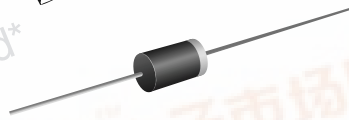


## Glass Passivated Junction Fast Switching Rectifier


**DO-204AL (DO-41)**

\* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602, brazed-lead assembly by Patent No. 3,930,306

### PRIMARY CHARACTERISTICS

$I_{F(AV)}$	1.0 A
$V_{RRM}$	50 V to 600 V
$I_{FSM}$	30 A
$t_{rr}$	200 ns
$I_R$	5.0 $\mu$ A
$V_F$	1.2 V
$T_J$ max.	175 °C

### FEATURES

- Superrectifier structure for high reliability condition
- Cavity-free glass-passivated junction
- Fast switching for high efficiency
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer, automotive and telecommunication.

### MECHANICAL DATA

**Case:** DO-204AL, molded epoxy over glass body

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes cathode end

### MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	1N4933GP	1N4934GP	1N4935GP	1N4936GP	1N4937GP	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	145	280	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 75$ °C	$I_{F(AV)}$	1.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	30					A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 65 to + 175					°C



# 1N4933GP thru 1N4937GP

Vishay General Semiconductor



ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	1N4933GP	1N4934GP	1N4935GP	1N4936GP	1N4937GP	UNIT
Maximum instantaneous forward voltage	1.0 A		V <sub>F</sub>	1.2					V
Maximum DC reverse current at rated DC blocking voltage		T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>	5.0 100					μA
Maximum reverse recovery time	I <sub>F</sub> = 1.0 A, V <sub>R</sub> = 30 V		t <sub>rr</sub>	200					ns
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	15					pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	1N4933GP	1N4934GP	1N4935GP	1N4936GP	1N4937GP	UNIT	
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub>	55						°C/W

**Note:**

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, P.C.B. mounted

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
1N4933GP-E3/54	0.336	54	5500	13" diameter paper tape and reel
1N4933GP-E3/73	0.336	73	3000	Ammo pack packaging
1N4933GPHE3/54 <sup>(1)</sup>	0.336	54	5500	13" diameter paper tape and reel
1N4933GPHE3/73 <sup>(1)</sup>	0.336	73	3000	Ammo pack packaging

