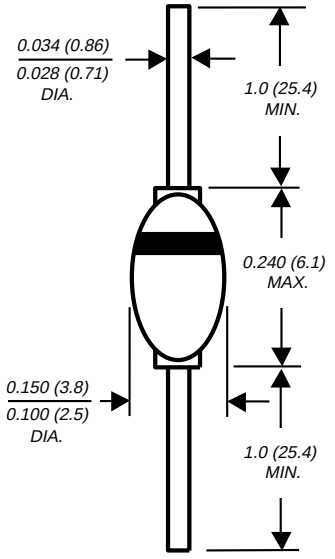
GENERAL SEMICONDUCTOR®

GI1001 THRU GI1004

Glass Passivated Ultrafast Rectifier

Reverse Voltage 50 to 200 V
Forward Current 1.0 A

DO-204AP



Dimensions in inches and (millimeters)

Features

- High temperature metallurgically bonded construction
- Glass passivated cavity-free junction
- Superfast recovery time for high efficiency
- Low forward voltage, high current capability
- Capable of meeting environmental standards of MIL-S-19500
- Hermetically sealed package
- High surge capability
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC DO-204AP solid glass body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.02 ounce, 0.56 gram

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	GI1001	GI1002	GI1003	GI1004	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	V
Maximum average forward rectified current at 0.375" (9.5mm) lead length at T_L = 75°C	$I_{F(AV)}$	1.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L = 75°C	I_{FSM}	30				A
Typical thermal resistance (NOTE 1, 2) -junction to ambient	$R_{\Theta JA}$	65				°C/W
-junction to lead	$R_{\Theta JL}$	20				
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175				°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	GI1001	GI1002	GI1003	GI1004	Units
Maximum instantaneous forward voltage at 1.0A (NOTE 3)	V_F	0.975				V
Maximum DC reverse current T_A= 25°C	I_R	2.0				µA
at rated DC blocking voltage T_A=100°C		50				
Maximum reverse recovery time I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	25				ns
Typical junction capacitance at 4V, 1MHz	C_J	45				pF

NOTES:
(1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length and mounted on P.C.B. with 0.5 x 0.5" (12 x 12mm) copper pads
(2) Thermal resistance from junction to lead at 0.375" (9.5mm) lead length with both leads attached to heatsinks
(3) Pulse test: 300µs pulse width, 1% duty cycle

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

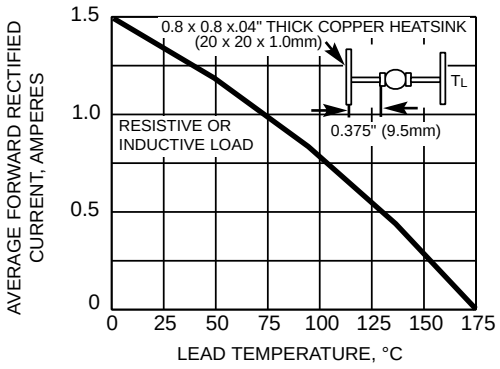


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

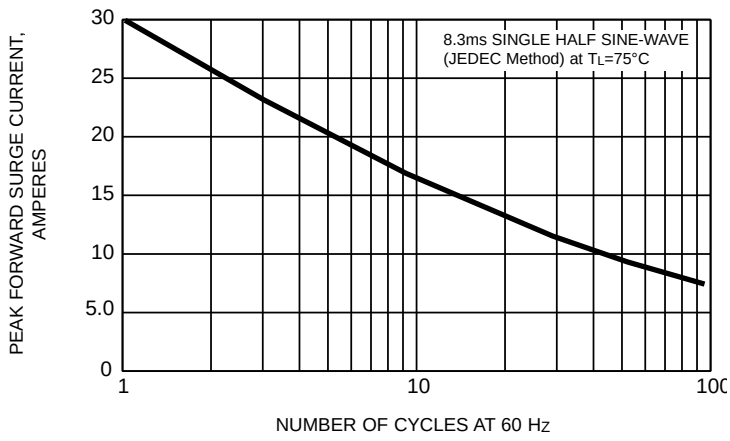


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

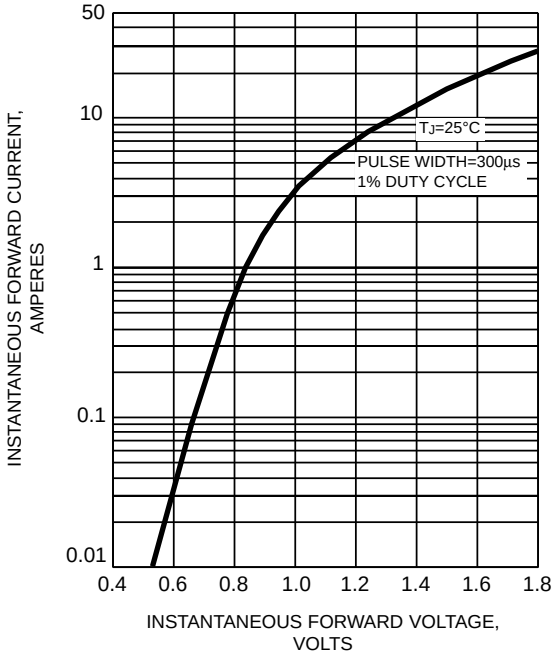


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

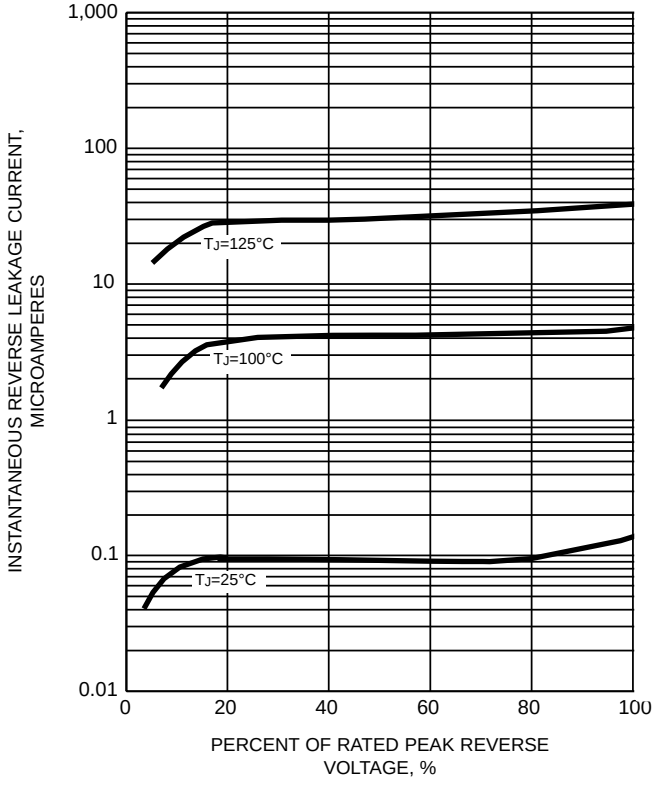


FIG. 5 - TYPICAL JUNCTION CAPACITANCE