

Miniature Glass Passivated Junction Plastic Controlled Avalanche Rectifiers

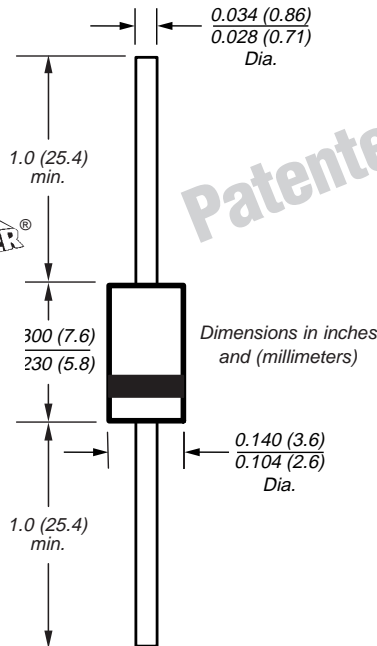
Reverse Voltage

400 to 800V

Forward Current 1.5A

**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

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temp. metallurgically bonded constructed rectifiers
- Controlled Avalanche characteristic combined with the ability to dissipate reverse power
- Glass passivated cavity-free junction in DO-15 package
- 1.5 Ampere operation at $T_A=55^{\circ}\text{C}$ with no thermal runaway
- Typical I_R less than $0.1\mu\text{A}$
- Capable of meeting environmental standards of MIL-S-19500
- High temperature soldering guaranteed: $350^{\circ}\text{C}/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: Molded plastic over glass

Terminals: Plated axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.0154 oz., 0.4 g

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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 μs Pulse	P_{RM}	500			W
Max. Average Forward Rectified Current 0.375" (9.5mm) Lead Lengths at $T_A = 55^{\circ}\text{C}$	I_{AV}	1.5			A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50			A
Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length at $T_A = 55^{\circ}\text{C}$	$I_{R(AV)}$	100			μA
Typical thermal resistance (Note 1)	$R_{\theta JA}$	25			$^{\circ}\text{C}/\text{W}$
Operating and storage temperature range	T_J, T_{STG}	-65 to +175			$^{\circ}\text{C}$

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Minimum Avalanche Breakdown Voltage at $100\mu\text{A}$	V_{BR}	450	675	880	V
Maximum Avalanche Breakdown Voltage at $100\mu\text{A}$	V_{BR}	750	1000	1200	V
Maximum instantaneous forward voltage at 1.5A	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 4.0V, 1MHz	C_J	15			pF

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

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

Fig. 1 – Maximum Forward Current Derating Curve

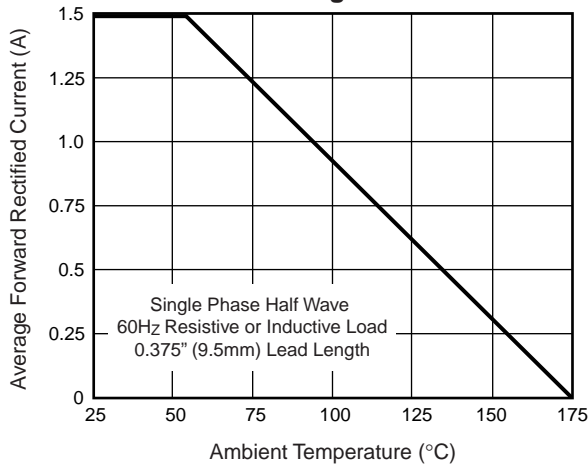


Fig. 2 – Typical Instantaneous Forward Characteristics

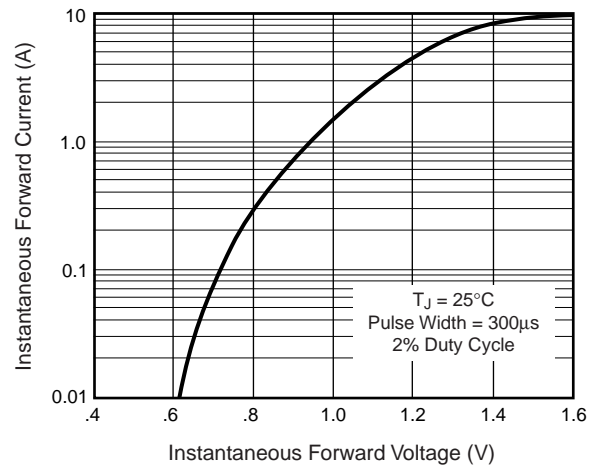


Fig. 3 – Maximum Non-Repetitive Peak Forward Surge Current

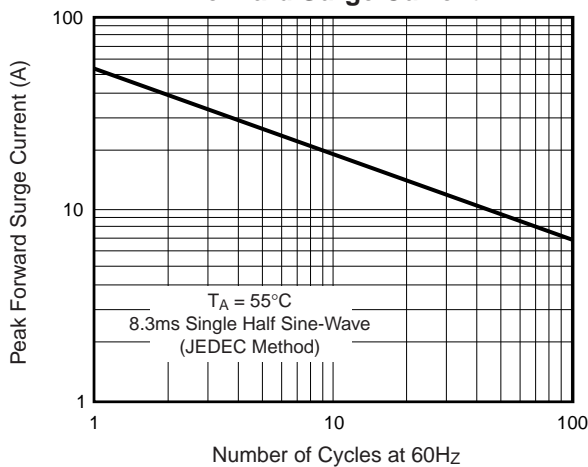


Fig. 4 – Typical Reverse Leakage Characteristics

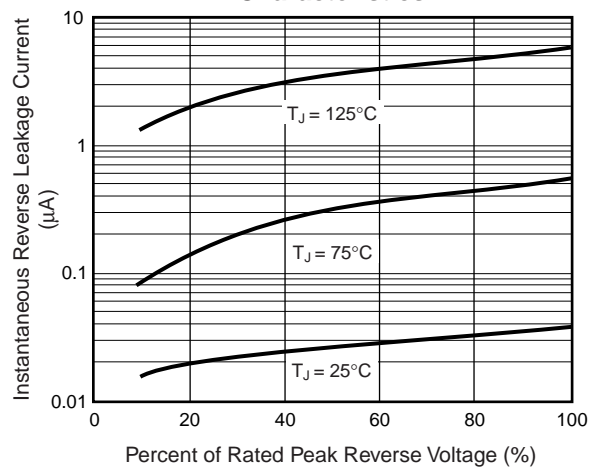


Fig. 5 – Maximum Non-Repetitive Reverse Avalanche Power Dissipation

