

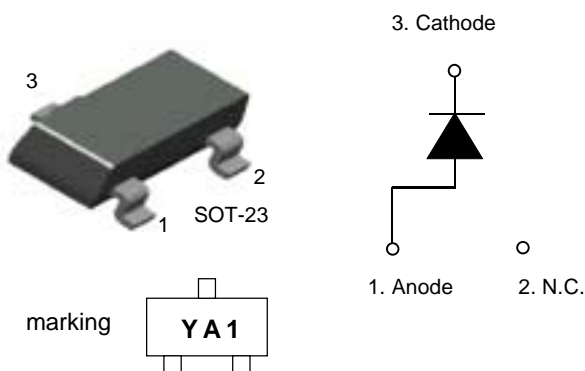
FYV0704S

Features

- Very low forward voltage drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection

Applications

- DC-DC converters
- Freewheeling diodes



SCHOTTKY BARRIER RECTIFIER

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

| Symbol | Parameter | Value | Units |
|-------------|---|-------------|------------------|
| V_{RRM} | Maximum Repetitive Reverse Voltage | 40 | V |
| V_R | Maximum DC Reverse Voltage | 40 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current @ $T_A = 40^\circ\text{C}$ | 0.75 | A |
| I_{FSM} | Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave | 8 | A |
| T_J | Operating Junction Temperature | -65 to +125 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | -65 to +150 | $^\circ\text{C}$ |

Thermal Characteristics

| Symbol | Parameter | Value | Units |
|-----------------|---|-------|---------------------------|
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 250 | $^\circ\text{C}/\text{W}$ |

Electrical Characteristics

| Symbol | Parameter | Min. | Typ. | Max. | Units | |
|---------|----------------------------------|---------------------------|------|-------|-------|----|
| V_F^* | Forward Voltage Drop | $I_F = 50\text{mA}$ | - | 0.270 | - | V |
| | | $I_F = 100\text{mA}$ | - | 0.290 | - | |
| | | $I_F = 500\text{mA}$ | - | 0.380 | - | |
| | | $I_F = 750\text{mA}$ | - | 0.425 | 0.48 | |
| | | $I_F = 1\text{A}$ | - | 0.460 | - | |
| | | $I_F = 1.5\text{A}$ | - | 0.535 | - | |
| | | $I_F = 750\text{mA}$ | - | 0.375 | - | |
| I_R^* | Reverse Current @ rated V_R | $T_A = 25^\circ\text{C}$ | - | 0.02 | 0.1 | mA |
| | | $T_A = 125^\circ\text{C}$ | - | 10 | - | |

