

50A, 600V Standard Rectifier

Description

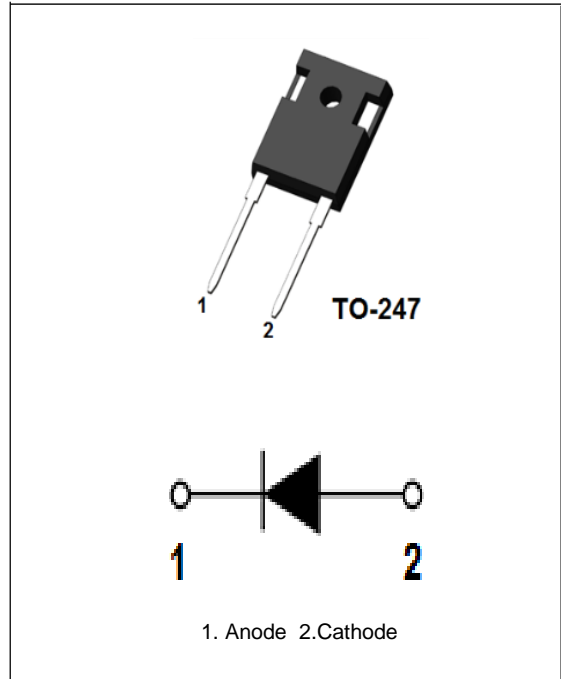
The AKDH50-60ST is a Standard Rectifier. It's a SIPOS+GPP double passivation chip with high reliability. It has low leakage current and low forward voltage drop, Improved thermal behavior.

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 ² 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

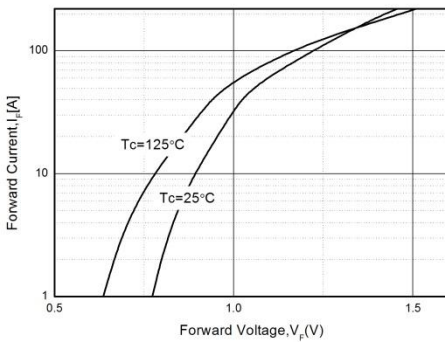
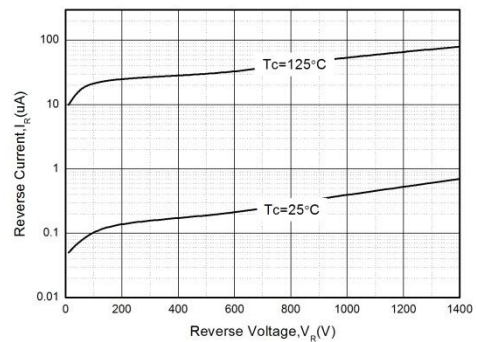


Fig. 2. Typical Characteristics: V_R vs. I_R



Package Dimensions

TO-247

(Dimensions in Millimeters)

