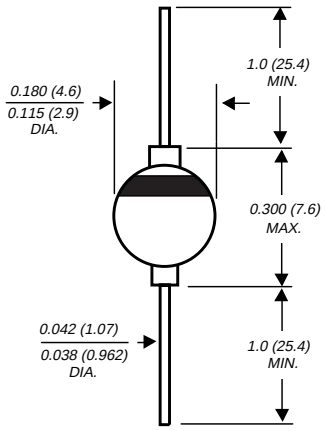
# FE5A THRU FE5D

## 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 | FE5A | FE5B | FE5C | FE5D | 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 $T_A$=25°C<br>$T_A$=100°C | $I_R$ | 5.0<br>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) | $R_{\Theta JA}$<br>$R_{\Theta JL}$ | 55.0<br>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.



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# RATINGS AND CHARACTERISTIC CURVES FE5A THRU FE5D

**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE**

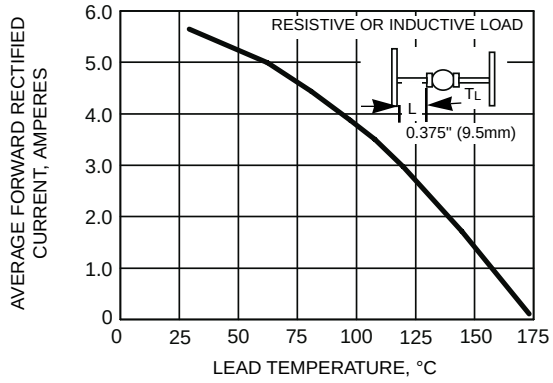



**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**

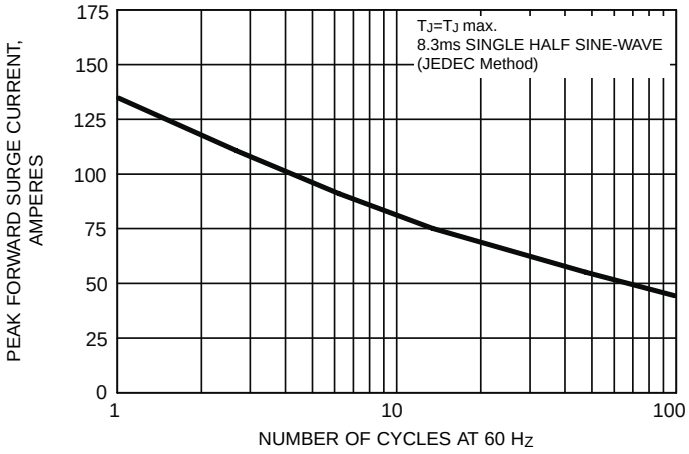



**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

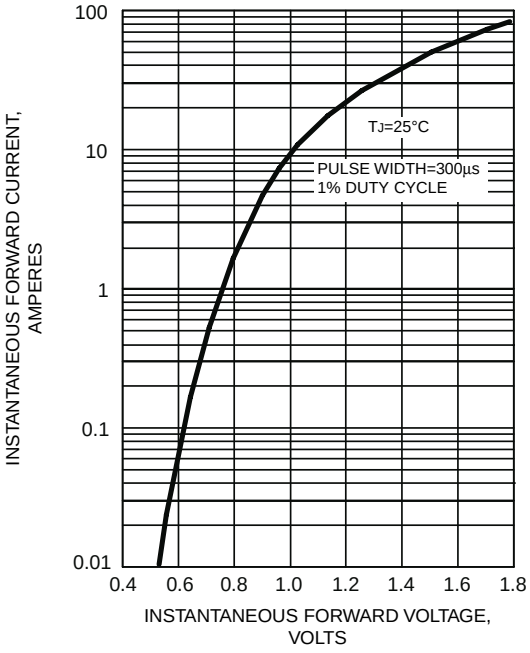



**FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS**

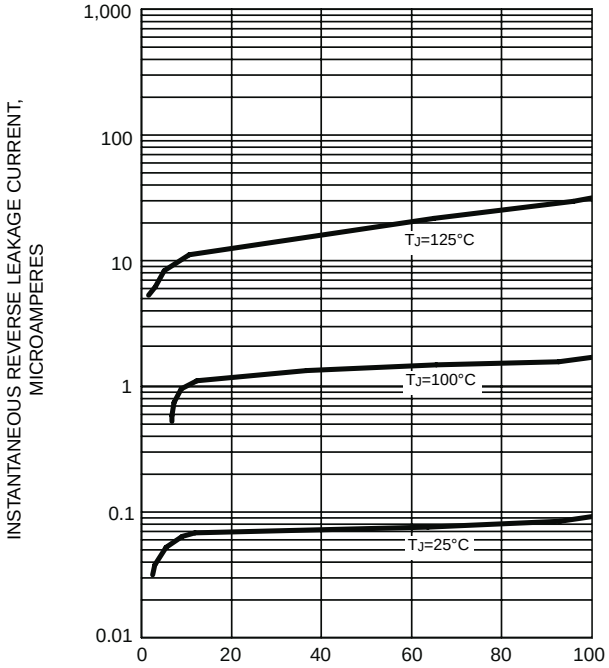
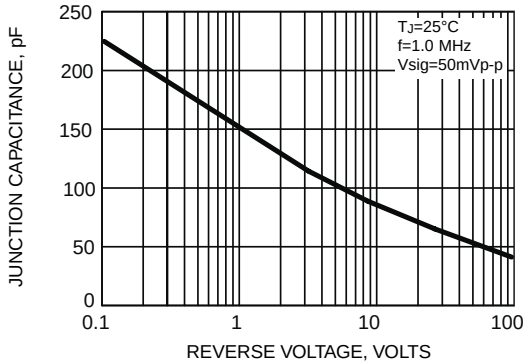



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

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