



Glass Passivated Junction Plastic Controlled Avalanche Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	1.5 A
V_{RRM}	400 V to 800 V
P_{RM}	500 W
I_{FSM}	50 A
I_R	5.0 μ A
V_F	1.1 V
T_j max.	175 °C



Patented*



DO-204AC (DO-15)

* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602 of 1976; brazed-lead assembly by Patent No. 3,930,306 of 1976 and glass composition by Patent No. 3,752,701 of 1973

Features

- Superrectifier structure for High Reliability application
- Cavity-free glass-passivated junction
- Controlled Avalanche characteristics
- Low forward voltage drop
- Low leakage current, I_R less than 0.1 μ A
- 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	AGP15-400	AGP15-600	AGP15-800	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	400	600	800	V
Maximum RMS voltage	V_{RMS}	280	420	560	V
Maximum DC blocking voltage	V_{DC}	400	600	800	V
Maximum Peak Power Dissipation in the Avalanche Region 20 μ s Pulse	P_{RM}	500			W
Max. Average Forward Rectified Current 0.375" (9.5 mm) Lead Lengths at $T_A = 55$ °C	I_{AV}	1.5			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 $T_A = 55$ °C	$I_{R(AV)}$	100			μ A
Operating and storage temperature range	T_J, T_{STG}	- 65 to + 175			°C

AGP15-400 thru AGP15-800



Vishay General Semiconductor

Electrical Characteristics

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Test condition	Symbol	AGP15-400	AGP15-600	AGP15-800	Unit
Minimum Avalanche Breakdown Voltage	at 100 μA	V_{BR}	450	675	880	V
Maximum Avalanche Breakdown Voltage	at 100 μA	V_{BR}	750	1000	1200	V
Maximum instantaneous forward voltage	at 1.5 A	V_F	1.1			V
Maximum reverse current at rated DC blocking voltage		I_R	5.0			μA
Typical reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	2.0			μs
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	15			pF

Thermal Characteristics

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	AGP15-400	AGP15-600	AGP15-800	Unit
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	25			$^\circ\text{C/W}$

Notes:

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

Ratings and Characteristics Curves

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

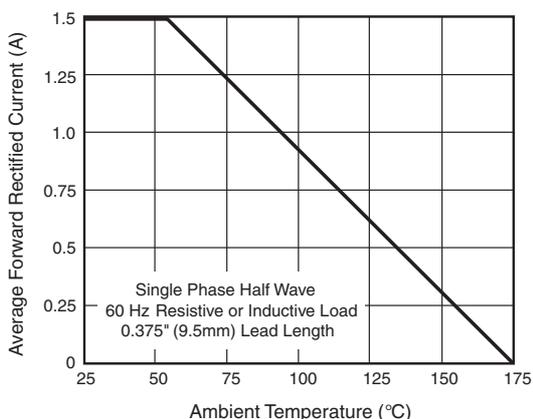


Figure 1. Maximum Forward Current Derating Curve

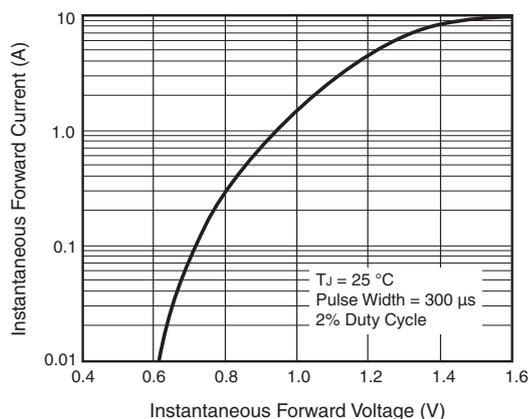


Figure 2. Typical Instantaneous Forward Characteristics

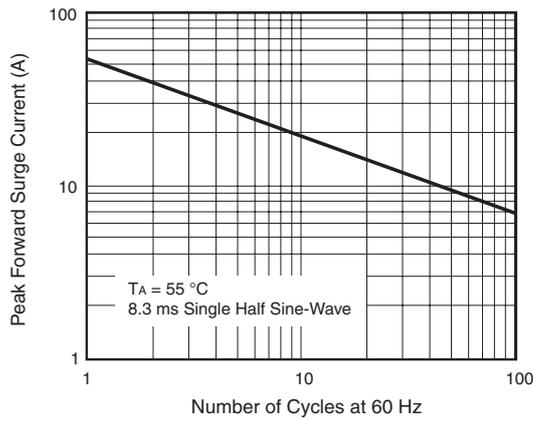


Figure 3. Maximum Non-repetitive Peak Forward Surge Current

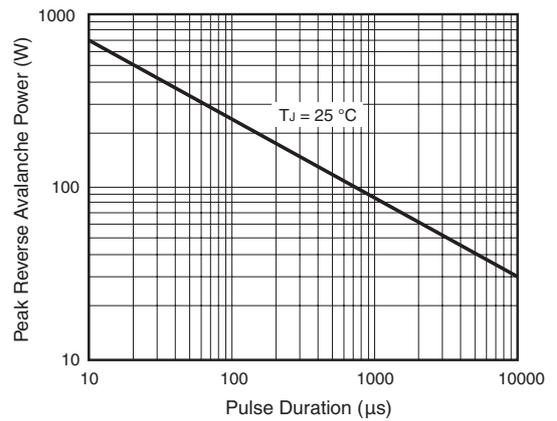


Figure 5. Typical Reverse Leakage Characteristics

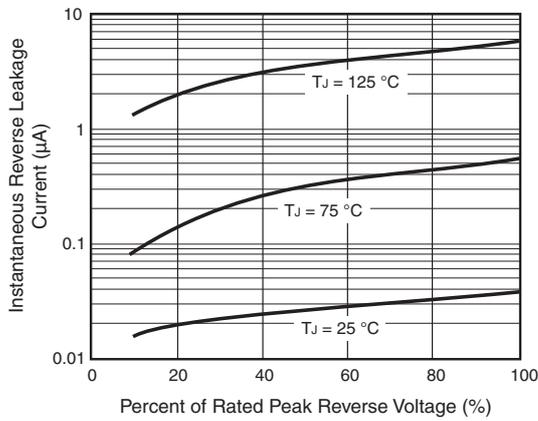
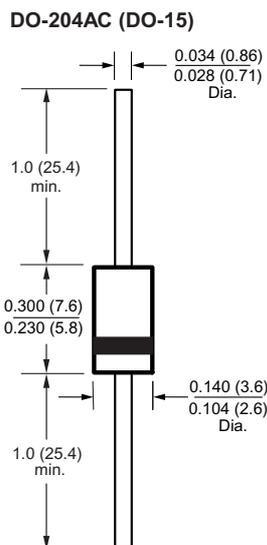


Figure 4. Maximum Non-repetitive Reverse Avalanche Power Dissipation

Package outline dimensions in inches (millimeters)





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