# SFA66UP30DN

## 66A, 300V Ultrafast Dual Diode

### Features

- Ultrafast Soft Recovery: $T_{rr}$=49ns (max)
- Typical Forward Voltage: $V_F$=1.07V @ $I_F$=33A
- Reverse Voltage: $V_{RRM}$=300V
- Avalanche Energy Rated

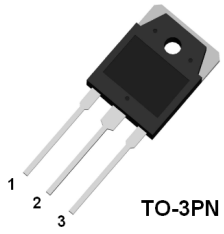
### Description

The SFA66UP30DN 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.

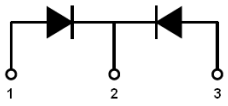
### Applications

- 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 ℃ 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℃ | 66 | A |
| $I_{FSM}$ | Non-repetitive Peak Surge Current | | 300 | A |
| $T_J$ | Operating Junction Temperature Range | | -65~+150 | ℃ |
| $T_{STG}$ | Storage Temperature Range | | -65~+150 | ℃ |

### Thermal Characteristics

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

## Electrical Characteristics per diode @$T_C$=25 ℃ unless otherwise noted

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $V_F$ | Forward Voltage Drop | $I_F$=33A | - | 1.07 | 1.4 | V |
| | | $I_F$=33A, $T_C$=125℃ | - | - | 1.1 | V |
| $I_R$ | Reverse Leakage Current | $V_R$=300V | - | - | 100 | uA |
| $T_{rr}$ | Reverse Recovery Time | $I_F$=33A, di/dt=-200A/us | - | - | 49 | ns |
| $E_{AS}$ | Avalanche Energy | L=30mH | 20 | - | - | mJ |

## Typical Performance Characteristics

Fig. 1. Typical Characteristics: $V_F$ vs. $I_F$

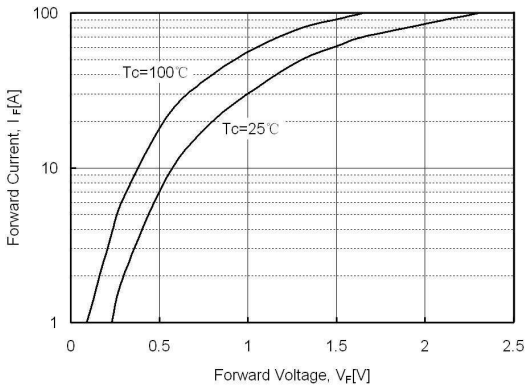



Fig. 2. Typical Characteristics: $V_R$ vs. $I_R$

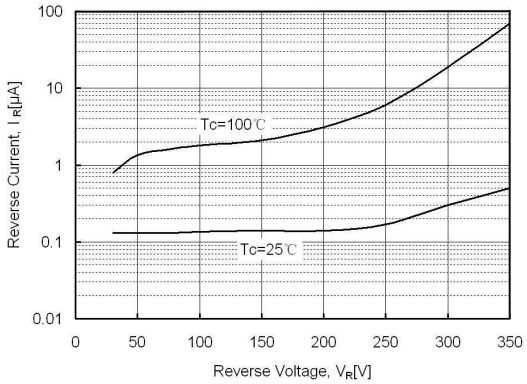



Fig. 3. Typical Reverse Recovery Time vs. di/dt

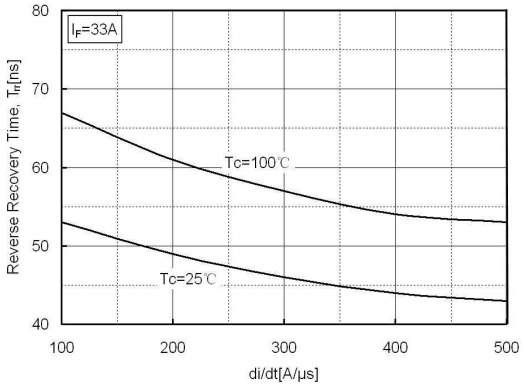
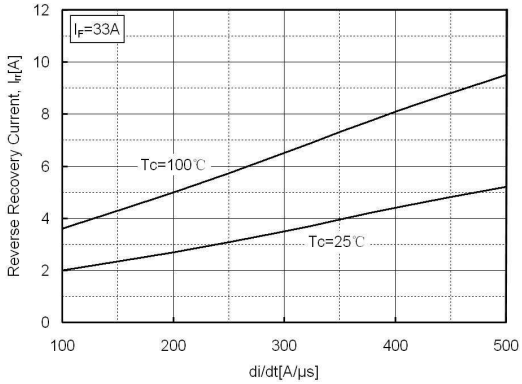



Fig. 4. Typical Reverse Recovery Current vs. di/dt



## Package Dimensions

### TO-3PN

(Dimensions in Millimeters)