

## 60A, 1000V Standard Rectifier

### Description

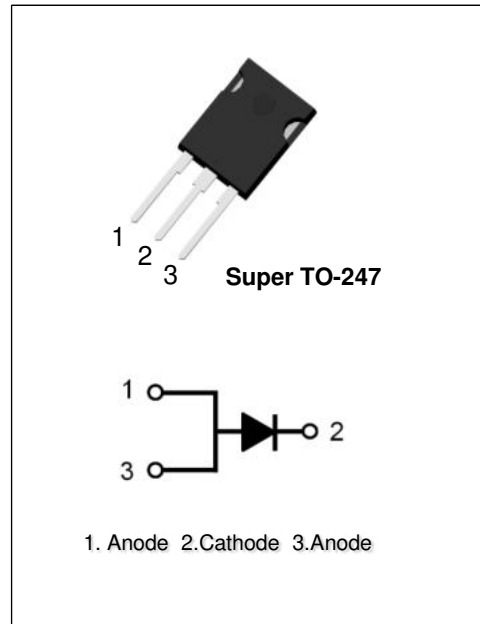
The AKD60100NCS is a Standard Rectifier. It's a SIPOS+GPP double passivation chip, with high reliability. It has low leakage current and low forward voltage drop, Improved thermal behaviour.

### Features

- Typical Forward Voltage:  $V_F=1.05V@ I_F=60A$
- Reverse Voltage:  $V_{RRM}=1000V$
- 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 $T_C=25\text{ }^\circ\text{C}$ unless otherwise noted

Symbol	Parameter		Ratings	Unit	
$V_{RRM}$	Peak Repetitive Reverse Voltage		1000	V	
$V_{RWM}$	Working Peak Reverse Voltage		1000	V	
$V_R$	DC Blocking Voltage		1000	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	$t = 10\text{ ms}$ (50 Hz), sine	$T_{VJ}= 45\text{ }^\circ\text{C}$ $V_R = 0\text{ V}$	720	A
			$T_{VJ}= 150\text{ }^\circ\text{C}$ $V_R = 0\text{ V}$	540	
$I^2t$	value for fusing	$t = 10\text{ ms}$ (50 Hz), sine	$T_{VJ}= 45\text{ }^\circ\text{C}$ $V_R = 0\text{ V}$	2592	A <sup>2</sup> S
			$T_{VJ}= 150\text{ }^\circ\text{C}$ $V_R = 0\text{ V}$	1458	
$T_J$	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	0.49	$^{\circ}C/W$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_F$	Forward Voltage Drop	$I_F=60A$	-	1.05	1.4	V
		$I_F=60A, T_C=120^{\circ}C$	-	0.95	1.2	V
$I_R$	Reverse Leakage Current	$V_R=1000V$	-	-	1	mA

## Typical Performance Characteristics

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

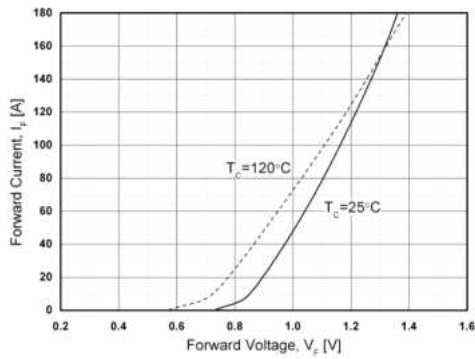


Fig. 2. Typical Characteristics:  $V_R$  vs.  $I_R$

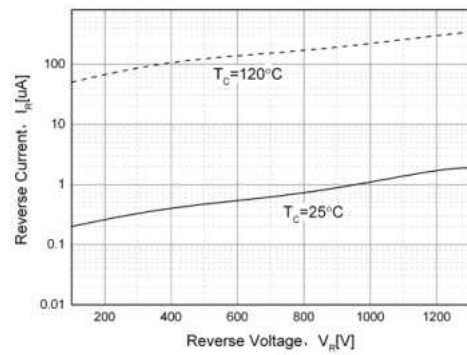
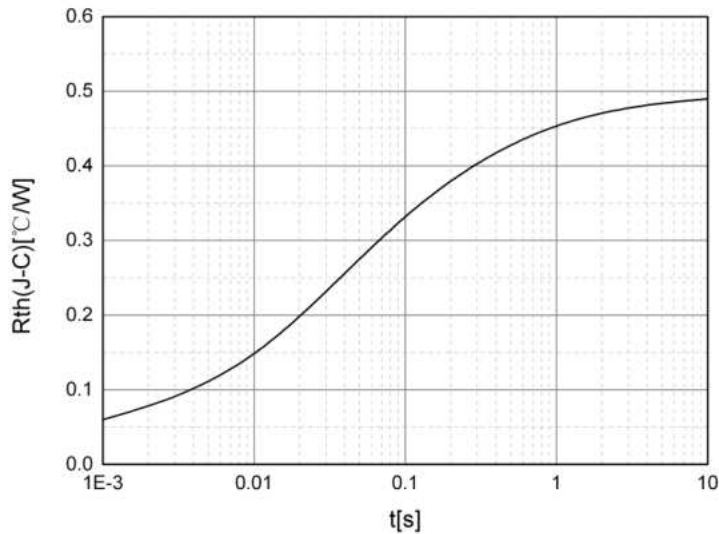


Fig. 3. Transient thermal impedance junction to case



**Package Dimensions**

**Super TO-247**

(Dimensions in Millimeters)

