

# Silicon Diode

## **FESB16AT**

Fast Efficient Rectifier

50V / 16A

# DATASHEET

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OEM – General Semiconductor

Source: General Semiconductor Databook 1998

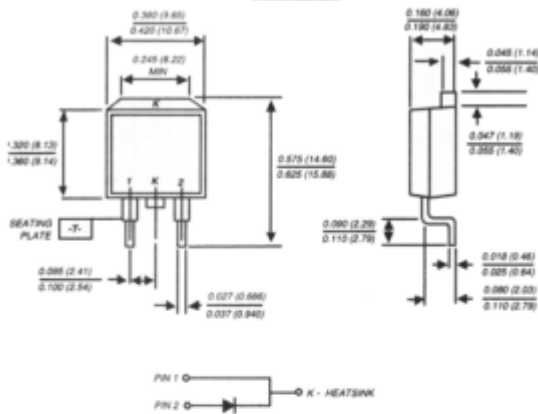
**NEW PRODUCT**                      **NEW PRODUCT**                      **NEW PRODUCT**

# FESB16AT THRU FESB16JT

**FAST EFFICIENT PLASTIC RECTIFIER**

**Reverse Voltage - 50 to 600 Volts      Forward Current - 16.0 Amperes**

**TO-263AB**



Dimensions in inches and (millimeters)

## FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated chip junction
- ◆ Low power loss
- ◆ Low forward voltage, high current capability
- ◆ High surge current capability
- ◆ Superfast recovery time, for high efficiency
- ◆ High temperature soldering in accordance with CECC 802 / Reflow guaranteed



## MECHANICAL DATA

**Case:** JEDEC TO-263AB molded plastic body over passivated chips  
**Terminals:** Plated lead solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked  
**Mounting Position:** Any  
**Weight:** 0.08 ounce, 2.24 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|   | SYMBOLS                           | FESB 16AT                    | FESB 16BT | FESB 16CT | FESB 16DT                      | FESB 16FT | FESB 16GT | FESB 16HT | FESB 16JT | UNITS |
|---|-----------------------------------|------------------------------|-----------|-----------|--------------------------------|-----------|-----------|-----------|-----------|-------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>                  | 50                           | 100       | 150       | 200                            | 300       | 400       | 500       | 600       | Volts |
| Maximum RMS voltage   | V <sub>RMS</sub>                  | 35                           | 70        | 105       | 140                            | 210       | 280       | 350       | 420       | Volts |
| Maximum DC blocking voltage   | V <sub>DC</sub>                   | 50                           | 100       | 150       | 200                            | 300       | 400       | 500       | 600       | Volts |
| Maximum average forward rectified current at T <sub>C</sub> =100°C  | I <sub>(AV)</sub>                 | 16.0                         |           |           |                                |           |           |           |           | Amps  |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>C</sub> =100°C | I <sub>FSM</sub>                  | 250.0                        |           |           |                                |           |           |           |           | Amps  |
| Maximum instantaneous forward voltage at 16A  | V <sub>F</sub>                    | 0.975                        |           |           | 1.3                            |           | 1.5       |           |           | Volts |
| Maximum DC reverse current at rated DC blocking voltage   | I <sub>R</sub>                    | T <sub>C</sub> =25°C<br>10.0 |           |           | T <sub>C</sub> =100°C<br>500.0 |           |           | µA        |           |       |
| Maximum reverse recovery time (NOTE 1)  | t <sub>rr</sub>                   | 35.0                         |           |           | 50.0                           |           |           | ns        |           |       |
| Typical junction capacitance (NOTE 2)   | C <sub>J</sub>                    | 175.0                        |           |           | 145.0                          |           |           | pF        |           |       |
| Typical thermal resistance (NOTE 3)   | R <sub>θJC</sub>                  | 1.2                          |           |           |                                |           |           |           |           | °C/W  |
| Operating and storage temperature range   | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150                  |           |           |                                |           |           |           |           | °C    |

**NOTES:**

- (1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>T</sub>=0.25A
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Thermal resistance from junction to case

**RATINGS AND CHARACTERISTICS CURVES FESB16AT THRU FESB16JT**

FIG. 1 - FORWARD CURRENT DERATING CURVE

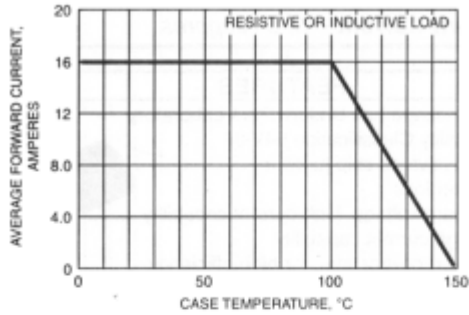


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

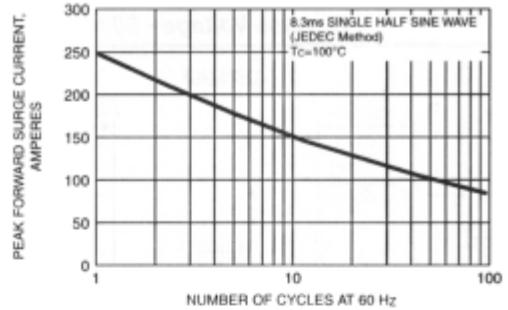


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

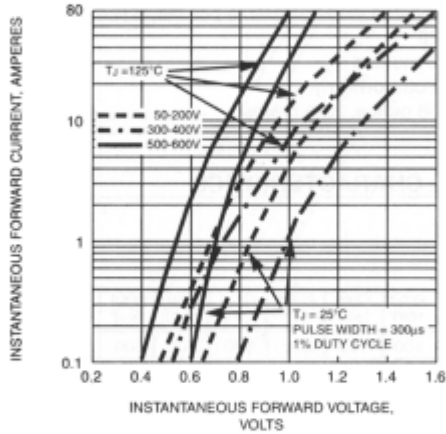


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

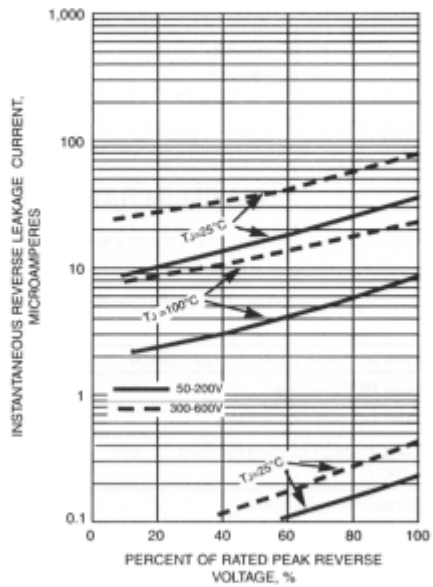


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