* Pulse Test: Pulse Width=300 μs , Duty Cycle=2%

Typical Characteristics

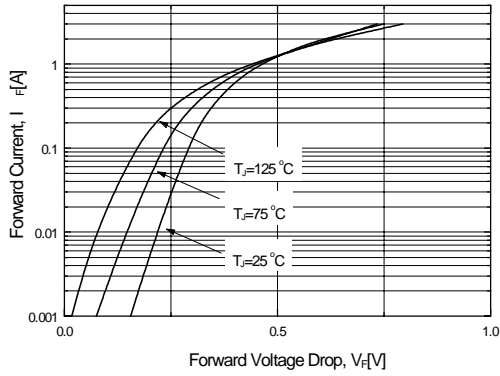


Figure 1. Typical Forward Voltage Characteristics

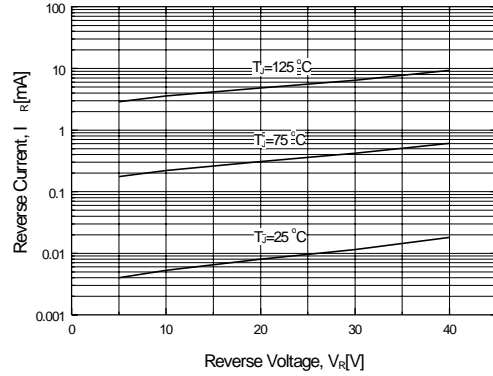


Figure 2. Typical Reverse Current vs. Reverse Voltage

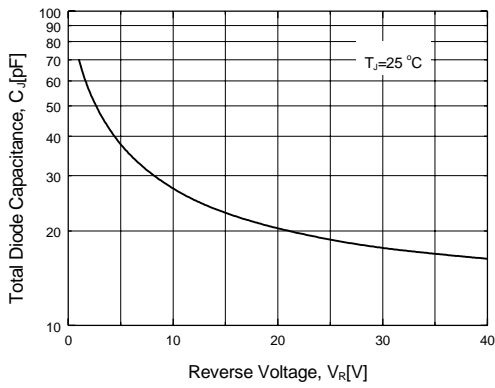


Figure 3. Total Diode Capacitance

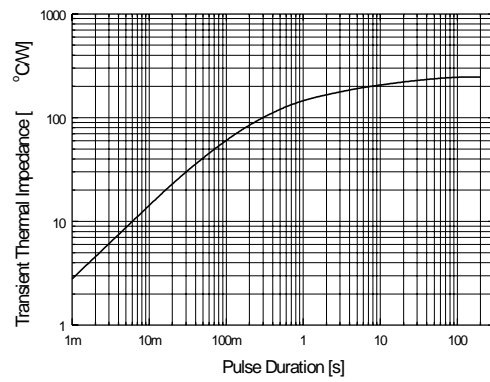


Figure 4. Thermal Impedance Characteristics

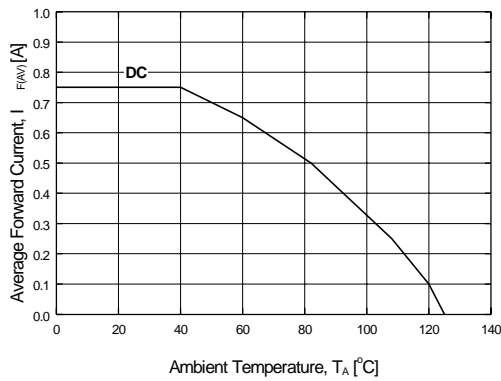


Figure 5. Forward Current Derating Curve

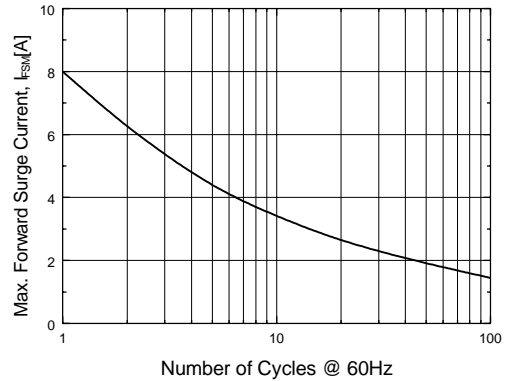
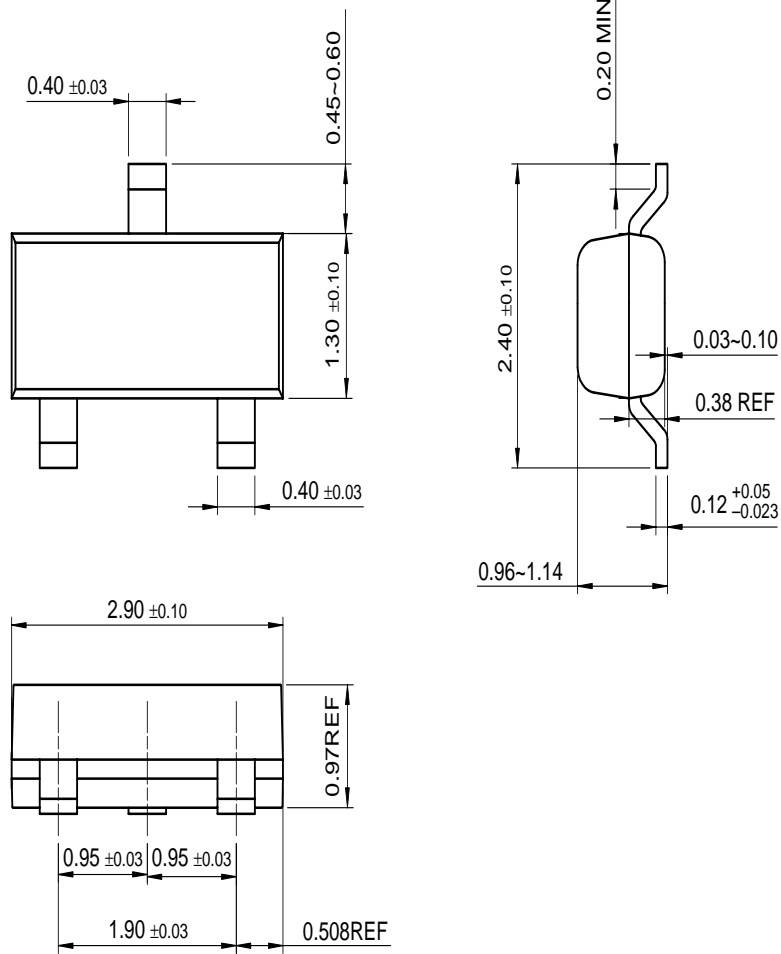


Figure 6. Non-Repetitive Surge Current

Package Dimensions

FYV0704S

SOT-23



Dimensions in Millimeters

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| CoolFET™ | FRFET™ | POP™ | SuperSOT™-8 |
| CROSSVOLT™ | GlobalOptoisolator™ | PowerTrench [®] | SyncFET™ |
| DenseTrench™ | GTO™ | QFET™ | TinyLogic™ |
| DOME™ | HiSeC™ | QS™ | UHC™ |
| EcoSPARK™ | ISOPLANAR™ | QT Optoelectronics™ | UltraFET [®] |
| E ² CMOS™ | LittleFET™ | Quiet Series™ | VCX™ |
| EnSigna™ | MicroFET™ | SLIENT SWITCHER [®] | |
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|--------------------------|------------------------|---|
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