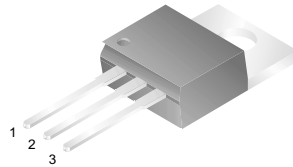


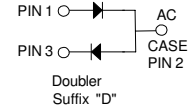
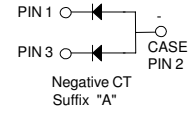
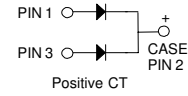
# FEP16AT - FEP16JT

## Features

- Low forward voltage drop.
- High surge current capacity.
- High current capability.
- High reliability.
- Average Forward Current Rating at 16A (8A per Diode).



TO-220AB



## Fast Rectifiers (Glass Passivated)

### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol      | Parameter                                                                        | Value       |      |      |      |      |      |      |      | Units            |
|-------------|----------------------------------------------------------------------------------|-------------|------|------|------|------|------|------|------|------------------|
|             |                                                                                  | 16AT        | 16BT | 16CT | 16DT | 16FT | 16GT | 16HT | 16JT |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                                               | 50          | 100  | 150  | 200  | 300  | 400  | 500  | 600  | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current, .375" lead length @ $T_A = 100^\circ\text{C}$ | 16          |      |      |      |      |      |      |      | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave        | 200         |      |      |      |      |      |      |      | A                |
| $T_{stg}$   | Storage Temperature Range                                                        | -55 to +150 |      |      |      |      |      |      |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature                                                   | -55 to +150 |      |      |      |      |      |      |      | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

## Thermal Characteristics

| Symbol          | Parameter                               | Value | Units                     |
|-----------------|-----------------------------------------|-------|---------------------------|
| $P_D$           | Power Dissipation                       | 8.33  | W                         |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 15    | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead    | 2.2   | $^\circ\text{C}/\text{W}$ |

## Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol          | Parameter                                                                                         | Device    |      |      |      |      |      |      |      | Units    |
|-----------------|---------------------------------------------------------------------------------------------------|-----------|------|------|------|------|------|------|------|----------|
|                 |                                                                                                   | 16AT      | 16BT | 16CT | 16DT | 16FT | 16GT | 16HT | 16JT |          |
| V <sub>F</sub>  | Forward Voltage @ 8.0A                                                                            | 0.95      |      |      |      | 1.3  |      | 1.5  |      | V        |
| t <sub>rr</sub> | Reverse Recovery Time<br>I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>RR</sub> = 0.25 A | 35        |      |      |      | 50   |      |      |      | ns       |
| I <sub>R</sub>  | Reverse Current @ rated V <sub>R</sub><br>T <sub>A</sub> = 25°C<br>T <sub>A</sub> = 100°C         | 10<br>500 |      |      |      |      |      |      |      | μA<br>μA |
| C <sub>T</sub>  | Total Capacitance<br>V <sub>R</sub> = 4.0. f = 1.0 MHz                                            | 85        |      |      |      |      |      | 60   |      | pF       |

## Typical Characteristics

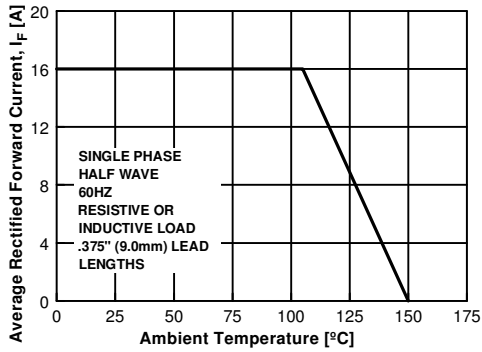


Figure 1. Forward Current Derating Curve

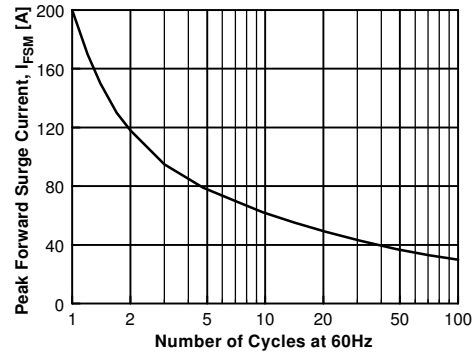


Figure 2. Non-Repetitive Surge Current Reverse Characteristics

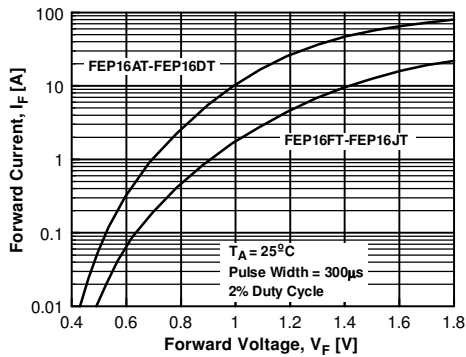


Figure 3. Forward Voltage Characteristics

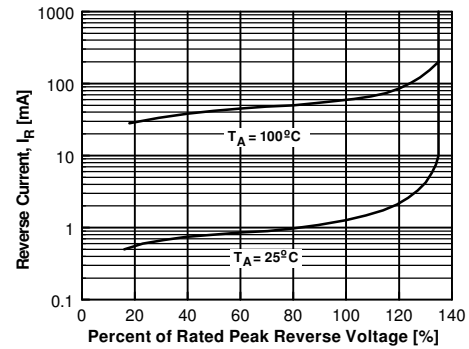


Figure 4. Reverse Current vs Reverse Voltage

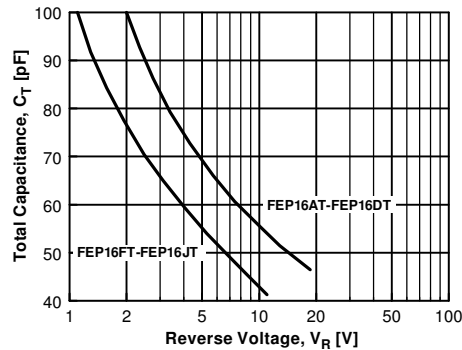
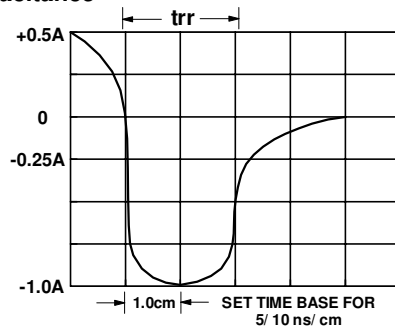
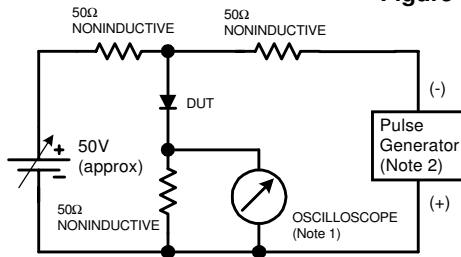


Figure 5. Total Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram

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| DenseTrench™         | GTO™                | Power247™           | SuperSOT™-6     |      |
| DOMETM               | HiSeC™              | PowerTrench®        | SuperSOT™-8     |      |
| EcoSPARK™            | ISOPLANAR™          | QFET™               | SyncFET™        |      |
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| EnSigna™             | MicroFET™           | QT Optoelectronics™ | TruTranslation™ |      |
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