

## 1N4942GP, 1N4944GP, 1N4946GP, 1N4947GP, 1N4948GP

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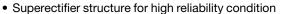
## **Glass Passivated Junction Fast Switching Plastic Rectifier**

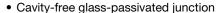


DO 44	(DO-204AL)

PRIMARY CHARACTERISTICS						
I <sub>F(AV)</sub>	1.0 A					
V <sub>RRM</sub>	200 V, 400 V, 600 V, 800 V, 1000 V					
I <sub>FSM</sub>	25 A					
t <sub>rr</sub>	150 ns, 250 ns, 500 ns					
I <sub>R</sub>	1.0 μΑ					
V <sub>F</sub>	1.3 V					
T <sub>J</sub> max.	175 °C					
Package	DO-41 (DO-204AL)					
Circuit configuration	Single					

#### **FEATURES**





RoHS

• Fast switching for high efficiency

- Low leakage current
- · High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>

#### **TYPICAL APPLICATIONS**

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

#### **MECHANICAL DATA**

**Case:** DO-41 (DO-204AL), molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test **Polarity:** color band denotes cathode end

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	1N4942GP	1N4944GP	1N4946GP	1N4947GP	1N4948GP	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T <sub>A</sub> = 55 °C	I <sub>F(AV)</sub>			1.0			А
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	25				Α	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>			-65 to +175			°C

### **Not for New Designs**



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	TEST (	CONDITIONS	SYMBOL	1N4942GP	1N4944GP	1N4946GP	1N4947GP	1N4948GP	UNIT
Maximum instantaneous forward voltage	1.0 A		V <sub>F</sub>	1.3					V
Maximum DC reverse		T <sub>A</sub> = 25 °C	· I <sub>R</sub>	1.0					
current at rated DC blocking voltage		T <sub>A</sub> = 150 °C		200				μA	
Maximum reverse recovery time	I <sub>F</sub> = 0.5 I <sub>rr</sub> = 0.2	A, I <sub>R</sub> = 1.0 A, 5 A	t <sub>rr</sub>	150 250 500			ns		
Typical junction capacitance	4.0 V, 1	MHz	СЛ	15				pF	

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER SYMBOL 1N4942GP 1N4944GP 1N4946GP 1N4947GP 1N4948GP U					UNIT	
Typical thermal resistance	R <sub>0JA</sub> (1)	55				°C/W

#### Note

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

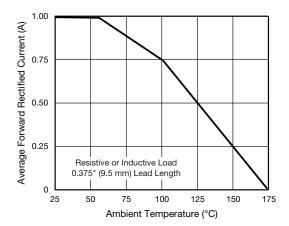
ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
1N4946GP-E3/54	0.336	54	5500	13" diameter paper tape and reel				
1N4946GP-E3/73	0.336	73	3000	Ammo pack packaging				



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### **RATINGS AND CHARACTERISTICS CURVES** (T<sub>A</sub> = 25 °C unless otherwise noted)



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Fig. 1 - Forward Current Derating Curve

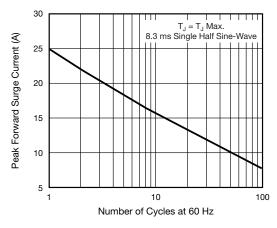


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

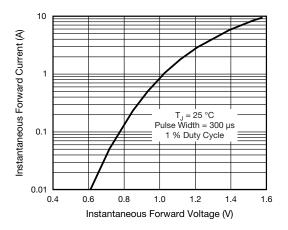


Fig. 3 - Typical Instantaneous Forward Characteristics

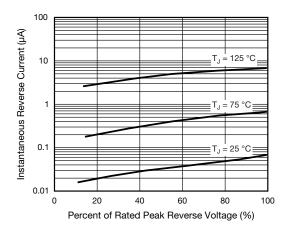


Fig. 4 - Typical Reverse Characteristics

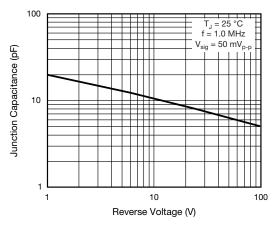


Fig. 5 - Typical Junction Capacitance

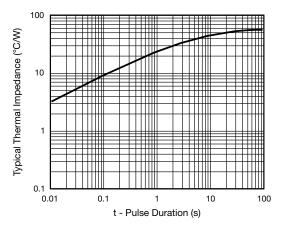


Fig. 6 - Typical Transient Thermal Impedance

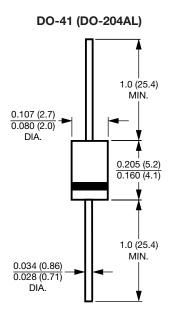


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#### **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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