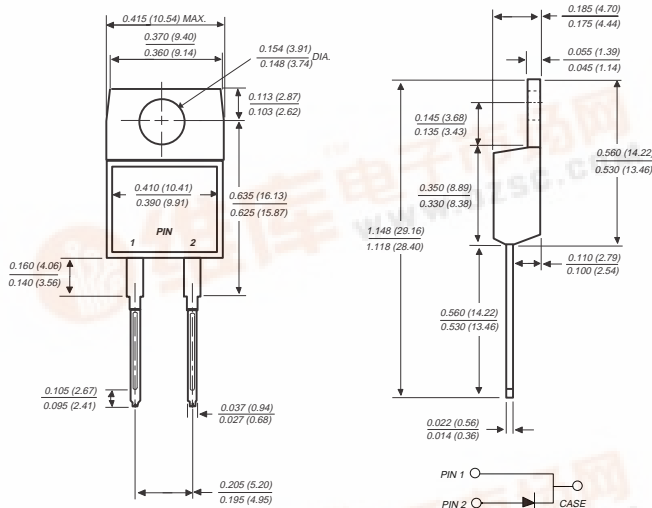


# FES8AT THRU FES8JT

## FAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 600 Volts      Forward Current - 8.0 Amperes

### TO-220AC



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated chip junction
- ◆ Low leakage, high voltage
- ◆ High surge current capability
- ◆ Superfast recovery time, for high efficiency
- ◆ High temperature soldering guaranteed: 250°C, 0.16" (4.06mm) from case for 10 seconds



### MECHANICAL DATA

**Case:** JEDEC TO-220AC fully overmolded plastic body over passivated chip

**Terminals:** Plated lead solderable per MIL-STD-750, Method 2026

**Polarity:** As marked

**Mounting Position:** Any

**Mounting Torque:** 5 in. - lbs. max.

**Weight:** 0.064 ounce, 1.81 grams

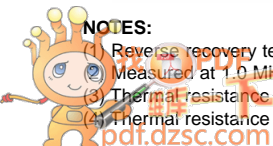
### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|   | SYMBOLS                           | FES 8AT                  | FES 8BT | FES 8CT | FES 8DT | FES 8FT | FES 8GT | FES 8HT | FES 8JT | UNITS |
|---|-----------------------------------|--------------------------|---------|---------|---------|---------|---------|---------|---------|-------|
| Maximum recurrent 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>                 | 8.0                      |         |         |         |         |         |         |         | Amps  |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                  | 125.0                    |         |         |         |         |         |         |         | Amps  |
| Maximum instantaneous forward voltage at 8.0A   | V <sub>F</sub>                    | 0.95                     |         | 1.3     |         | 1.5     |         |         |         | Volts |
| Maximum DC reverse current<br>at rated DC blocking voltage  | I <sub>R</sub>                    | T <sub>C</sub> =25°C     |         | 10.0    |         | 500.0   |         |         |         | μA    |
|   |                                   | at T <sub>C</sub> =100°C |         |         |         |         |         |         |         |       |
| Maximum reverse recovery time (NOTE 1)  | t <sub>rr</sub>                   | 35.0                     |         |         | 50.0    |         |         |         |         | ns    |
| Typical junction capacitance (NOTE 2)   | C <sub>J</sub>                    | 85.0                     |         |         |         | 60.0    |         |         |         | pF    |
| Typical thermal resistance (NOTE 3)   | R <sub>θJA</sub>                  | 15.0                     |         |         |         |         |         |         |         | °C/W  |
| (NOTE 4)  | R <sub>θJC</sub>                  | 2.2                      |         |         |         |         |         |         |         |       |
| Operating junction and storage temperature range  | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150              |         |         |         |         |         |         |         | °C    |

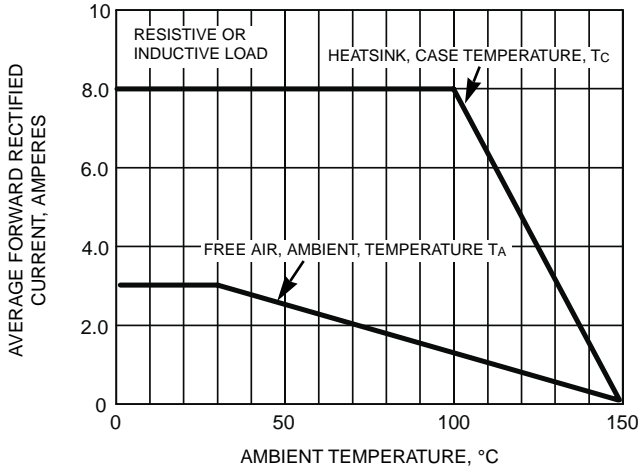
**NOTES:**

- (1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (2) Thermal resistance from junction to ambient in free air, no heatsink
- (3) Thermal resistance from junction to case mounted on heatsink
- (4) Thermal resistance from junction to case mounted on heatsink

