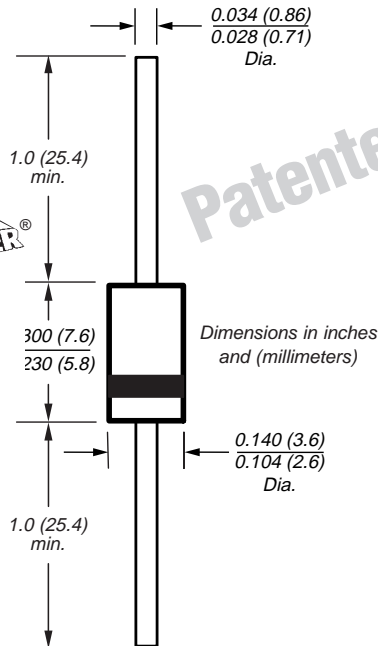


## Miniature Glass Passivated Junction Plastic Controlled Avalanche Rectifiers

**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  $25^\circ\text{C}$  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 $\mu\text{s}$ 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			$\mu\text{A}$
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

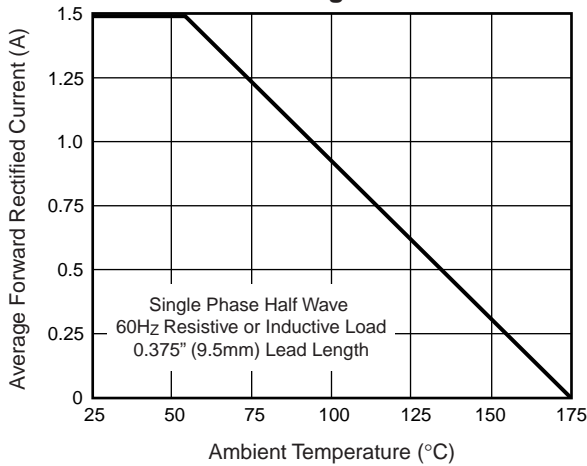
 Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

Parameter	Symbol	AGP15-400	AGP15-600	AGP15-800	Unit
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			$\mu\text{A}$
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			$\mu\text{s}$
Typical junction capacitance at 4.0V, 1MHz	$C_J$	15			pF

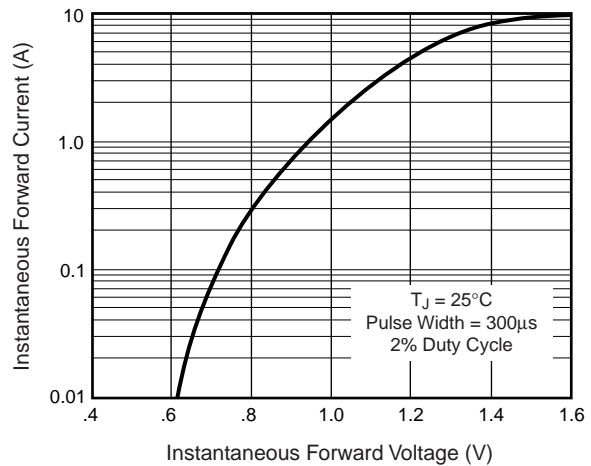
**Note:** (1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C. Board mounted

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

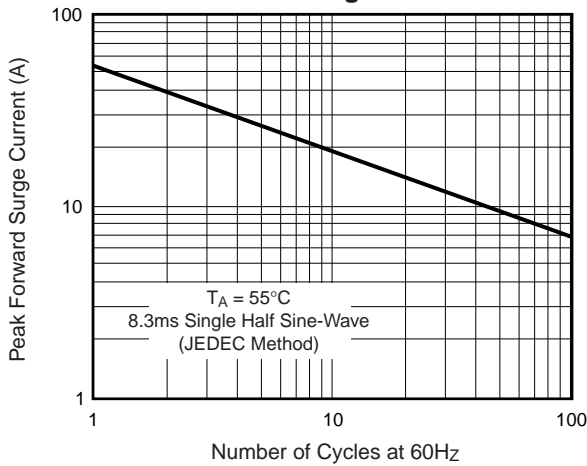
**Fig. 1 – Maximum Forward Current Derating Curve**



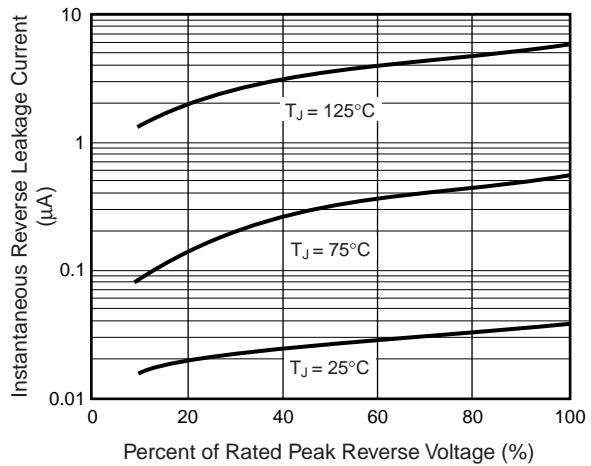
**Fig. 2 – Typical Instantaneous Forward Characteristics**



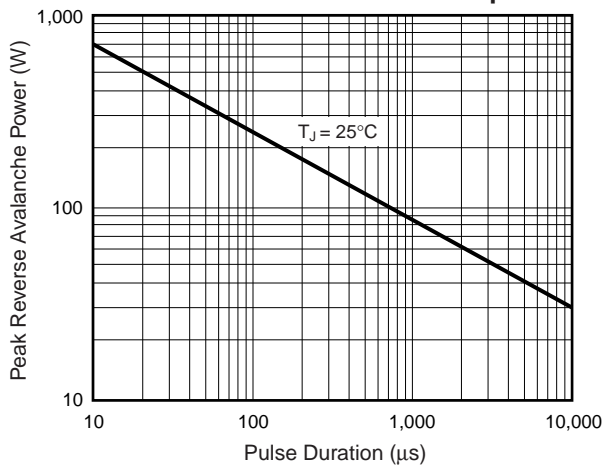
**Fig. 3 – Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 4 – Typical Reverse Leakage Characteristics**



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



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