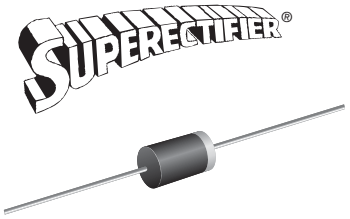
1N5059GP thru 1N5062GP

Vishay General Semiconductor

Glass Passivated Junction Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	200 V to 800 V
I_{FSM}	50 A
I_R	5.0 µA
V_F	1.2 V
T_j max.	175 °C



Patented*

DO-204AC (DO-15)

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

Features

- Superectifier structure for High Reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder Dip 260 °C, 40 seconds

Mechanical Data

Case: DO-204AC, 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

Typical Applications

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

Maximum Ratings

(T_A = 25 °C unless otherwise noted)

Parameter	Symbol	1N5059GP	1N5060GP	1N5061GP	1N5062GP	Unit
* Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	V
* Maximum DC blocking voltage	V_{DC}	200	400	600	800	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}	50				A
* Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at T_A = 25 °C T_A = 75 °C	$I_{R(AV)}$	5.0 150				µA
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 condition	Symbol	1N5059GP	1N5060GP	1N5061GP	1N5062GP	Unit
* Max. instantaneous forward voltage	at 1.0 A, T_A = 75 °C	V_F	1.2				V
* Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C T_A = 175 C	I_R	5.0 300				µA
Typical reverse recovery time	at I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	t_{rr}	2.0				µs
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	15				pF

Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

Parameter	Symbol	1N5059GP	1N5060GP	1N5061GP	1N5062GP	Unit
Typical thermal resistance(1)	$R_{\theta JA}$ $R_{\theta JL}$	45 20				°C/W

Notes:

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

*JEDEC registered values

Ratings and Characteristics Curves

(T_A = 25 °C unless otherwise noted)

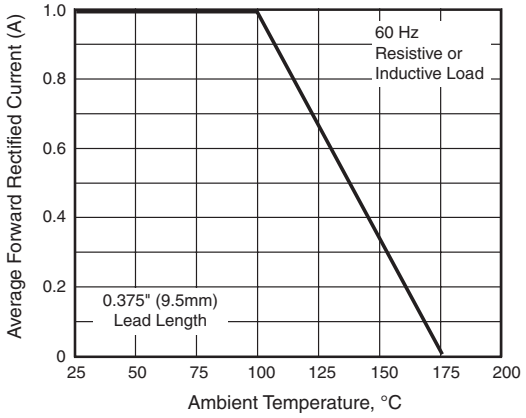


Figure 1. Forward Current Derating Curve

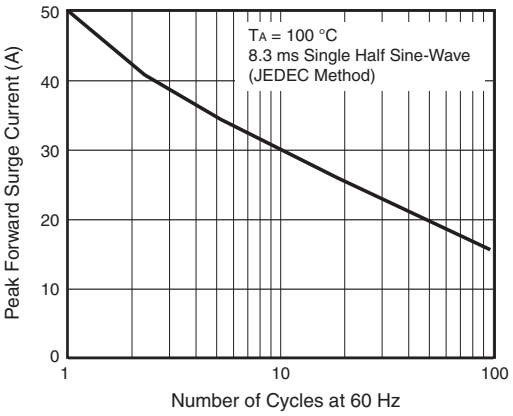


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

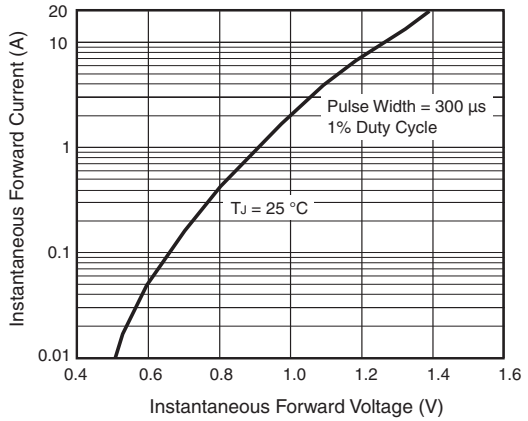


Figure 3. Typical Instantaneous Forward Characteristics

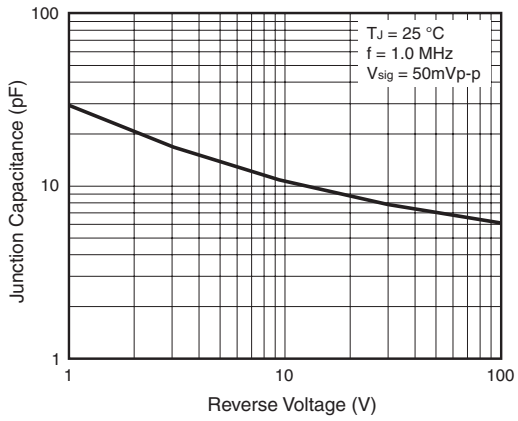


Figure 5. Typical Junction Capacitance

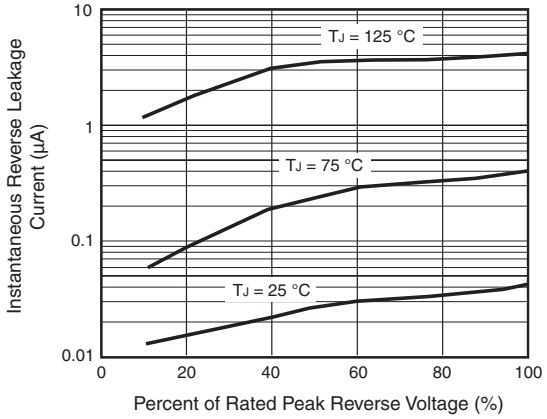


Figure 4. Typical Reverse Characteristics

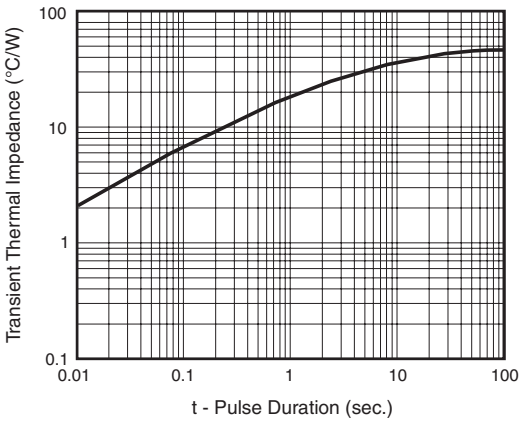
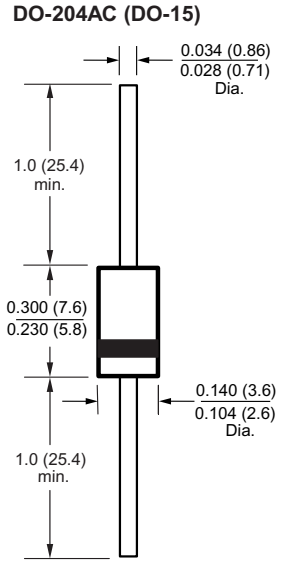


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)



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