

SFP30HP120S

30A, 1200V Hyperfast Single Diode

Features

- Hyperfast Soft Recovery: $t_{rr}=48ns$
- Typical Forward Voltage: $V_F=2.8V@ I_F=30A$
- Reverse Voltage: $V_{RRM}=1200V$
- Avalanche Energy Rated

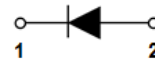
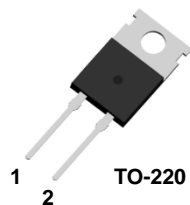
Description

The SFP30HP120S is an hyperfast single diode, its typical reverse recovery time is 48ns. 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 $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter		Ratings	Unit
V_{RRM}	Peak Repetitive Reverse Voltage		1200	V
V_{RWM}	Working Peak Reverse Voltage		1200	V
V_R	DC Blocking Voltage		1200	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~+175	$^{\circ}C$
T_{STG}	Storage Temperature Range		-65~+175	$^{\circ}C$

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_C=25 °C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V _F	Forward Voltage Drop	I _F =30A	-	2.8	-	V
		I _F =30A, T _C =125°C	-	2.1	-	V
I _R	Reverse Leakage Current	V _R =1200V	-	-	100	uA
t _{rr}	Reverse Recovery Time	I _F =30A, di/dt=-200A/us	-	48	-	ns
W _{AVL}	Avalanche Energy	L=5mH	-	280	-	mJ

Typical Performance Characteristics

Fig. 1. Typical Characteristics: V_F vs. I_F

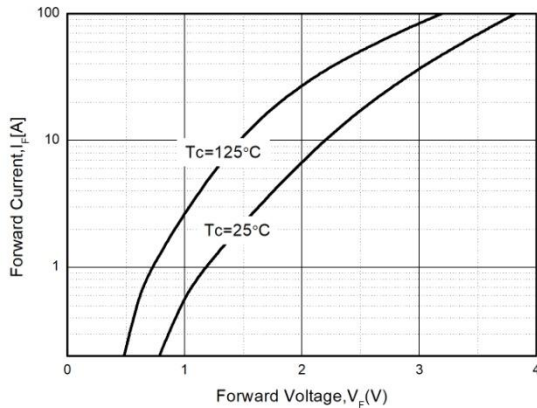


Fig. 2. Typical Characteristics: V_R vs. I_R

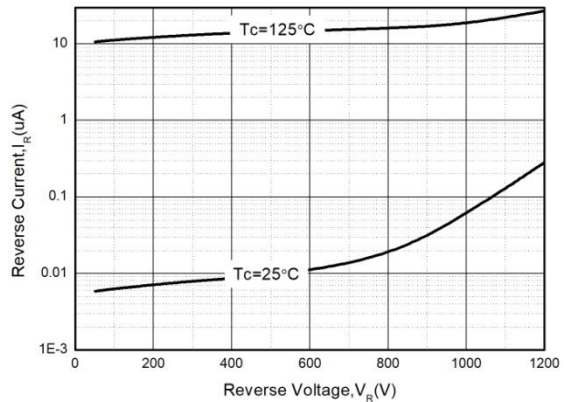


Fig. 3. Typical Reverse Recovery Time vs. di/dt

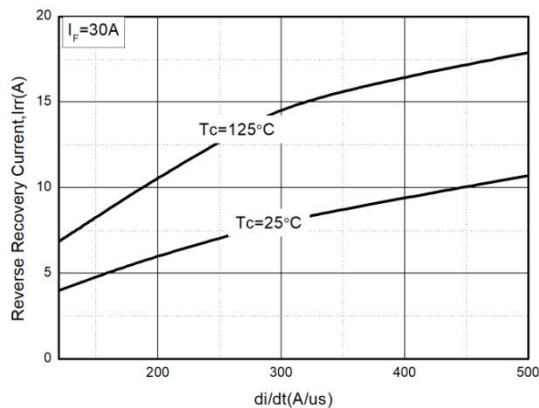
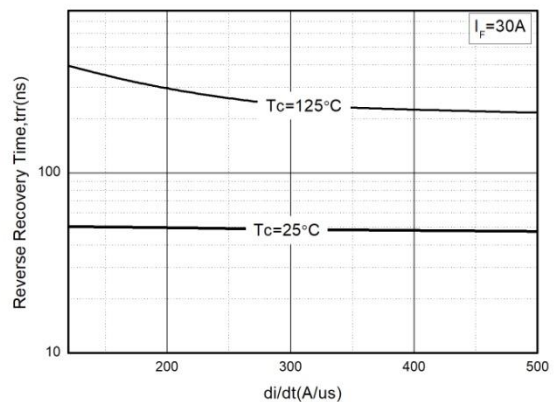


