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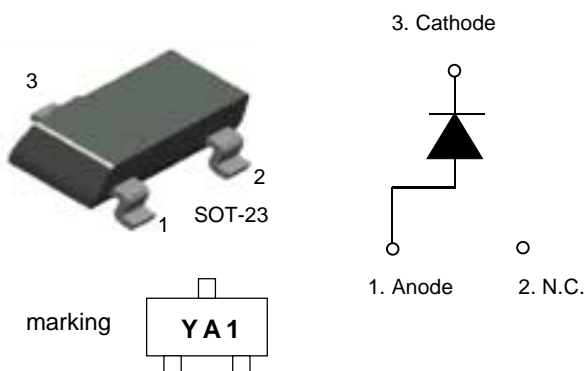
## FYV0704S

### 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<br>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             | $I_F = 50\text{mA}$       | $T_A = 25^\circ\text{C}$  | -    | 0.270 | V  |      |
|         |                                  | $I_F = 100\text{mA}$      | $T_A = 25^\circ\text{C}$  | -    | 0.290 |    |      |
|         |                                  | $I_F = 500\text{mA}$      | $T_A = 25^\circ\text{C}$  | -    | 0.380 |    |      |
|         |                                  | $I_F = 750\text{mA}$      | $T_A = 25^\circ\text{C}$  | -    | 0.425 |    | 0.48 |
|         |                                  | $I_F = 1\text{A}$         | $T_A = 25^\circ\text{C}$  | -    | 0.460 |    | -    |
|         |                                  | $I_F = 1.5\text{A}$       | $T_A = 25^\circ\text{C}$  | -    | 0.535 |    | -    |
|         |                                  | $I_F = 750\text{mA}$      | $T_A = 125^\circ\text{C}$ | -    | 0.375 |    | -    |
| $I_R^*$ | Reverse Current<br>@ 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 $\mu\text{s}$ , Duty Cycle=2%

