## 1N5059GP, 1N5060GP, 1N5061GP, 1N5062GP

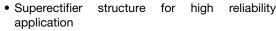
Vishay General Semiconductor

### **Glass Passivated Junction Plastic Rectifier**



PRIMARY CHARACTERISTICS					
I <sub>F(AV)</sub> 1.0 A					
$V_{RRM}$	200 V, 400 V, 600 V, 800 V				
I <sub>FSM</sub>	50 A				
I <sub>R</sub>	I <sub>R</sub> 5.0 μA				
V <sub>F</sub>	1.2 V				
T <sub>J</sub> max.	175 °C				
Package DO-204AC (DO-15)					
Diode variations	Single die				

#### **FEATURES**





- 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
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishav.com/doc?99912

#### TYPICAL APPLICATIONS

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

### **MECHANICAL DATA**

Case: DO-204AC, molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

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

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER		SYMBOL	1N5059GP	1N5060GP	1N5061GP	1N5062GP	UNIT
Maximum repetitive peak reverse voltage			200	400	600	800	V
Maximum RMS voltage			140	280	420	560	V
Maximum DC blocking voltage			200	400	600	800	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T <sub>A</sub> = 75 °C		I <sub>F(AV)</sub> (1)	1.0				Α
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load			50				Α
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at	$T_A = 25 ^{\circ}\text{C}$ $T_A = 75 ^{\circ}\text{C}$	I <sub>R(AV)</sub> (1)	5.0 150		μΑ		
Operating junction and storage temperature range			- 65 to + 175				°C

#### Note

(1) JEDEC® registered values

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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	TEST (	CONDITIONS	SYMBOL	1N5059GP 1N5060GP 1N5061GP 1N5062G		1N5062GP	UNIT	
Max. instantaneous forward voltage	1.0 A	T <sub>A</sub> = 75 °C	V <sub>F</sub> <sup>(1)</sup>	1.2				V
Maximum DC reverse current at rated		T <sub>A</sub> = 25 °C	I <sub>R</sub> <sup>(1)</sup>	5.0			μA	
DC blocking voltage		T <sub>A</sub> = 175 °C	'R ` ′	300		μΛ		
Typical reverse recovery time	$I_F = 0.5$ $I_{rr} = 0.2$	A, I <sub>R</sub> = 1.0 A, 5 A	t <sub>rr</sub>	2.0			μs	
Typical junction capacitance	4.0 V, 1	MHz	CJ	15			pF	

#### Note

(1) JEDEC registered values

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	L 1N5059GP 1N5060GP 1N5061GP 1N5062GP				UNIT	
Typical thermal registance	R <sub>0JA</sub> (1)		°C/W				
Typical thermal resistance	R <sub>0</sub> JL (1)		C/VV				

#### Note

(1) Thermal resistance from junction to ambient 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			
1N5061GP-E3/54	0.425	54	4000	13" diameter paper tape and reel			
1N5061GP-E3/73	0.425	73	2000	Ammo pack packaging			
1N5061GPHE3/54 (1)	0.425	54	4000	13" diameter paper tape and reel			
1N5061GPHE3/73 (1)	0.425	73	2000	Ammo pack packaging			

#### Note

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

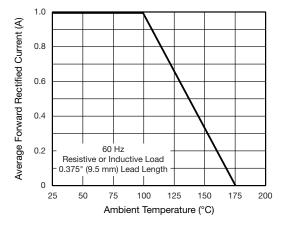


Fig. 1 - Forward Current Derating Curve

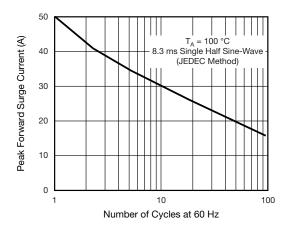


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

<sup>(1)</sup> AEC-Q101 qualified





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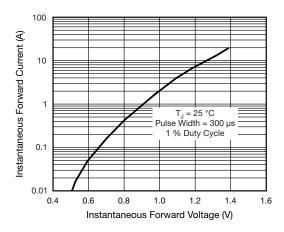
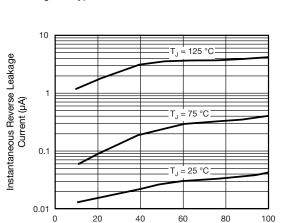


Fig. 3 - Typical Instantaneous Forward Characteristics



Percent of Rated Peak Reverse Voltage (%)
Fig. 4 - Typical Reverse Characteristics

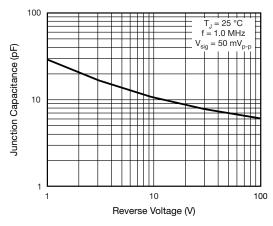


Fig. 5 - Typical Junction Capacitance

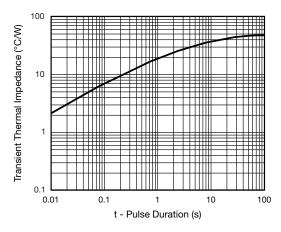
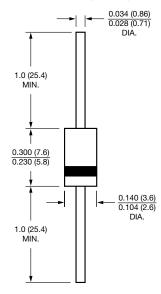


Fig. 6 - Typical Transient Thermal Impedance

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### DO-204AC (DO-15)





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