

# SFP30HP60S

## 30A, 600V Hyperfast Single Diode

### Features

- Hyperfast Soft Recovery:  $t_{rr}=34ns$
- Typical Forward Voltage:  $V_F=1.6V@ I_F=30A$
- Reverse Voltage:  $V_{RRM}=600V$
- Avalanche Energy Rated

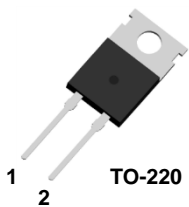
### Description

The SFP30HP60S is an hyperfast single diode, its typical reverse recovery time is 34ns. This device is designed for freewheel diode in motor and power switching applications, and specially suited for use in inverter welding.

### Applications

- General Rectifier
- Output Rectifier in Switching Power Supply & Welder
- FWD for Motor Application

### Package Type & internal Circuit



1.Cathode 2.Anode

### Absolute Maximum Ratings

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

Symbol	Parameter		Ratings	Unit
$V_{RRM}$	Peak Repetitive Reverse Voltage		600	V
$V_{RWM}$	Working Peak Reverse Voltage		600	V
$V_R$	DC Blocking Voltage		600	V
$I_{F(AV)}$	Average Rectified Forward Current	per device at $T_c=120^{\circ}C$	30	A
$I_{FSM}$	Non-repetitive Peak Surge Current		300	A
$T_J$	Operating Junction Temperature Range		-65~+150	$^{\circ}C$
$T_{STG}$	Storage Temperature Range		-65~+150	$^{\circ}C$

### Thermal Characteristics

Symbol	Parameter	Ratings	Unit
$R_{th(J-C)}$	Thermal Resistance, Junction to case	1.2	$^{\circ}C/W$

## Electrical Characteristics per diode @T<sub>C</sub>=25 °C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V <sub>F</sub>	Forward Voltage Drop	I <sub>F</sub> =30A	-	1.6	2.1	V
		I <sub>F</sub> =30A, T <sub>C</sub> =125°C	-		1.6	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>R</sub> =600V	-	-	10	uA
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> =30A, di/dt=-200A/us	-	34	-	ns
W <sub>AVL</sub>	Avalanche Energy	L=10mH	390	-	-	mJ

