

## 1A, 50V - 600V Glass Passivated Fast Recovery Rectifiers

### FEATURES

- High efficiency, Low VF
- High current capability
- High reliability
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

### MECHANICAL DATA

- Case: DO-204AL (DO-41)
- Molding compound meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 0.33 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	1	A
$V_{RRM}$	50 - 600	V
$I_{FSM}$	30	A
$T_{JMAX}$	150	°C
Package	DO-204AL (DO-41)	
Configuration	Single Die	



DO-204AL (DO-41)

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

PARAMETER	SYMBOL	1N4933 G-K	1N4934 G-K	1N4935 G-K	1N4936 G-K	1N4937 G-K	UNIT
Marking code on the device		1N4933G	1N4934G	1N4935G	1N4936G	1N4937G	
Repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	V
Forward current	$I_{F(AV)}$	1					A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	30					A
Junction temperature	$T_J$	- 55 to +150					°C
Storage temperature	$T_{STG}$	- 55 to +150					°C

**THERMAL PERFORMANCE**

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	65	°C/W

**ELECTRICAL SPECIFICATIONS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode <sup>(1)</sup>	$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	1.2	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	5	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	150	$\mu\text{A}$
Junction capacitance	1 MHz, $V_R = 4.0\text{V}$	$C_J$	10	-	pF
Reverse recovery time	$I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{RR} = 0.25\text{A}$	$t_{rr}$	-	200	ns

**Notes:**

1. Pulse test with  $PW = 0.3\text{ ms}$
2. Pulse test with  $PW = 30\text{ ms}$

**ORDERING INFORMATION**

PART NO.	PACKING CODE	PACKING CODE SUFFIX(*)	PACKAGE	PACKING
1N493xG-K (Note 1)	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 (1N4933G-K) to 600V (1N4937G-K)
- \*: Optional available

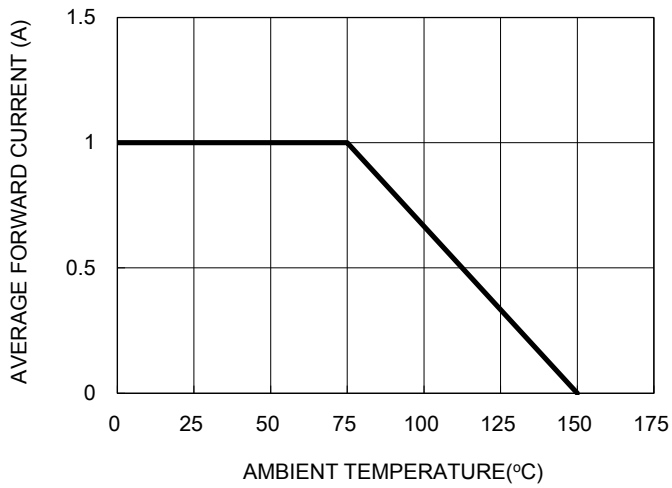
**EXAMPLE P/N**

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
1N4933G-K A0G	1N4933G-K	A0	G	Green compound

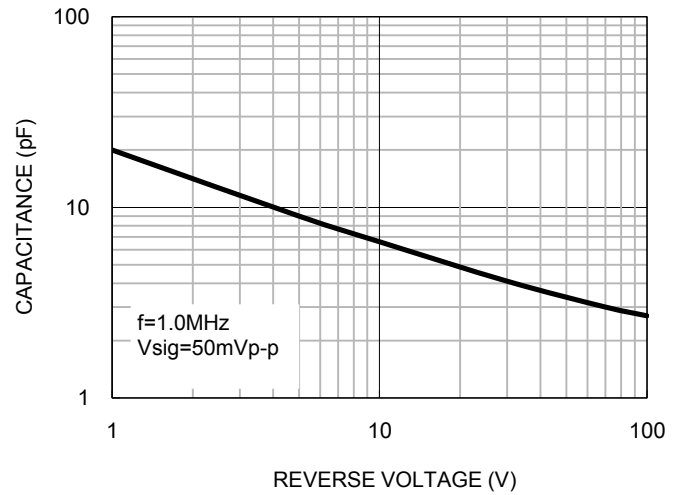
**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

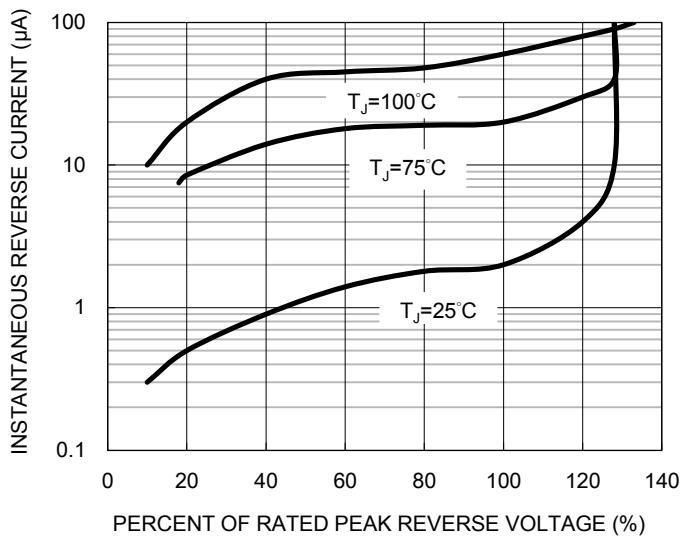
**Fig1. Forward Current Derating Curve**



