

## 60A, 600V Hyperfast Single Diode

### Description

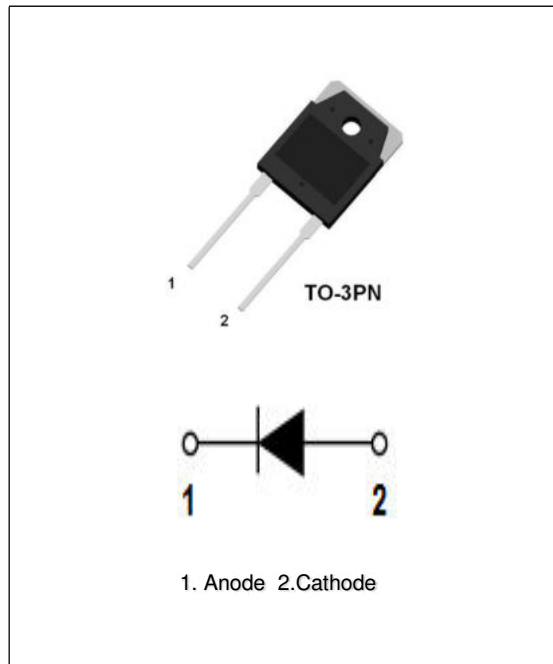
The AKF60H60SN is an hyperfast single diode with low forward voltage drop. This device is designed for Inversion Welder and UPS. It is specially suited for use in Converter & Chopper and industrial applications as SMPS.

### Features

- Hyperfast Soft Recovery:  $t_{rr}=40\text{ns}$  (typ.)
- Typical Forward Voltage:  $V_F=1.75\text{V}$  @  $I_F=60\text{A}$
- Reverse Voltage:  $V_{RRM}=600\text{V}$
- Avalanche Energy Rated

### Applications

- Inversion Welder
- Converter & Chopper
- Rectifiers In Switch Mode Power Supplies



### 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	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 $T_C=120\text{ }^\circ\text{C}$ 60	A
$I_{FSM}$	Non-repetitive Peak Surge Current	600	A
$T_J$	Operating Junction Temperature Range	-40~+150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-40~+150	$^\circ\text{C}$

### Thermal Characteristics

Symbol	Parameter	Ratings	Unit
$R_{th(J-C)}$	Thermal Resistance, Junction to case	0.7	$^\circ\text{C}/\text{W}$

**Electrical Characteristics** per diode @ $T_C=25\text{ }^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_F$	Forward Voltage Drop	$I_F=60\text{A}$	-	1.75	1.85	V
		$I_F=60\text{A}, T_C=125^\circ\text{C}$	-	-	1.5	V
$I_R$	Reverse Leakage Current	$V_R=600\text{V}$	-	-	1000	nA
$t_{rr}$	Reverse Recovery Time	$I_F=60\text{A}, di/dt=-200\text{A/us}$	-	40	-	ns
$W_{AVL}$	Avalanche Energy	$L=30\text{mH}$	20	-	-	mJ

**Typical Performance Characteristics**

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

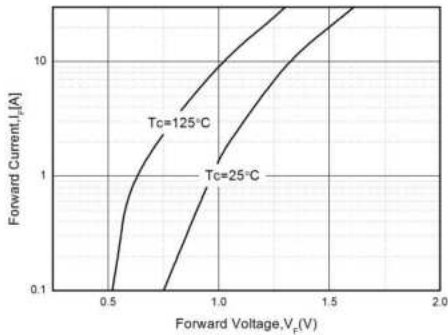


Fig. 2. Typical Characteristics:  $V_R$  vs.  $I_R$

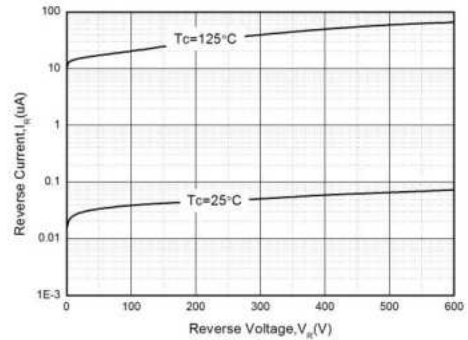


Fig. 3. Typical Reverse Recovery Time vs.  $di/dt$

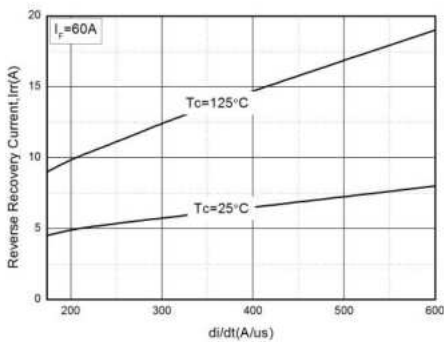
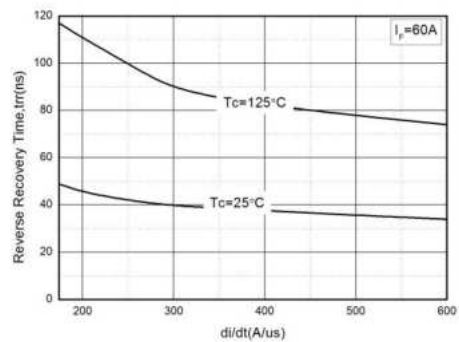


Fig. 4. Typical Reverse Recovery Time vs.  $di/dt$



**Package Dimensions**

**TO-3PN**

(Dimensions in Millimeters)