## Typical Performance Characteristics

Fig. 1. Typical Characteristics: V<sub>F</sub> vs. I<sub>F</sub>

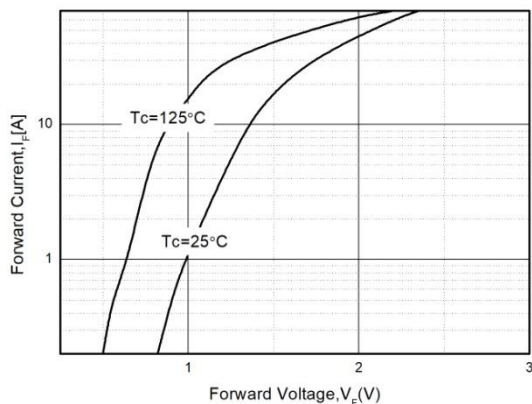


Fig. 2. Typical Characteristics: V<sub>R</sub> vs. I<sub>R</sub>

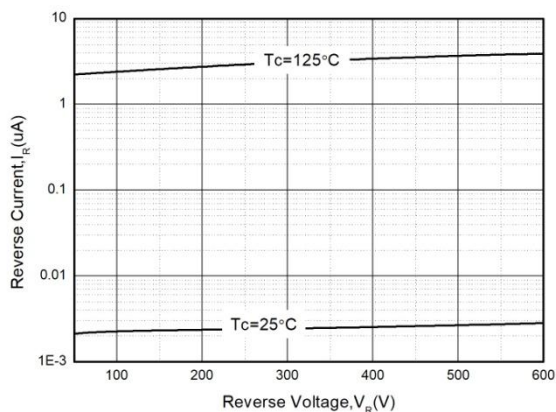


Fig. 3. Typical Reverse Recovery Time vs. di/dt

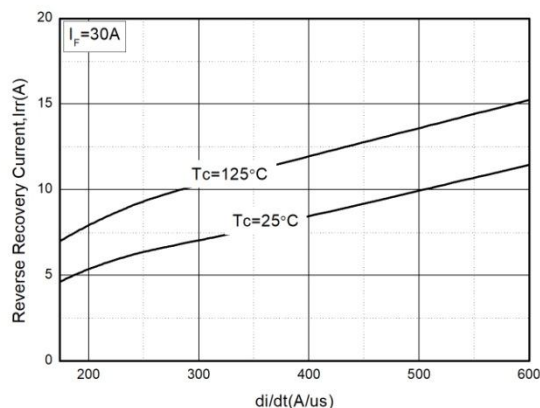
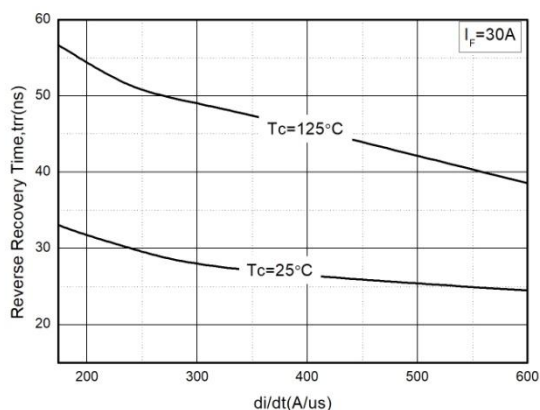


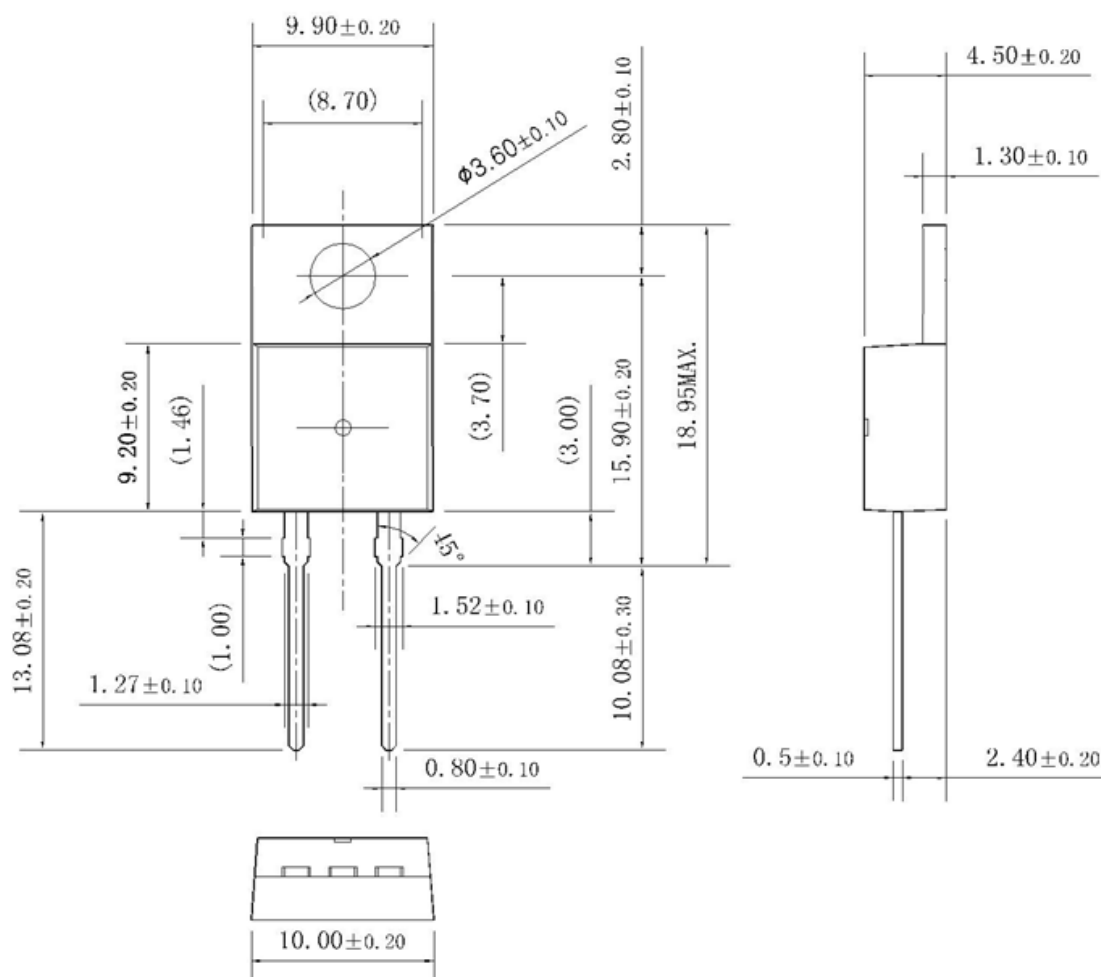
Fig. 4. Typical Reverse Recovery Time vs. di/dt



## Package Dimensions


### TO-220

(Dimensions in Millimeters)



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