**Note:**

(1) Automotive grade AEC Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

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

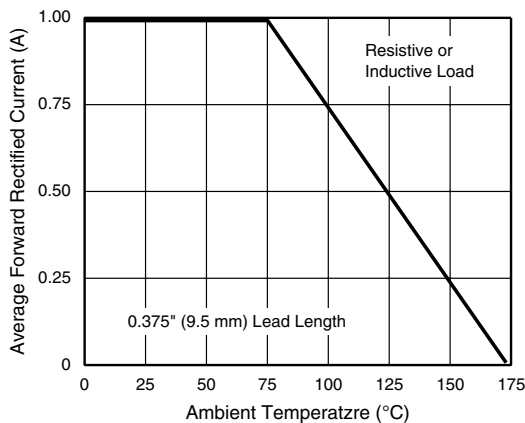


Figure 1. Forward Current Derating Curve

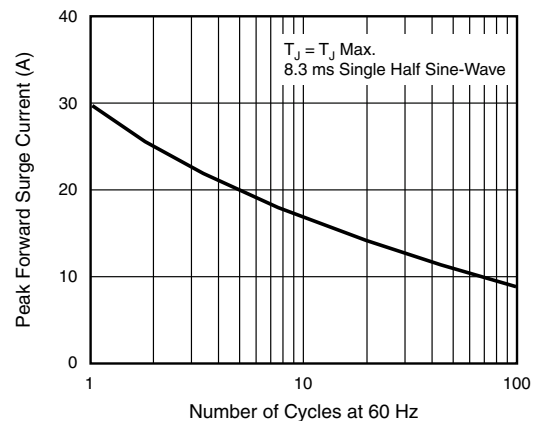


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

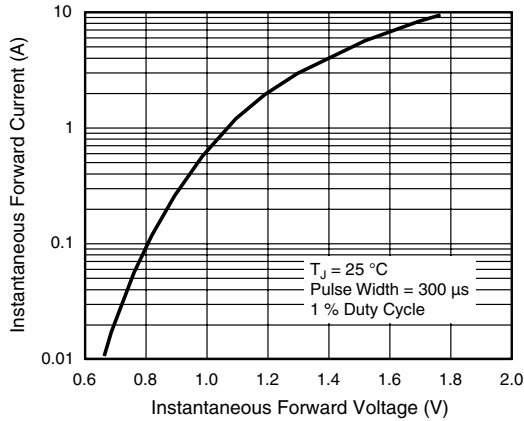


Figure 3. Typical Instantaneous Forward Characteristics

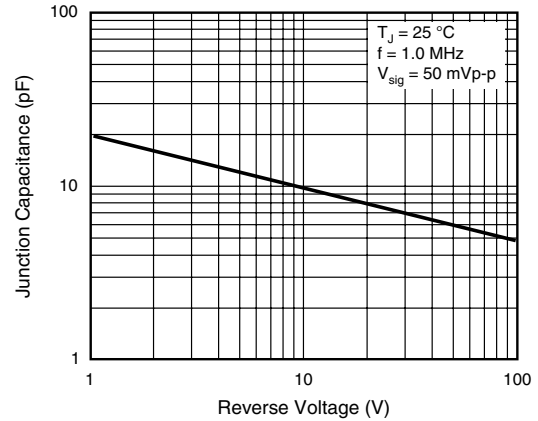


Figure 5. Typical Junction Capacitance

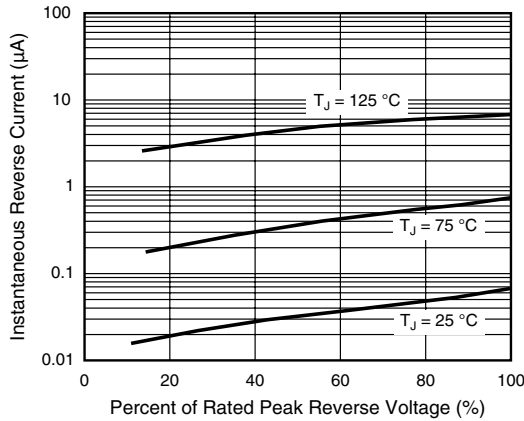


Figure 4. Typical Reverse Characteristics

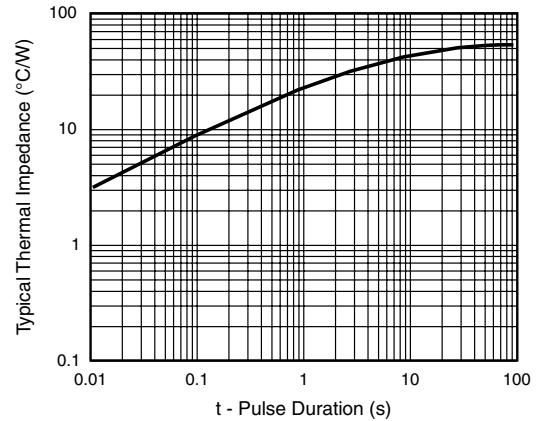
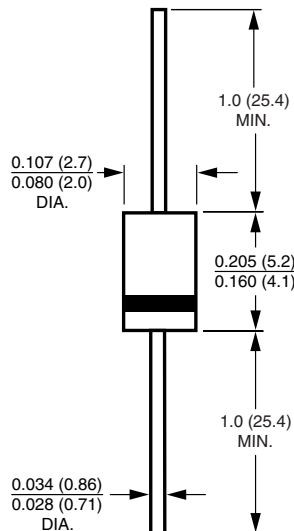


Figure 6. Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**DO-204AL (DO-41)**



**Note:** Lead diameter is  $\frac{0.026 (0.66)}{0.023 (0.58)}$  for suffix "E" part numbers

## Disclaimer

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