

SFA60UP30DN-TFS

60A, 300V Ultrafast Dual Diode

Features

- Ultrafast Soft Recovery: $t_{rr}=49\text{ns}$ (max)
- Typical Forward Voltage: $V_F=1.07\text{V}$ @ $I_F=30\text{A}$
- Reverse Voltage: $V_{RRM}=300\text{V}$
- Avalanche Energy Rated

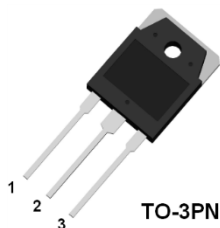
Description

The SFA60UP30DN-TFS is an ultrafast dual diode with low forward voltage drop. This device is designed for FWD and power switching applications, It is specially suited for use in SMPS and industrial applications as welder and UPS.

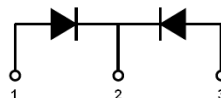
Applications

- FWD for Motor Application
- Switching Power Supply
- UPS

Package Type & internal Circuit



TO-3PN



1. Anode 2.Cathode 3.Anode

Absolute Maximum Ratings

per diode at $T_C=25\text{ }^{\circ}\text{C}$ unless otherwise noted

| Symbol | Parameter | Ratings | Unit |
|-------------|--------------------------------------|---|--------------------|
| V_{RRM} | Peak Repetitive Reverse Voltage | 300 | V |
| V_{RWM} | Working Peak Reverse Voltage | 300 | V |
| V_R | DC Blocking Voltage | 300 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | per device at $T_C=120^{\circ}\text{C}$ | A |
| I_{FSM} | Non-repetitive Peak Surge Current | 300 | A |
| T_J | Operating Junction Temperature Range | -65~+150 | $^{\circ}\text{C}$ |
| T_{STG} | Storage Temperature Range | -65~+150 | $^{\circ}\text{C}$ |

Thermal Characteristics

| Symbol | Parameter | Ratings | Unit |
|---------------|--------------------------------------|---------|----------------------|
| $R_{th(J-C)}$ | Thermal Resistance, Junction to case | 0.53 | $^{\circ}\text{C/W}$ |

Electrical Characteristics per diode @T_C=25 °C unless otherwise noted

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|------------------|-------------------------|---|------|------|------|------|
| V _F | Forward Voltage Drop | I _F =30A | - | 1.07 | 1.4 | V |
| | | I _F =30A, T _C =125 °C | - | - | 1.1 | V |
| I _R | Reverse Leakage Current | V _R =300V | - | - | 100 | uA |
| t _{rr} | Reverse Recovery Time | I _F =30A, di/dt=-200A/us | - | - | 49 | ns |
| W _{AVL} | Avalanche Energy | L=30mH | 20 | - | - | mJ |

Typical Performance Characteristics

Fig. 1. Typical Characteristics: V_F vs. I_F

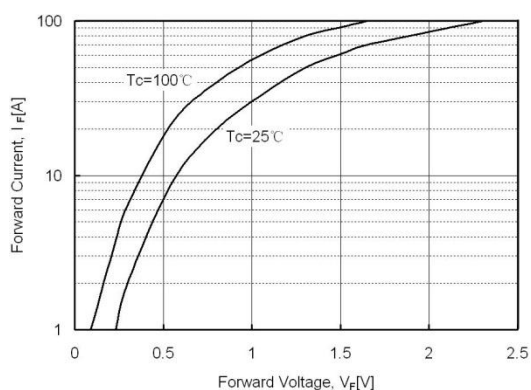


Fig. 2. Typical Characteristics: V_R vs. I_R

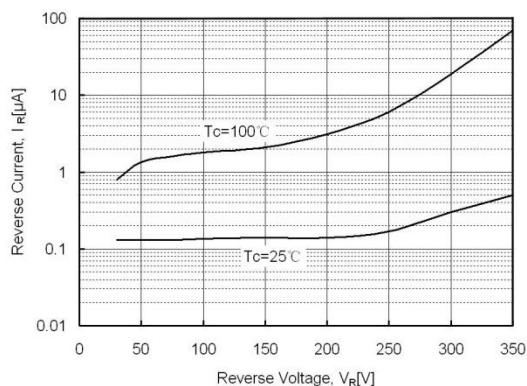


Fig. 3. Typical Reverse Recovery Time vs. di/dt

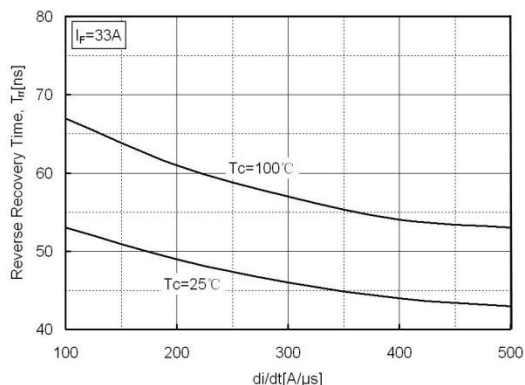
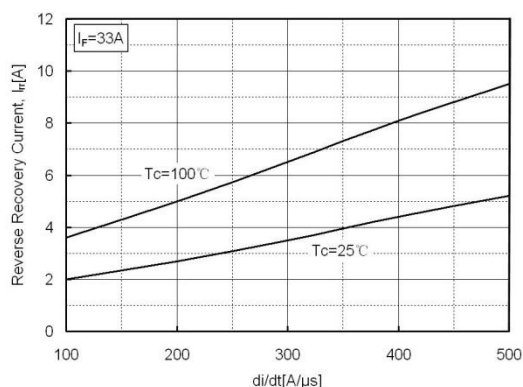


Fig. 4. Typical Reverse Recovery Current vs. di/dt



Package Dimensions

TO-3PN

(Dimensions in Millimeters)

