

Silicon Diode

FE5A

Fast Efficient Rectifier

50V / 5A

DATASHEET

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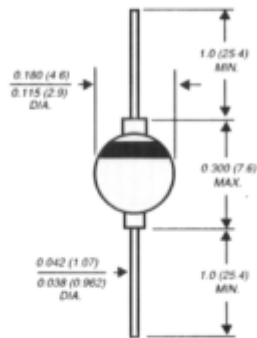
FE5A THRU FE5D

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

Reverse Voltage - 50 to 200 Volts Forward Current - 5.0 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
- Super fast 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 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	FESA	FESB	FESC	FESD	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 _L =55°C	I _(AV)	5.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	135.0				Amps
Maximum instantaneous forward voltage at 5.0A	V _F	0.95				Volts
Maximum DC reverse current at rated DC blocking voltage	I _R	5.0 50.0				μA
		T _A =25°C T _A =100°C				
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 _{θJA} R _{θJL}	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 V_{DC}
- (3) Thermal resistance from junction to lead at 0.375" (9.5mm) lead length with both leads attached to heatsinks
- (4) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length and mounted on P.C.B.

RATINGS AND CHARACTERISTIC CURVES FE5A THRU FE5D

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

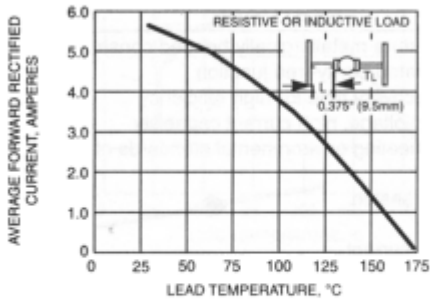


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

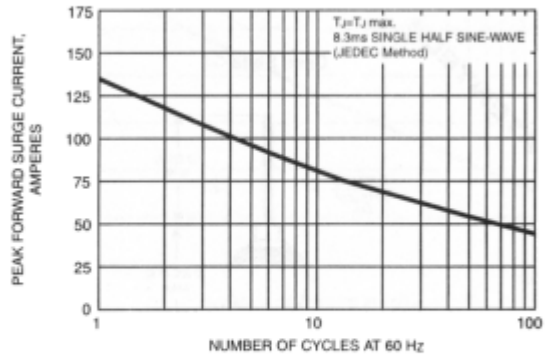


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

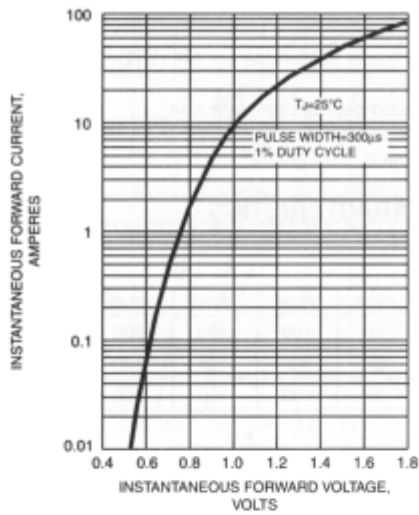


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

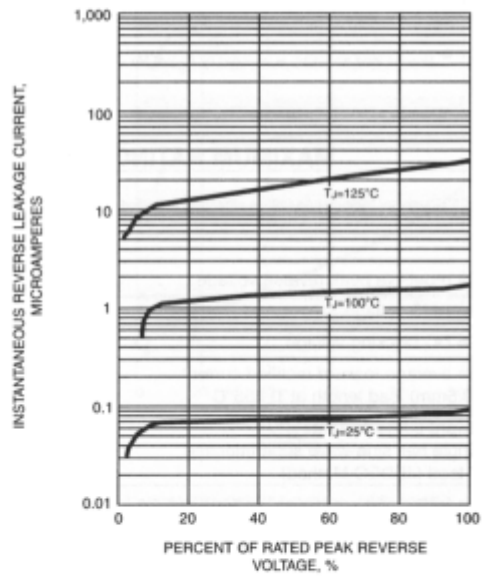


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

