

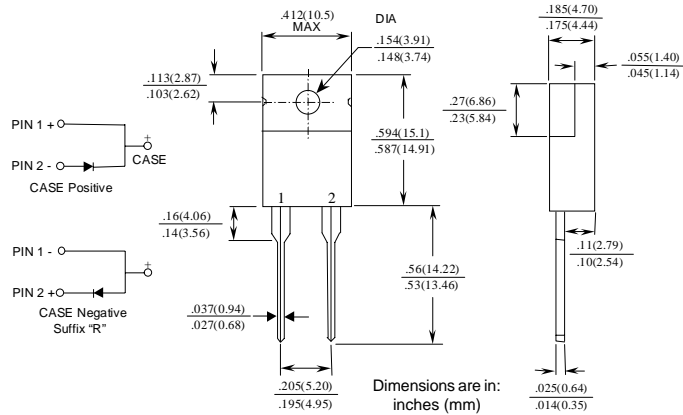
FES16AT - FES16JT

Features

- Low forward voltage drop.
- High surge current capacity.
- High current capability.
- High reliability.



TO-220AC



16 Ampere Glass Passivated Super Fast Rectifiers

Absolute Maximum Ratings*

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

| Symbol | Parameter | Value | Units |
|-----------------|---|-------------|---------------------------|
| I_O | Average Rectified Current .375" lead length @ $T_A = 100^\circ\text{C}$ | 16 | A |
| $I_{(surge)}$ | Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method) | 250 | A |
| P_D | Total Device Dissipation Derate above 25°C | 7.81 62 | W mW/ $^\circ\text{C}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 16 | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead | 1.2 | $^\circ\text{C}/\text{W}$ |
| T_{stg} | Storage Temperature Range | -65 to +150 | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature | -65 to +150 | $^\circ\text{C}$ |

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

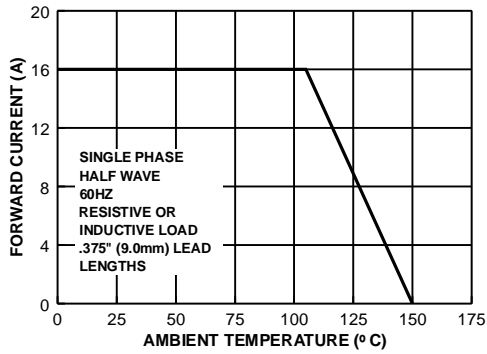
Electrical Characteristics

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

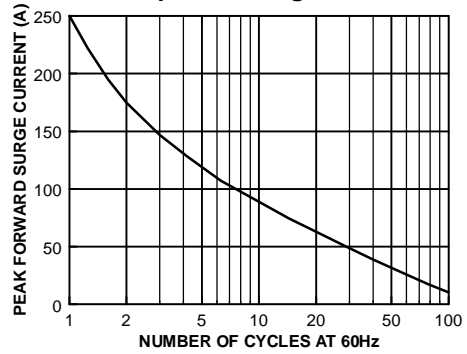
| Parameter | Device | | | | | | | | Units |
|---|-----------|------|------|------|------|------|------|------|--------------------------------|
| | 16AT | 16BT | 16CT | 16DT | 16FT | 16GT | 16HT | 16JT | |
| Peak Repetitive Reverse Voltage | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum RMS Voltage | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | V |
| DC Blocking Voltage (Rated V_R) | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum Reverse Current @ rated V_R $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ | 10 500 | | | | | | | | μA μA |
| Maximum Reverse Recovery Time $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RR} = 0.25\text{ A}$ | 35 | | | | 50 | | | | nS |
| Maximum Forward Voltage @ 16.0A | 0.975 | | | | 1.3 | | 1.5 | | V |
| Typical Junction Capacitance $V_R = 4.0$, $f = 1.0\text{ MHz}$ | 170 | | | | | | 145 | | pF |

Typical Characteristics

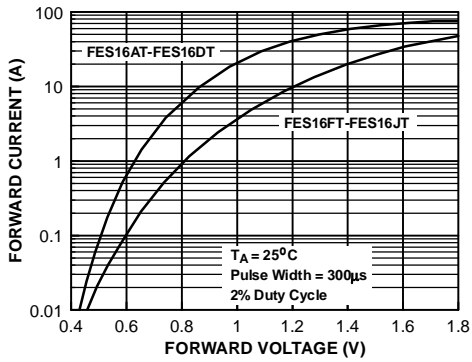
Forward Current Derating Curve



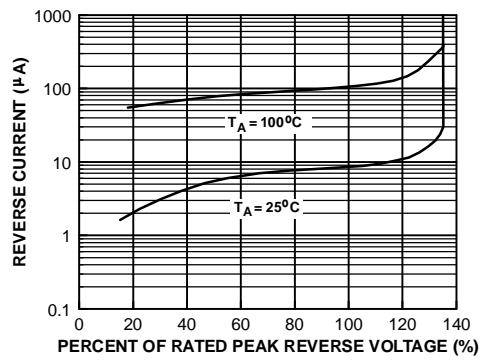
Non-Repetitive Surge Current



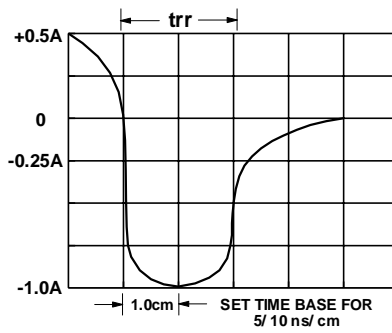
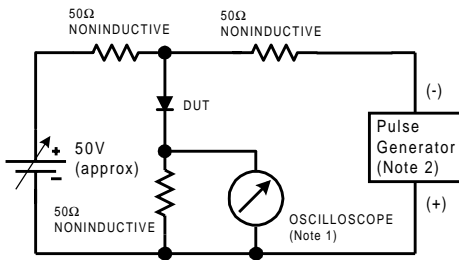
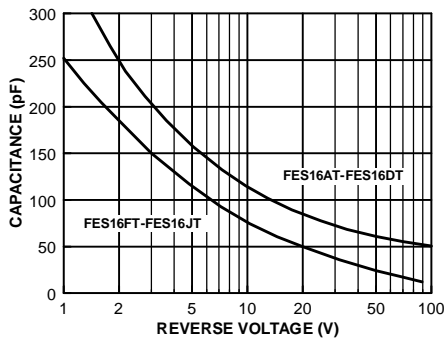
Forward Characteristics



Reverse Characteristics



Junction Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram

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| FACT™ | QS™ |
| FACT Quiet Series™ | Quiet Series™ |
| FAST® | SuperSOT™-3 |
| FASTr™ | SuperSOT™-6 |
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|--------------------------|------------------------|---|
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