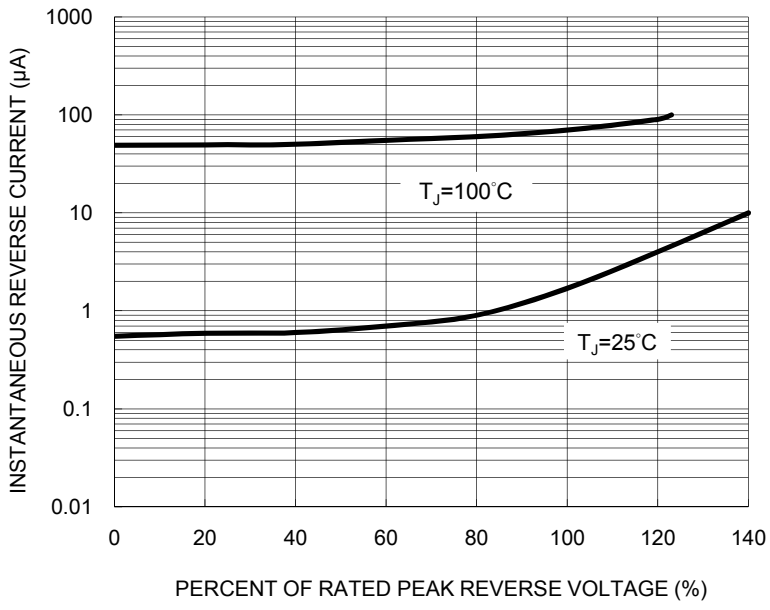


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

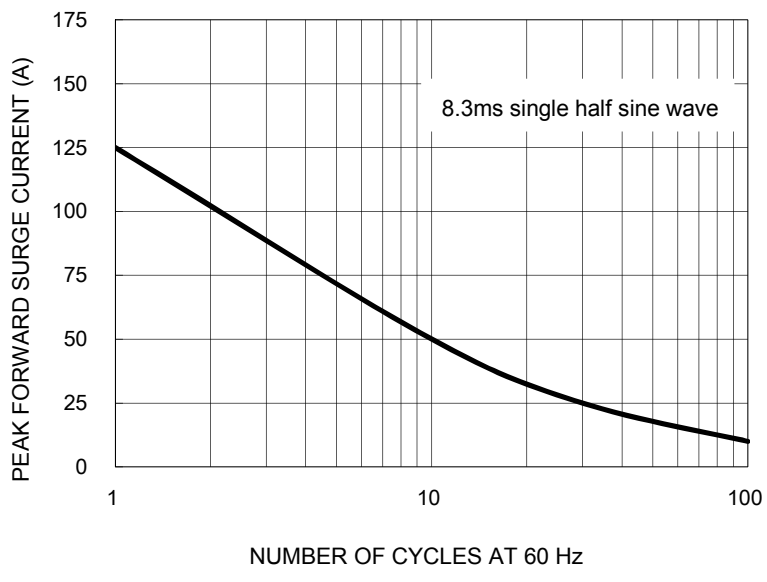


FIG.4 TYPICAL FORWARD CHARACTERISTICS

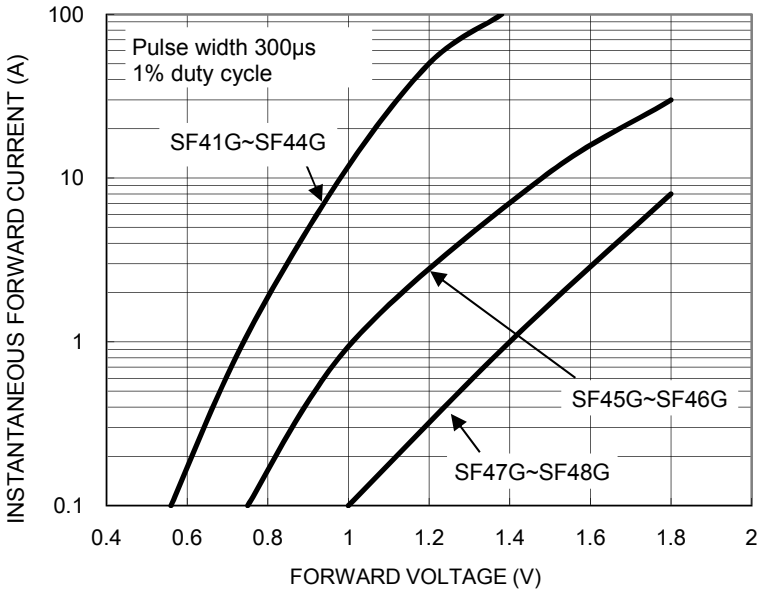


FIG. 5 TYPICAL JUNCTION CAPACITANCE

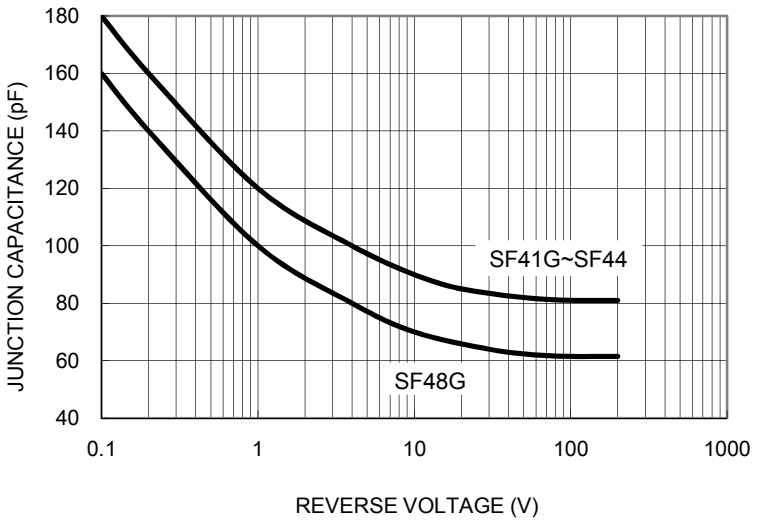
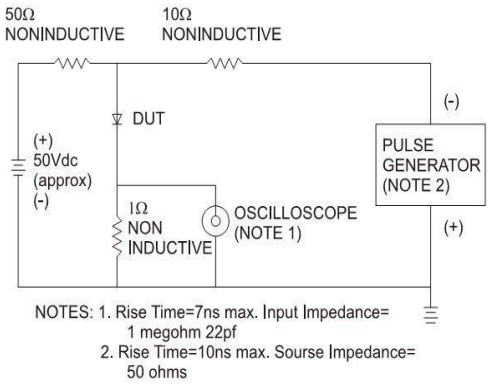
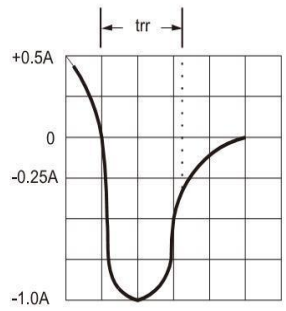


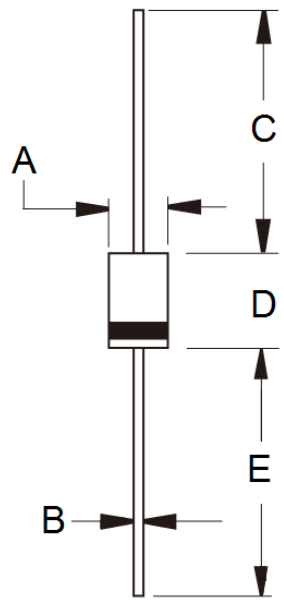
FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





PACKAGE OUTLINE DIMENSIONS

DO-201AD



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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Version: F1511