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## 3A, 50V - 1000V Glass Passivated Fast Recovery Rectifiers

### FEATURES

- Glass passivated chip junction
- High current capability, Low VF
- High reliability
- High surge current capability
- Low power loss, high efficiency
- 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

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:** 1.2 g (approximately)

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

PARAMETER	SYMBOL	FR	FR	FR	FR	FR	FR	FR	UNIT
		301G	302G	303G	304G	305G	306G	307G	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	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	$V_F$	1.3							V
Maximum reverse current @ rated $V_R$	$I_R$	$T_J=25^\circ\text{C}$ 5							$\mu\text{A}$
		$T_J=125^\circ\text{C}$ 100							
Maximum reverse recovery time (Note 2)	$t_{rr}$	150			250	500		ns	
Typical junction capacitance (Note 3)	$C_J$	30							pF
Typical thermal resistance	$R_{\theta JA}$	35							$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	- 55 to +150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 to +150							$^\circ\text{C}$

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.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
FR30xG (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: "xx" defines voltage from 50V (FR301G) to 1000V (FR307G)

**EXAMPLE**

PREFERRED PART NO.	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
FR307GHA0G	FR307G	H	A0	G	AEC-Q101 qualified Green compound

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

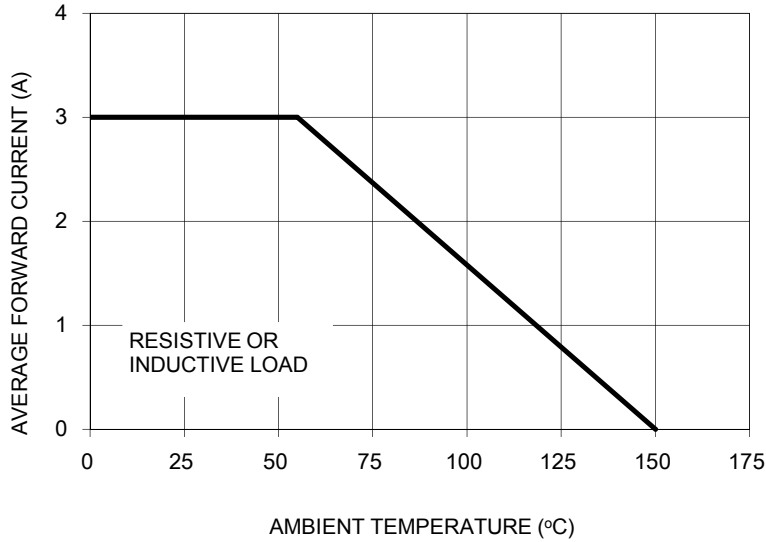


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

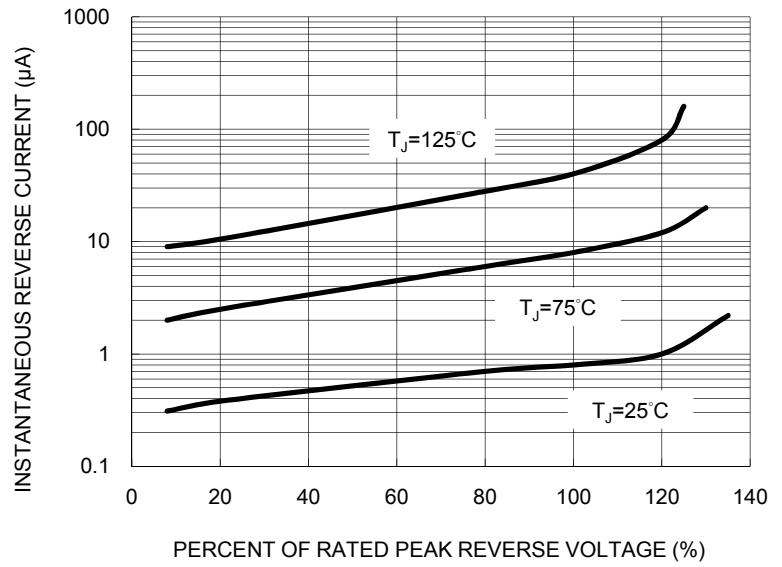


FIG. 3 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



FIG. 4 TYPICAL FORWARD CHARACTERISTICS

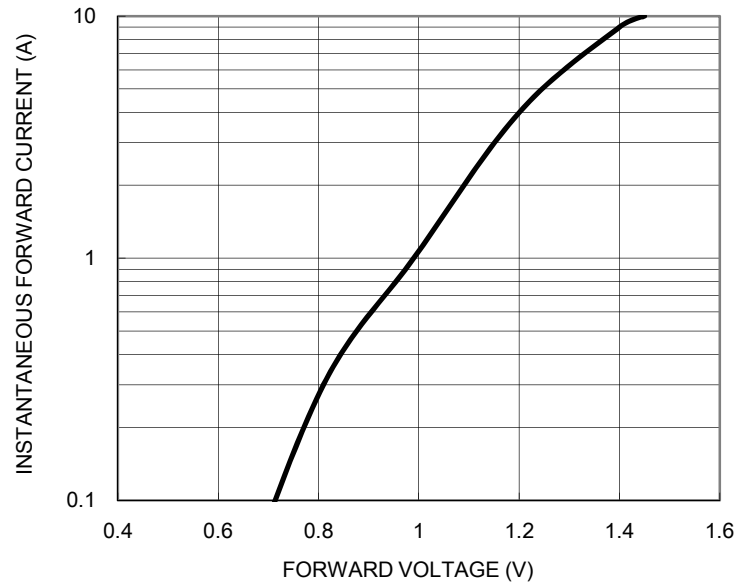


FIG. 5 TYPICAL JUNCTION CAPACITANCE

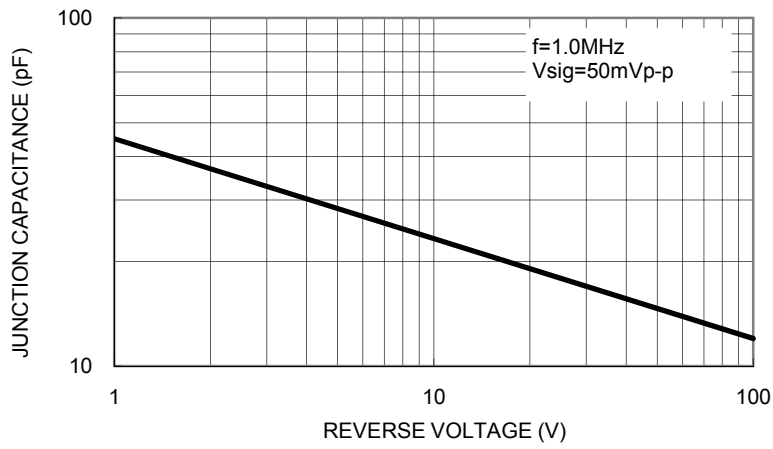
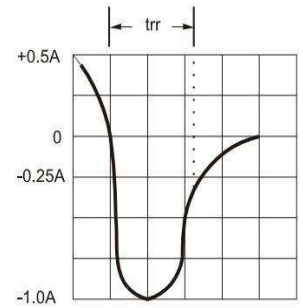
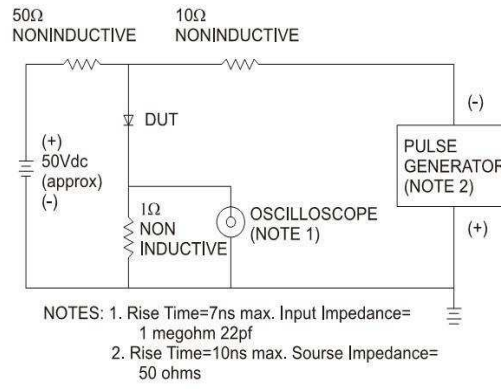
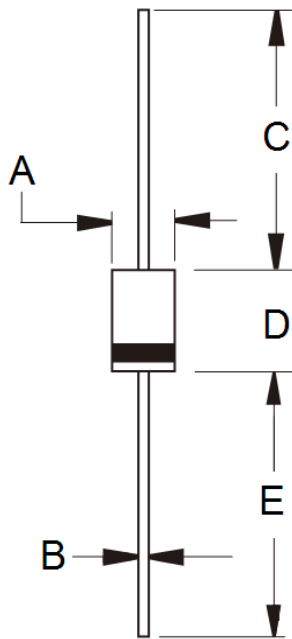


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



**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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