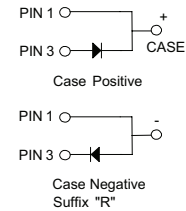




FES16AT - FES16JT



TO-220AC



Features

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

Fast Rectifiers (Glass Passivated)

Absolute Maximum Ratings*

T_A = 25°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°C | 16 | | | | | | | | A |
| I _{FSM} | Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave | 250 | | | | | | | | A |
| T _{stg} | Storage Temperature Range | -65 to +150 | | | | | | | | V |
| T _J | Operating Junction Temperature | -65 to +150 | | | | | | | | pF |

*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 | 7.81 | W |
| R _{θJA} | Thermal Resistance, Junction to Ambient | 16 | °C/W |
| R _{θJL} | Thermal Resistance, Junction to Lead | 1.2 | °C/W |

Electrical Characteristics

T_A = 25°C unless otherwise noted

| Symbol | Parameter | Device | | | | | | | | Units |
|-----------------|---|--------|------|------|------|------|------|------|------|----------|
| | | 16AT | 16BT | 16CT | 16DT | 16FT | 16GT | 16HT | 16JT | |
| V _F | Forward Voltage @ 8.0A | 0.95 | | | | 1.3 | 1.5 | | | V |
| t _{rr} | Reverse Recovery Time I _F = 0.5 A, I _R = 1.0 A, I _{RR} = 0.25 A | 35 | | | | 50 | | | | ns |
| I _R | Reverse Current @ rated V _R T _A = 25°C T _A = 100°C | | | | | 10 | 500 | | | μA μA |
| C _T | Total Capacitance V _R = 4.0, f = 1.0 MHz | 170 | | | | | 145 | | | pF |

Typical Characteristics

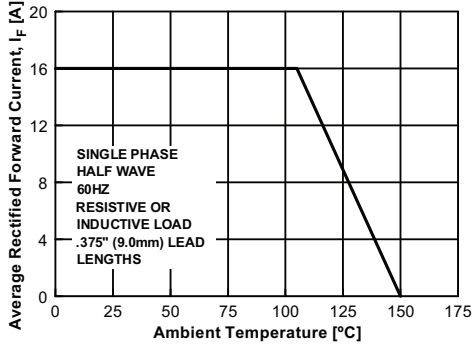


Figure 1. Forward Current Derating Curve

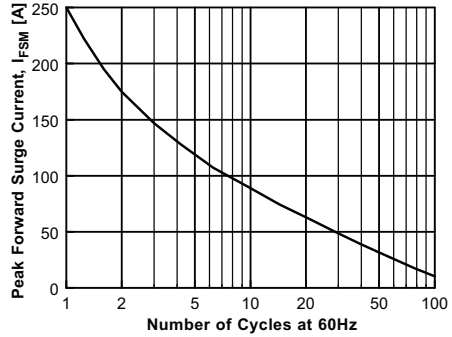


Figure 2. Non-Repetitive Surge Current

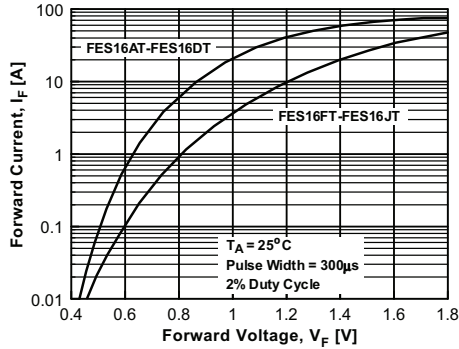


Figure 3. Forward Voltage Characteristics

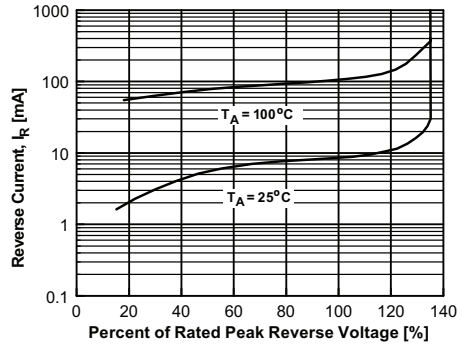


Figure 4. Reverse Current vs Reverse Voltage

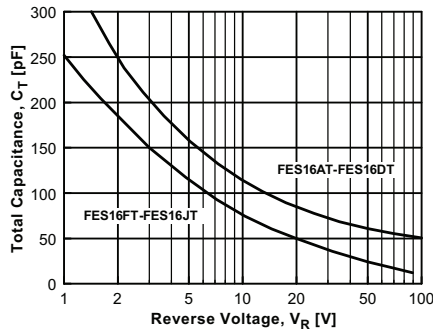
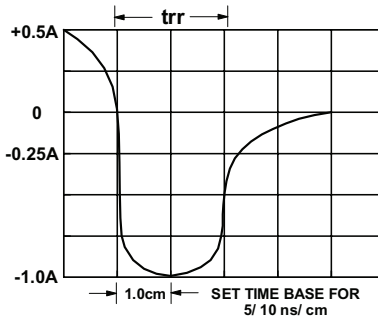
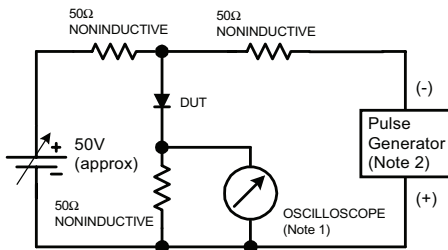


Figure 5. Total Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram

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| CoolFET™ | FRFET™ | PACMAN™ | Stealth™ | |
| CROSSVOLT™ | GlobalOptoisolator™ | POP™ | SuperSOT™-3 | |
| DenseTrench™ | GTO™ | Power247™ | SuperSOT™-6 | |
| DOME™ | HiSeC™ | PowerTrench [®] | SuperSOT™-8 | |
| EcoSPARK™ | ISOPLANAR™ | QFET™ | SyncFET™ | |
| E ² CMOS™ | LittleFET™ | QS™ | TinyLogic™ | |
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| FACT™ | MicroPak™ | Quiet Series™ | UHC™ | |
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