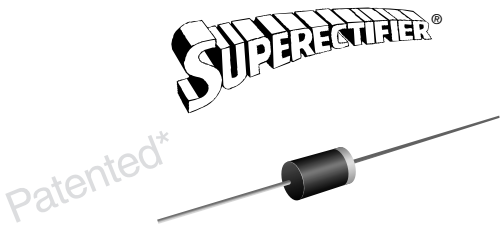
Glass Passivated Junction Fast Switching Rectifier



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

DO-204AL (DO-41)

FEATURES

- Superectifier 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 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

MAJOR RATINGS AND 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 µA
V_F	1.2 V
T_j max.	175 °C

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and free-wheeling 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-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

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

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	**TEST CONDITIONS**	**SYMBOL**	**1N4933GP**	**1N4934GP**	**1N4935GP**	**1N4936GP**	**1N4937GP**	**UNIT**
Maximum instantaneous forward voltage	at 1.0 A	V_F	1.2					V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C T_A = 125 °C	I_R	5.0 100					µA
Maximum reverse recovery time	at I_F = 1.0 A, V_R = 30 V	t_{rr}	200					ns
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	15					pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)							
PARAMETER	**SYMBOL**	**1N4933GP**	**1N4934GP**	**1N4935GP**	**1N4936GP**	**1N4937GP**	**UNIT**
Typical thermal resistance (1)	$R_{\theta JA}$	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				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
1N4933GP-E3/54	0.336	54	5500	13" Diameter Paper Tape & Reel
1N4933GP-E3/73	0.336	73	3000	Ammo Pack Packaging

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

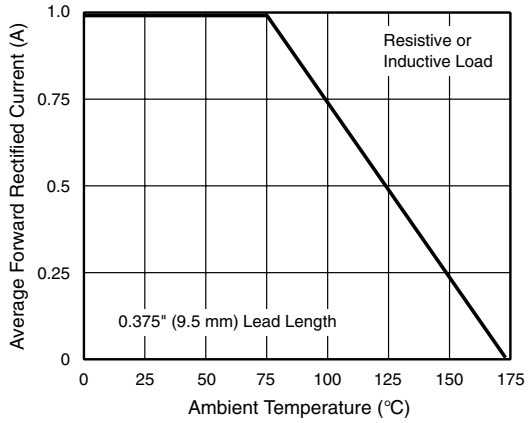


Figure 1. Forward Current Derating Curve

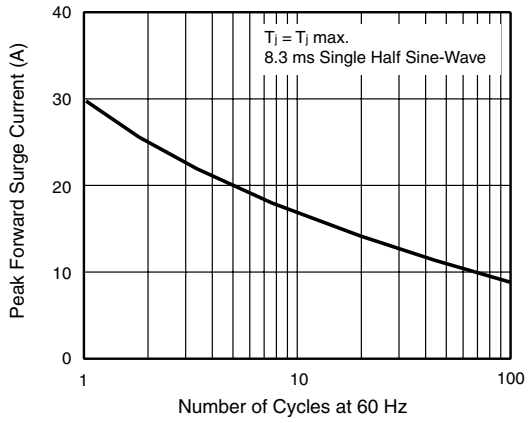


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

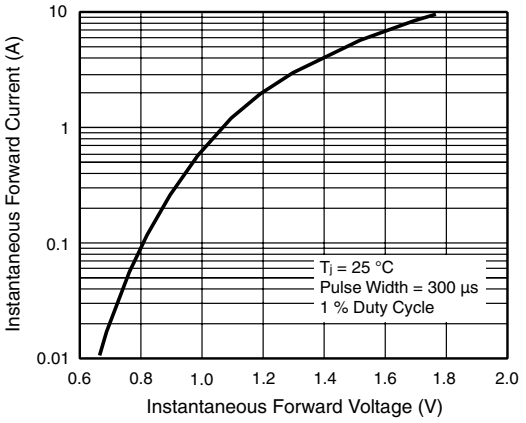


Figure 3. Typical Instantaneous Forward Characteristics

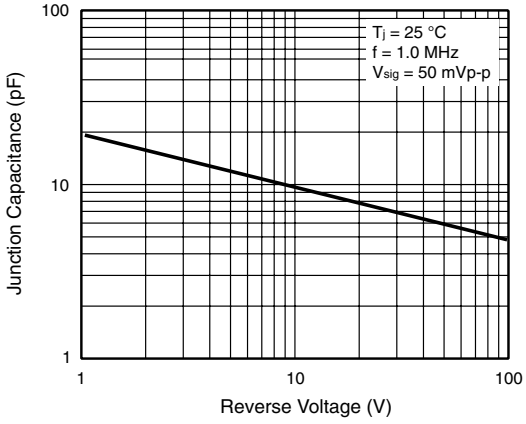


Figure 5. Typical Junction Capacitance

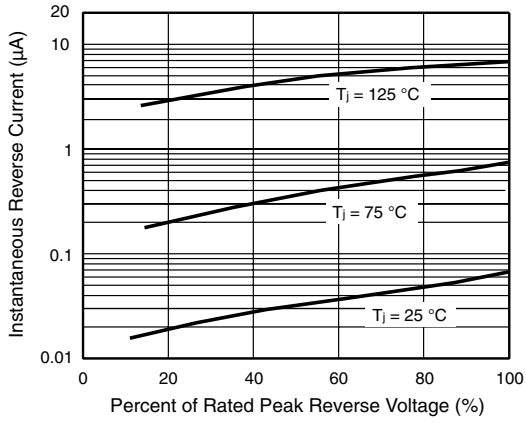


Figure 4. Typical Reverse Characteristics

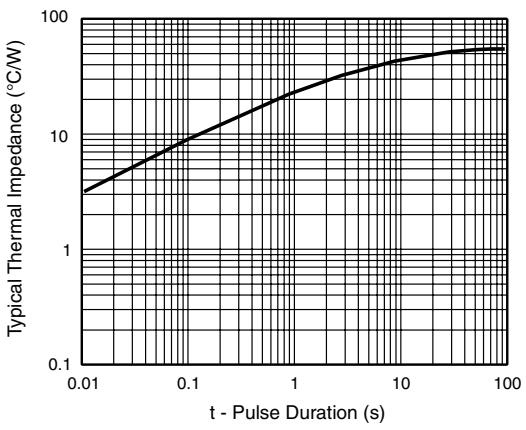
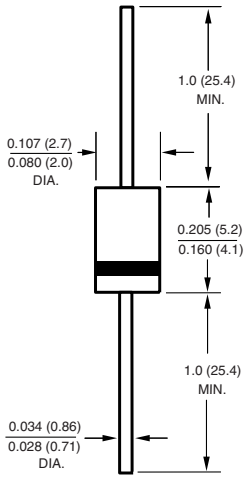


Figure 6. Typical Transient Thermal Impedance

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

Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Fairchild Semiconductor:

1N4933GP