

## 50A, 600V Standard Rectifier

### Description

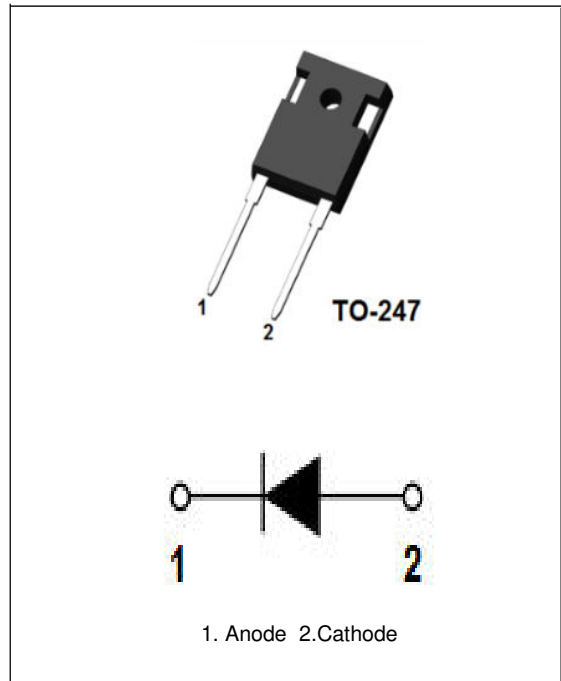
The AKD5060SH is a Standard Rectifier. It's a SIPOS+GPP double passivation chip with high reliability. It has low leakage current and low forward voltage drop, Improved thermal behavior.

### Features

- Typical Forward Voltage:  $V_F=1.04V@ I_F=50A$
- Reverse Voltage:  $V_{RRM}=600V$
- Avalanche Energy Rated
- SIPOS+GPP double passivation

### Applications

- Diode for main rectification
- For single and three phase
- Bridge configurations



### Absolute Maximum Ratings per diode at $T_C=25^\circ C$ 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 $T_C=120^\circ C$	50	A	
$I_{FSM}$	Non-repetitive Peak Surge Current	$t = 10\text{ ms}$ (50 Hz), sine	$T_{VJ}= 45^\circ C$ $V_R = 0\text{ V}$	600	A
			$T_{VJ}= 150^\circ C$ $V_R = 0\text{ V}$	450	
$I^2t$	value for fusing	$t = 10\text{ ms}$ (50 Hz), sine	$T_{VJ}= 45^\circ C$ $V_R = 0\text{ V}$	1800	A <sup>2</sup> S
			$T_{VJ}= 150^\circ C$ $V_R = 0\text{ V}$	1012	
$T_J$	Operating Junction Temperature Range		-40~+150	$^\circ C$	
$T_{STG}$	Storage Temperature Range		-40~+150	$^\circ C$	

## Thermal Characteristics

Symbol	Parameter	Ratings	Unit
$R_{th (J-C)}$	Thermal Resistance, Junction to case	1.1	$^{\circ}C/W$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_F$	Forward Voltage Drop	$I_F=50A$	-	1.04	1.50	V
		$I_F=50A, T_C=120^{\circ}C$	-	-	1.2	V
$I_R$	Reverse Leakage Current	$V_R=600V$	-	-	1	mA

## Typical Performance Characteristics

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

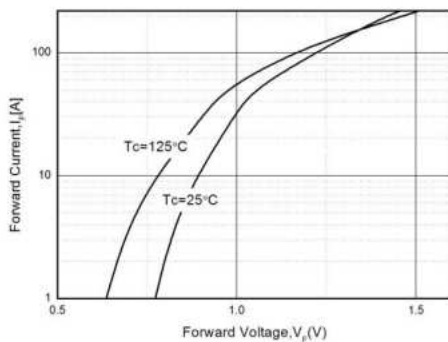
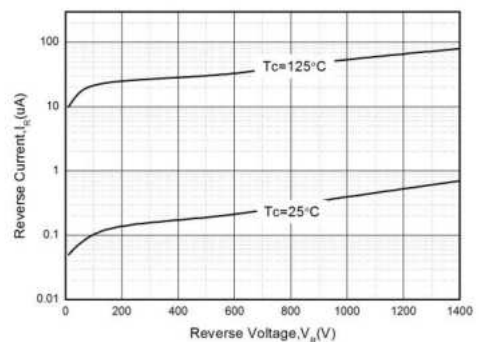


Fig. 2. Typical Characteristics:  $V_R$  vs.  $I_R$



**Package Dimensions**

**TO-247**

(Dimensions in Millimeters)

