Silicon Diode

FE3C

Fast Efficient Rectifier

150V / 3A

DATASHEET

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OEM – General Semiconductor

Source: General Semiconductor Databook 1998

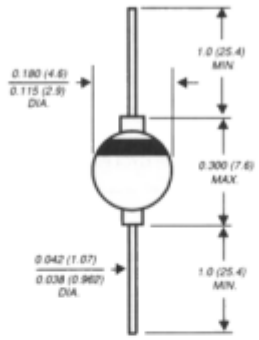
FE3A THRU FE3D

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

***Reverse Voltage** - 50 to 200 Volts* ***Forward Current** - 3.0 Amperes*

PATENTED*

Case Style G4



Dimensions in inches and (millimeters)

* *Brazed-lead assembly is covered by Patent No. 3,930,306*

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
- 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: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.037 ounce, 1.04 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	FE3A	FE3B	FE3C	FE3D	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_A=55°C	$I_{(AV)}$	3.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	125.0				Amps
Maximum instantaneous forward voltage at 3.0A	V_F	0.95				Volts
Maximum DC reverse current at rated DC blocking voltage T_A=25°C / T_A=100°C	I_R	5.0 50.0				µA
Maximum reverse recovery time (NOTE 1)	t_{rr}	35.0				ns
Typical junction capacitance (NOTE 2)	C_J	100.0				pF
Typical thermal resistance (NOTE 3, 4)	$R_{\theta JA}$ $R_{\theta JL}$	55.0 20.0				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175				°C

NOTES:
(1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length mounted on P.C.B.
(4) Thermal resistance from junction to lead at 0.375" (9.5mm) lead length with both leads attached to heatsinks

RATINGS AND CHARACTERISTIC CURVES FE3A THRU FE3D

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING

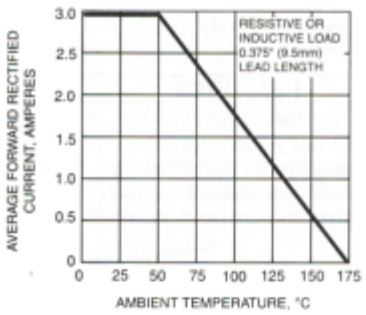


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

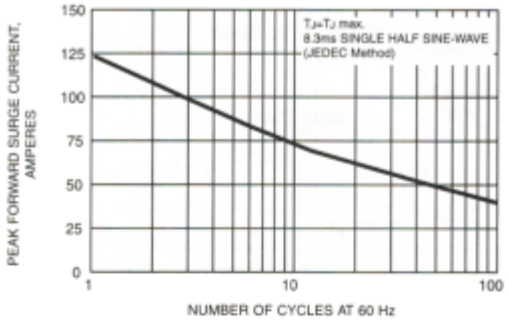


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

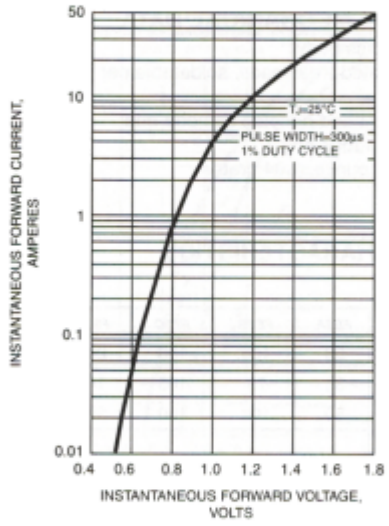


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

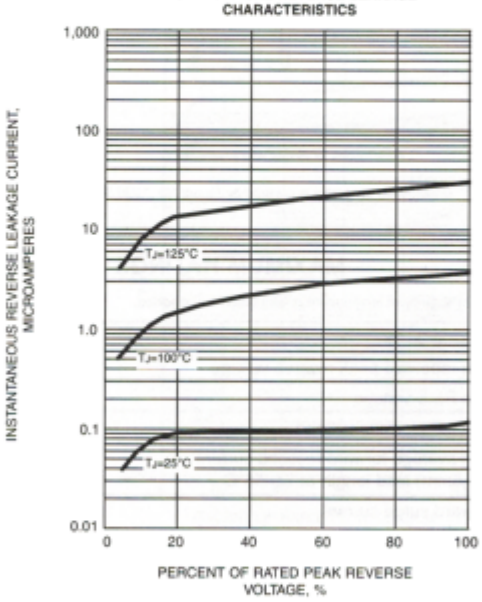


FIG. 5 - TYPICAL JUNCTION CAPACITANCE