

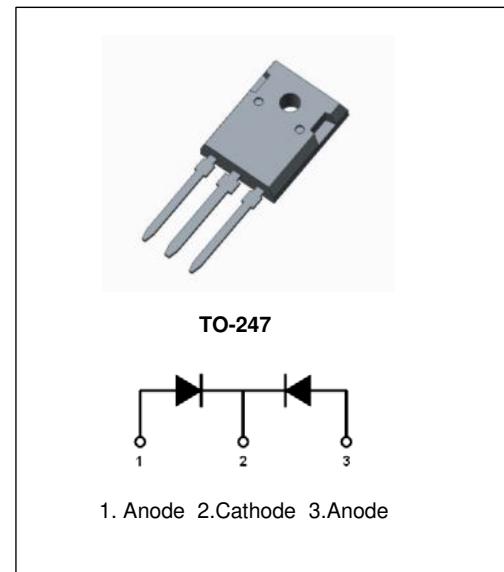
## 80A, 300V Ultrafast Dual Diode

### Description

The AKF80U30DNHT is an ultrafast dual 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

- Ultrafast Soft Recovery:  $T_{rr}=53\text{ns}$  (max)
- Typical Forward Voltage:  $V_F=1.03\text{V}$  @  $I_F=40\text{A}$
- Reverse Voltage:  $V_{RRM}=300\text{V}$
- Avalanche Energy Rated



### Applications

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

### Absolute Maximum Ratings ( $T_C=25^\circ\text{C}$ 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 Diode at $T_C=125^\circ\text{C}$	A
			Per Package at $T_C=125^\circ\text{C}$	A
$I_{FSM}$	Non-repetitive Peak Surge Current		350	A
$T_J$	Operating Junction Temperature Range		-40~+150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range		-40~+150	$^\circ\text{C}$

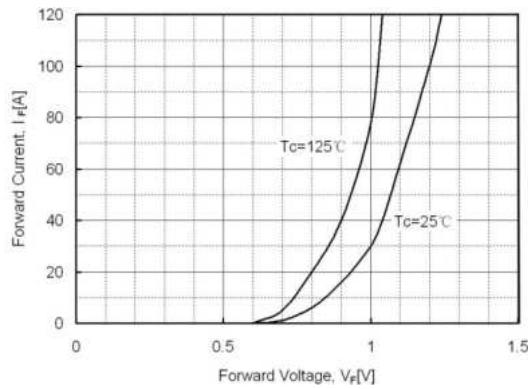
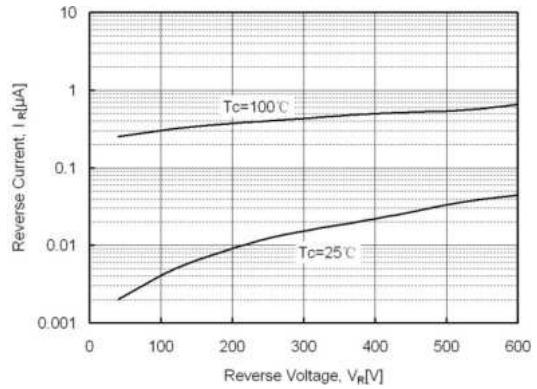
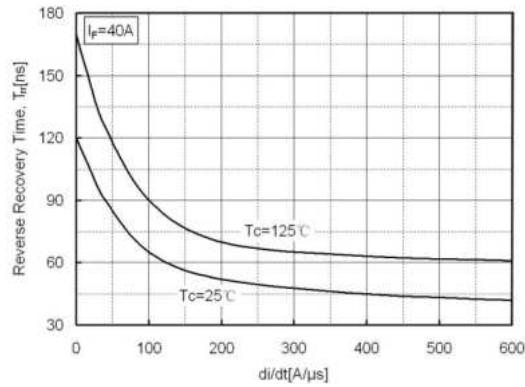
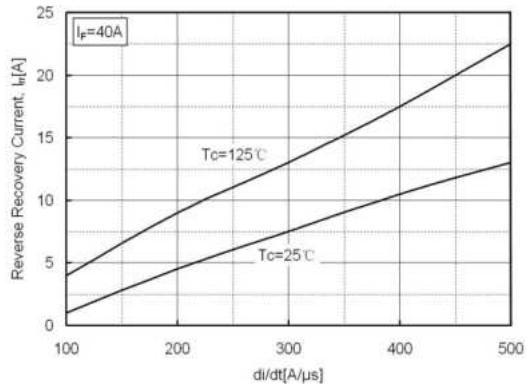
### Thermal Characteristics

Symbol	Parameter	Ratings	Unit
$R_{th}(J-C)$	Thermal Resistance, Junction to case	0.5	$^\circ\text{C}/\text{W}$

**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	$I_F=40\text{A}$	-	1.03	1.5	V
		$I_F=40\text{A}, T_c=125\text{ }^\circ\text{C}$	-	-	1.1	V
$I_R$	Reverse Leakage Current	$V_R=300\text{V}$	-	-	10	uA
$T_{rr}$	Reverse Recovery Time	$I_F=40\text{A}, di/dt=-200\text{A}/\mu\text{s}$	-	-	53	ns
$E_{AS}$	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 Current vs.  $di/dt$ 


**Package Dimensions****TO-247**

(Dimensions in Millimeters)

