1N4245GP, 1N4246GP, 1N4247GP, 1N4248GP, 1N4249GP



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**SUPERECTIFIER®** 

DO-41 (DO-204AL)

1.0 A

200 V, 400 V, 600 V, 800 V, 1000 V

25 A

1.0 μA

1.2 V

175 °C

DO-41 (DO-204AL)

Single

**PRIMARY CHARACTERISTICS** 

I<sub>F(AV)</sub>

V<sub>RRM</sub>

I<sub>FSM</sub>

 $I_R$ 

VF

T<sub>J</sub> max.

Package

Circuit configuration

Vishay General Semiconductor

## **Glass Passivated Junction Plastic Rectifier**



 Superectifier structure for high reliability application



COMPLIANT

- · Cavity-free glass-passivated junction
- Low forward voltage drop
- · 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 <u>www.vishay.com/doc?99912</u>

### **TYPICAL APPLICATIONS**

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes application.

### **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

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted) <sup>(1)</sup>							
PARAMETER	SYMBOL	1N4245GP	1N4246GP	1N4247GP	1N4248GP	1N4249GP	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	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				А	
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at $T_A = 55$ °C	I <sub>R(AV)</sub>	I <sub>R(AV)</sub> 50				μA	
Operating junction temperature range	TJ	T <sub>J</sub> -65 to +160				°C	
Storage temperature range	T <sub>STG</sub>	-65 to +175 °C					°C

Note

(1) JEDEC<sup>®</sup> registered values

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ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	1N4245GP	1N4246GP	1N4247GP	1N4248GP	1N4249GP	UNIT
Maximum instantaneous forward voltage	1.0 A		V <sub>F</sub> <sup>(1)</sup>	1.2					V
Maximum reverse		T <sub>A</sub> = 25 °C	1.0						•
current at rated DC blocking voltage		T <sub>A</sub> = 125 °C	I <sub>R</sub> <sup>(1)</sup>	25					μA
Typical junction capacitance	4.0 V, 1	MHz	CJ	8.0					pF

#### Note

<sup>(1)</sup> JEDEC registered values

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<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER	SYMBOL	1N4245GP 1N4246GP 1N4247GP 1N4248GP 1N4249G				1N4249GP	UNIT	
Turning the small register as	R <sub>0JA</sub> <sup>(1)</sup>	55					°C/W	
Typical thermal resistance	R <sub>0JL</sub> <sup>(1)</sup>	25					C/W	

#### Note

<sup>(1)</sup> Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
1N4247GP-E3/54	0.335	54	5500	13" diameter paper tape and reel				
1N4247GP-E3/73	0.335	73	3000	Ammo pack packaging				

## **RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25$ °C unless otherwise noted)

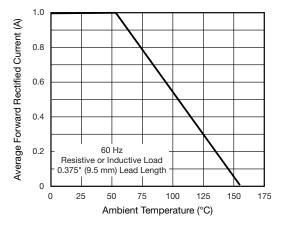


Fig. 1 - Forward Current Derating Curve

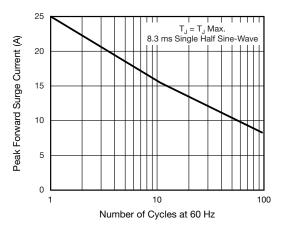


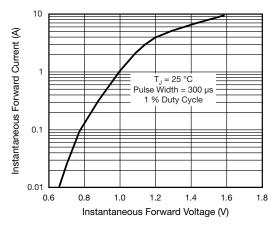
Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

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Fig. 3 - Typical Instantaneous Forward Characteristics

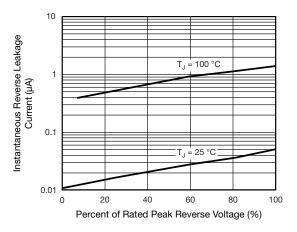


Fig. 4 - Typical Reverse Characteristics

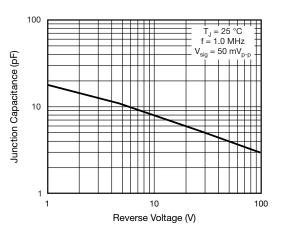


Fig. 5 - Typical Junction Capacitance

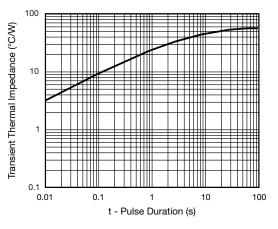


Fig. 6 - Typical Transient Thermal Impedance

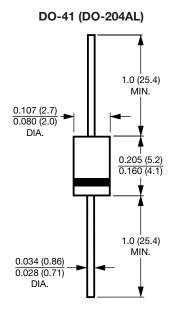
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**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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