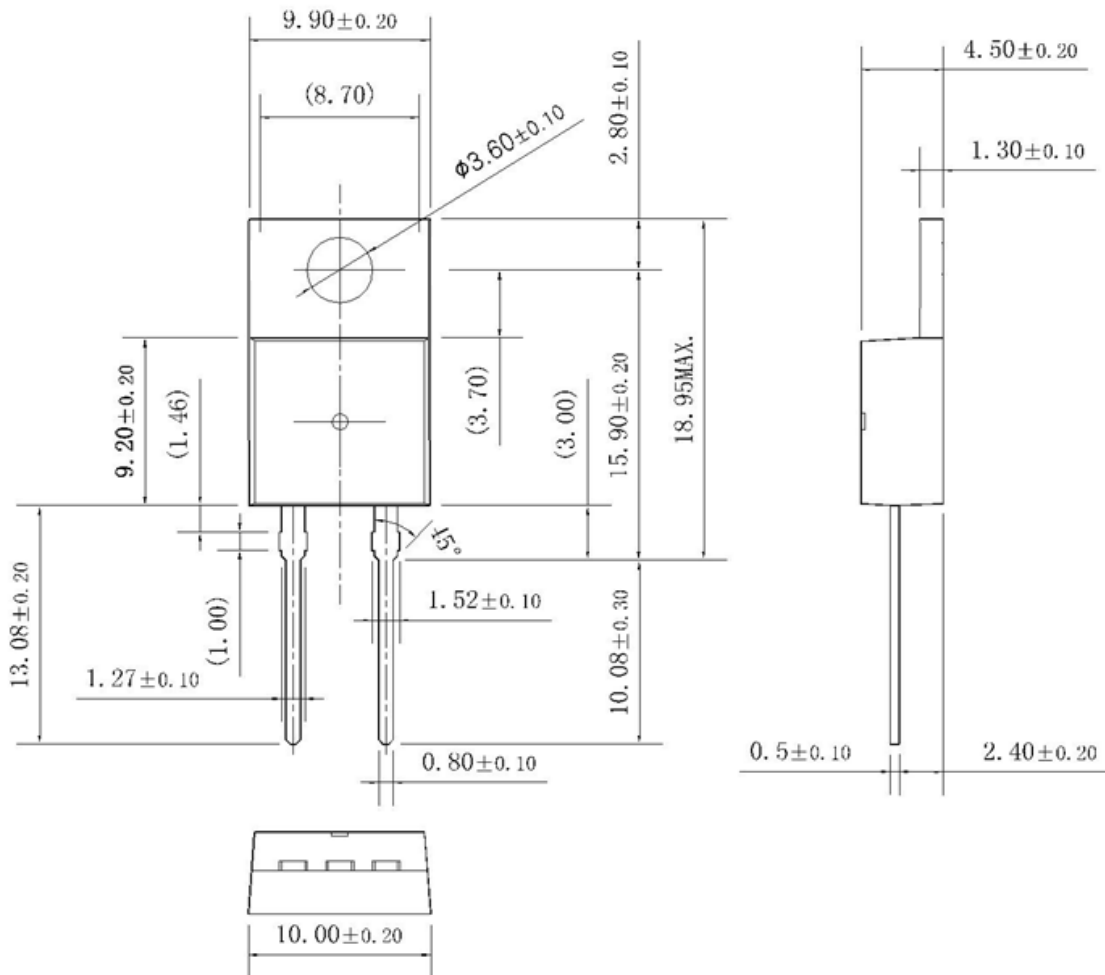
Fig. 4. Typical Reverse Recovery Time vs. di/dt



Package Dimensions


TO-220

(Dimensions in Millimeters)



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