# Typical Characteristics

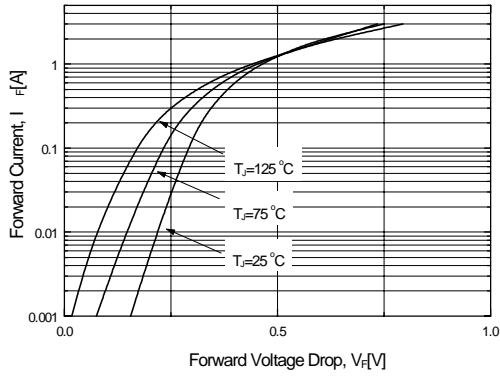


Figure 1. Typical Forward Voltage Characteristics

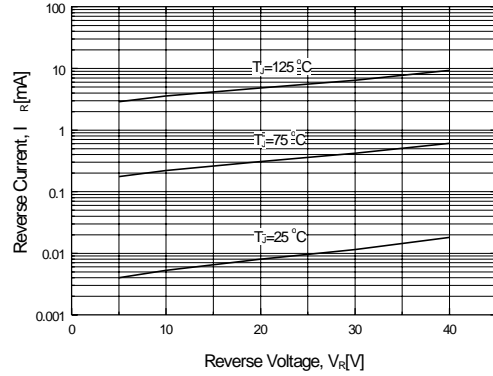


Figure 2. Typical Reverse Current vs. Reverse Voltage

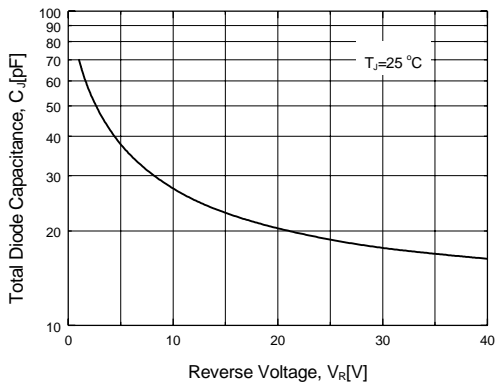


Figure 3. Total Diode Capacitance

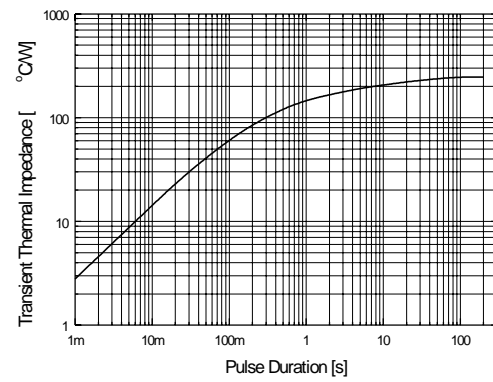


Figure 4. Thermal Impedance Characteristics

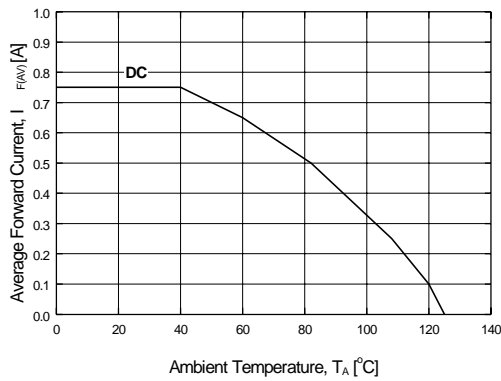


Figure 5. Forward Current Derating Curve

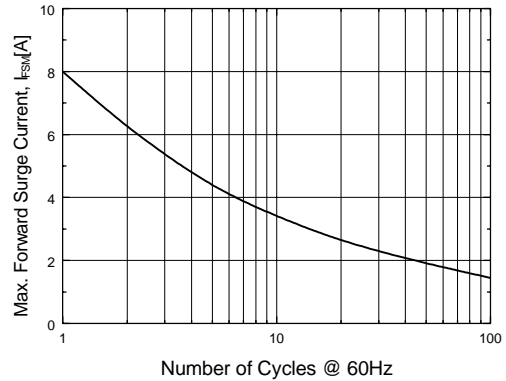
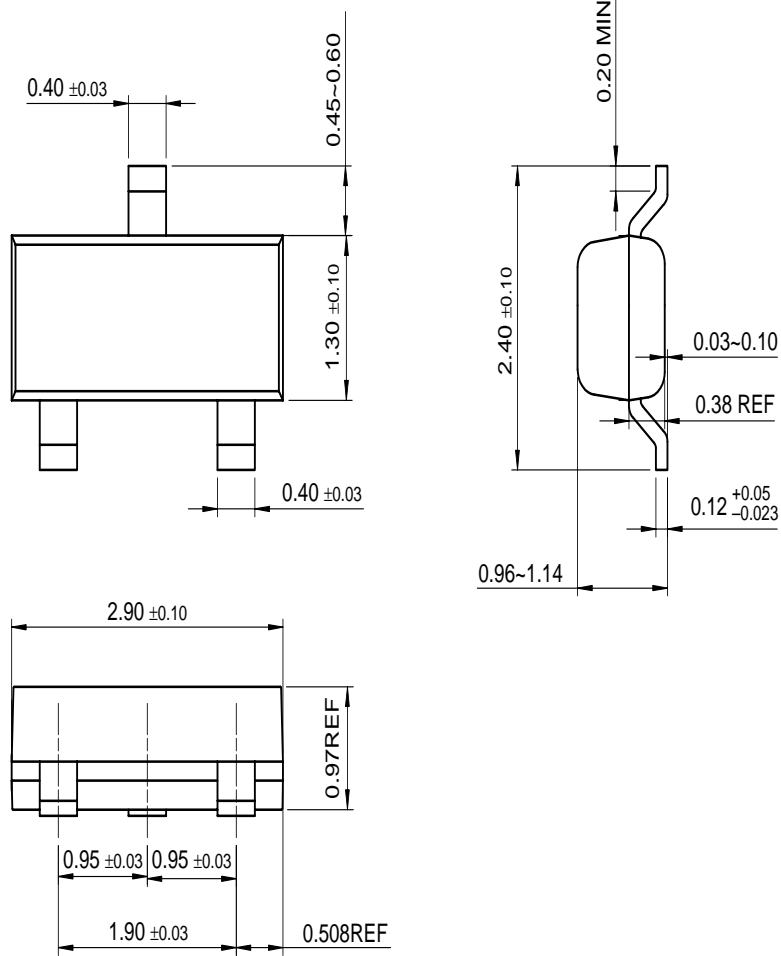


Figure 6. Non-Repetitive Surge Current

# Package Dimensions

FYV0704S

## SOT-23



Dimensions in Millimeters

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