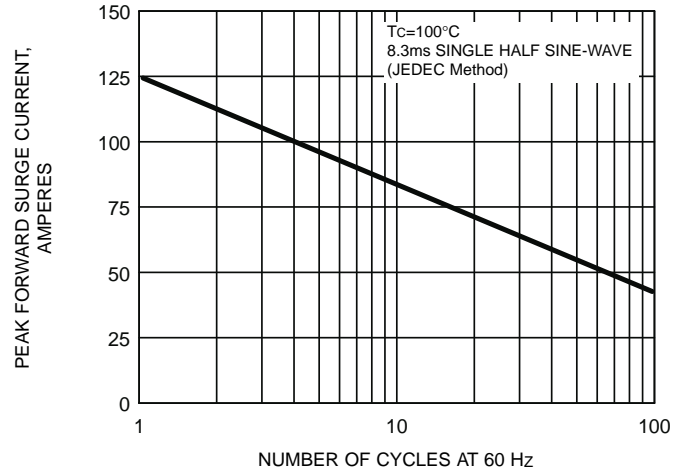


# RATINGS AND CHARACTERISTIC CURVES FES8AT THRU FES8JT

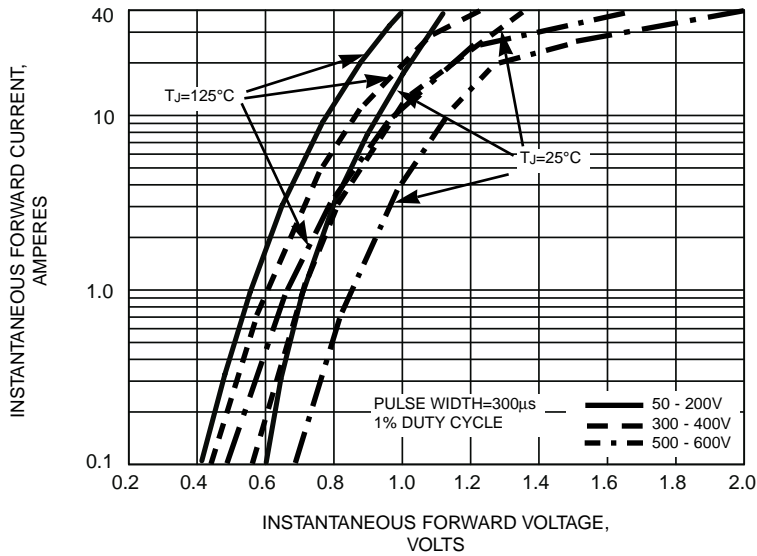
**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVES**



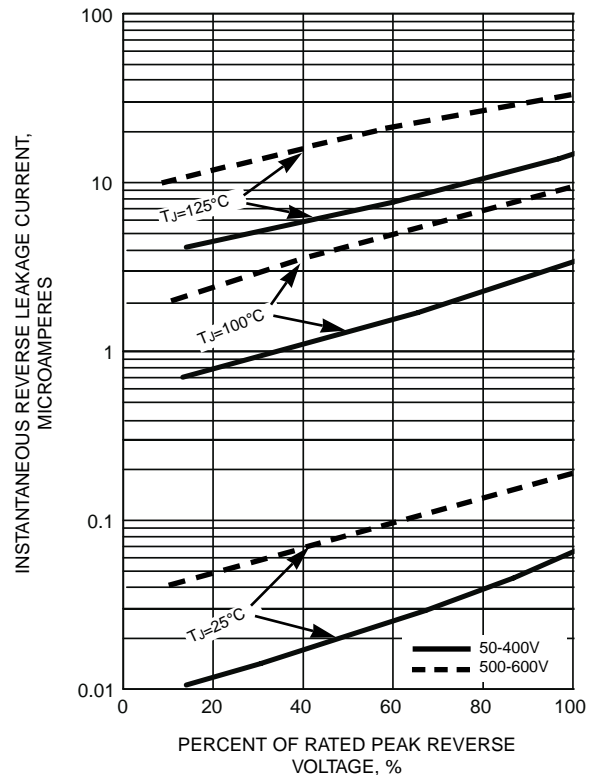
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



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



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



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

