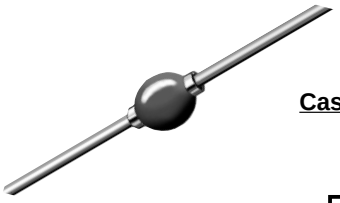
GENERAL SEMICONDUCTOR®

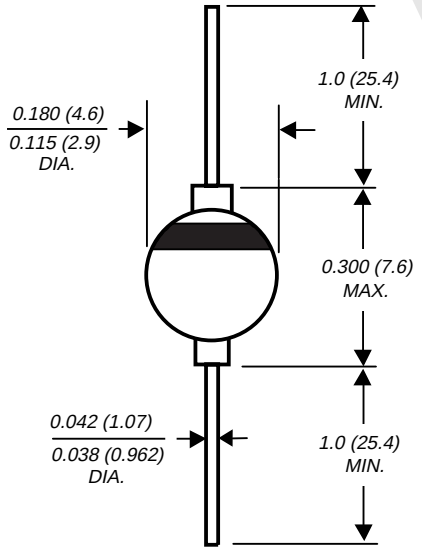
FE5A thru FE5D

Glass Passivated Ultrafast Rectifier

Reverse Voltage 50 to 200 V
Forward Current 5.0 A



Case Style G4



Dimensions in inches and (millimeters)

*****Brazed lead assembly is covered by Patent No. 3,390,306*

Features

- High temperature metallurgically bonded construction
- Cavity-free glass passivated 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
- Low leakage current
- High surge current capability
- High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: Solid glass body
Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.037 ounce, 1.04 gram

Maximum Ratings and Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	FE5A	FE5B	FE5C	FE5D	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 0.375" (9.5mm) lead length at T_L=55°C	$I_{F(AV)}$	5.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	135				A
Typical thermal resistance (NOTE 1, 2)	$R_{\Theta JA}$ $R_{\Theta JL}$	60 20				°C/W
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	FE5A	FE5B	FE5C	FE5D	UNITS
Maximum instantaneous forward voltage at 5.0A	V_F	0.95				V
Maximum DC reverse current at rated DC blocking voltage T_A=25°C T_A=100°C	I_R	5.0 50				µA
Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	35				ns
Typical junction capacitance at 4V, 1MHz	C_J	100				pF

NOTES:
(1) Thermal resistance from junction to lead 0.375" (9.5mm) lead length with both leads attached to heatsinks.
(2) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length and mounted on P.C.B.

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

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

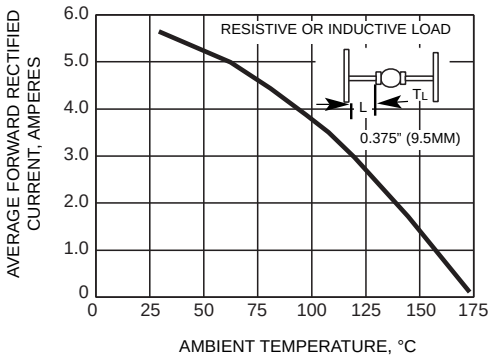

FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

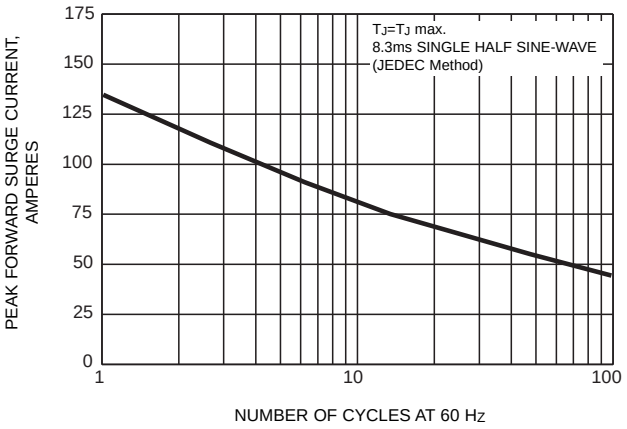

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

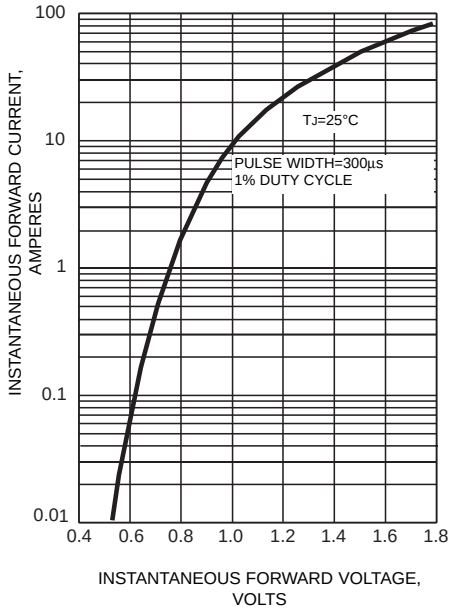

FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

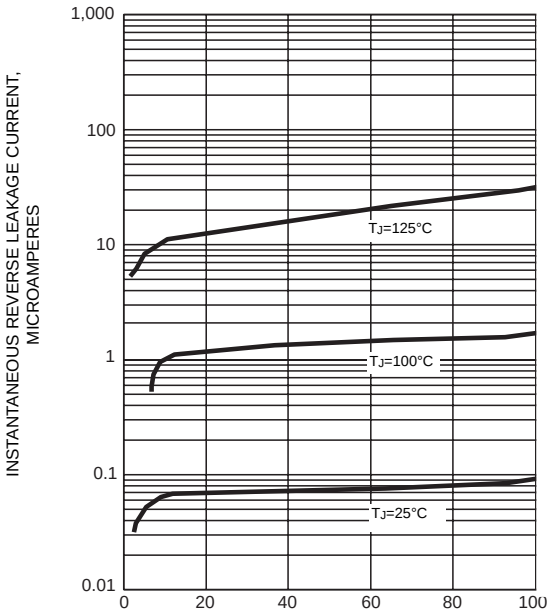

FIG. 5 - TYPICAL JUNCTION CAPACITANCE