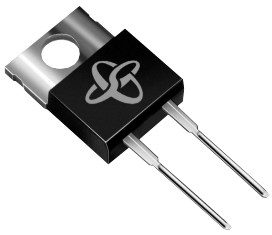
GENERAL SEMICONDUCTOR®

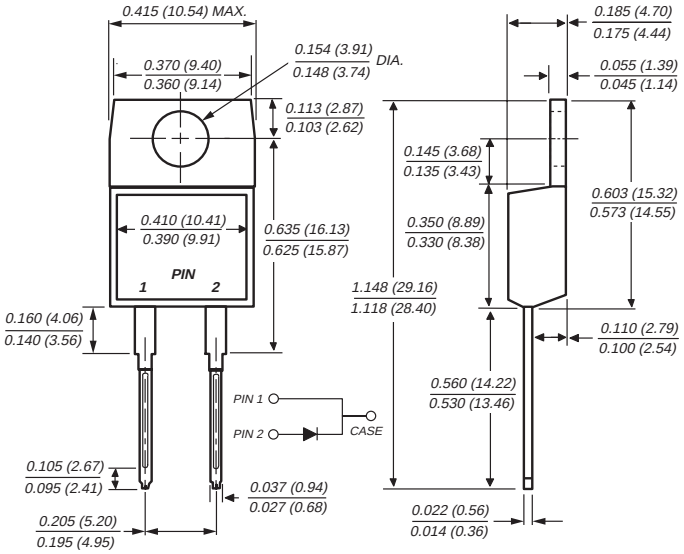
GI1401 thru GI1404

Ultrafast Plastic Rectifier

Reverse Voltage 50 to 200V
Forward Current 8.0A



TO-220AC



Dimensions in inches and (millimeters)

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junction
- Low power loss
- Low leakage current
- High surge capability
- Superfast recovery time for high efficiency
- High temperature soldering guaranteed: 250°C, 0.16" (4.06mm) from case for 10 seconds

Mechanical Data

Case: JEDEC TO-220AC molded plastic body over passivated chips
Terminals: Lead solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Mounting Torque: 10 in-lbs max.
Weight: 0.064 ounce, 1.81 grams

Maximum Ratings and Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	GI1401	GI1402	GI1403	GI1404	Unit
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 T_C = 125°C	$I_{F(AV)}$	8.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	125				A
Typical thermal resistance (Note 1) (Note 2)	$R_{\Theta JA}$ $R_{\Theta JC}$	15 2.2				°C/W
Operating and storage temperature range	T_J, T_{STG}	–65 to +150				°C

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter		Symbol	GI1401	GI1402	GI1403	GI1404	Unit
Maximum instantaneous forward voltage at	I_F = 4A, T_J = 25°C I_F = 8A, T_J = 25°C I_F = 4A, T_J = 100°C I_F = 8A, T_J = 100°C	V_F	0.900 0.975 0.800 0.895				V
Maximum DC reverse current at rated DC blocking voltage at	T_C = 25°C T_C = 100°C	I_R	5.0 150				µA
Maximum reverse recovery time at I_F = 0.5A, I_R = 1.0A, Irr = 0.25A		t_{rr}	35				ns
Typical junction capacitance at 4V, 1MHz		C_J	85				pF

Notes: (1) Thermal resistance from junction to ambient in free air, no heatsink
(2) Thermal resistance from junction to case and ambient mounted on heatsink

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

Fig. 1 – Maximum Forward Current Derating Curve

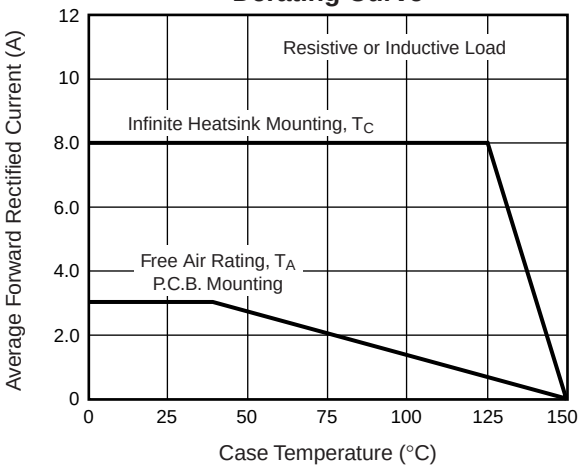

Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

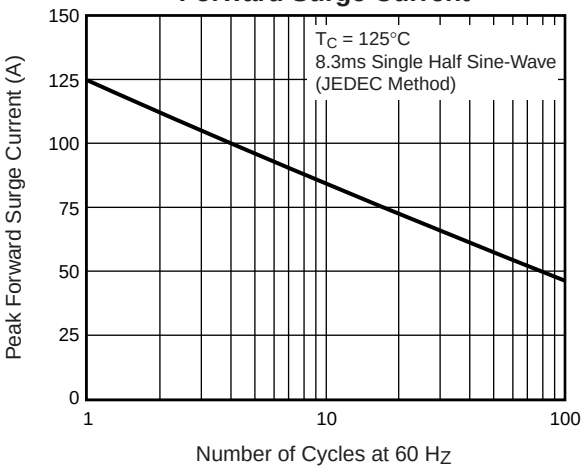

Fig. 3 – Typical Instantaneous Forward Characteristics

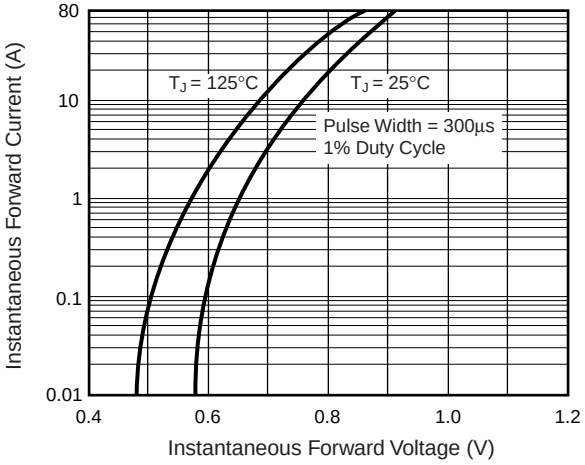

Fig. 4 – Typical Reverse Leakage Characteristics

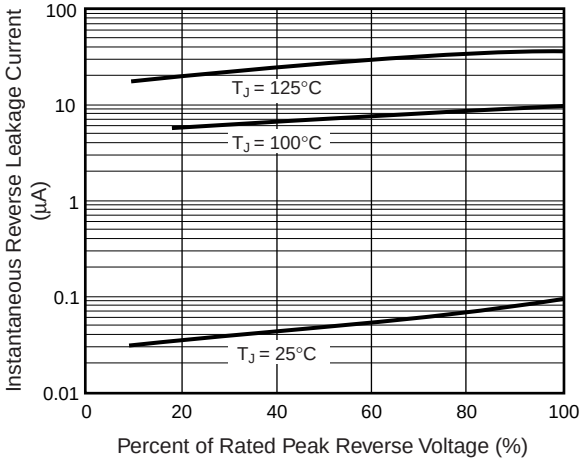

Fig. 5 – Typical Junction Capacitance