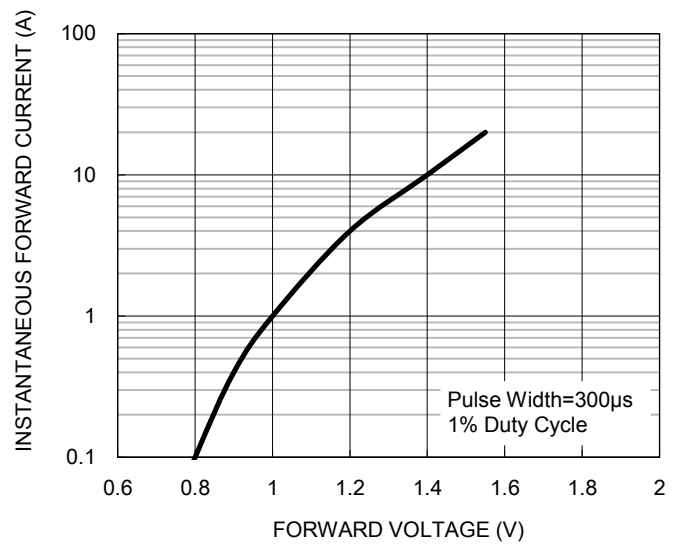
**Fig2. Typical Junction Capacitance**



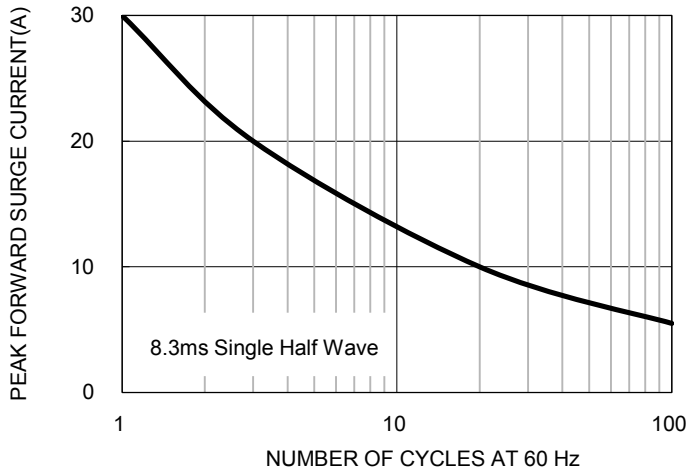
**Fig3. Typical Reverse Characteristics**



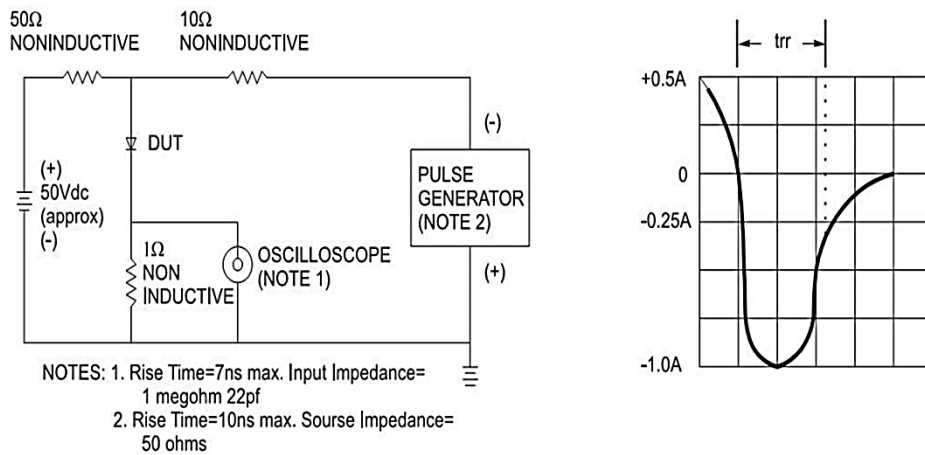
**Fig4. Typical Forward Characteristics**



**Fig5. Maximum Non-repetitive Forward Surge Current**

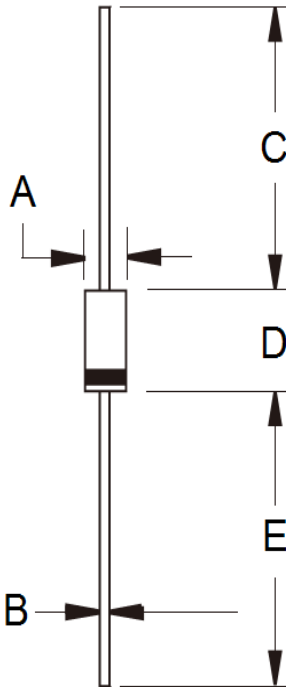


**Fig6. Reverse Recovery Time Characteristic And Test Circuit Diagram**



**PACKAGE OUTLINE DIMENSIONS**

DO-204AL (DO-41)



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	-

**MARKING DIAGRAM**



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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