

40A, 200V Schottky Barrier Diode

Description

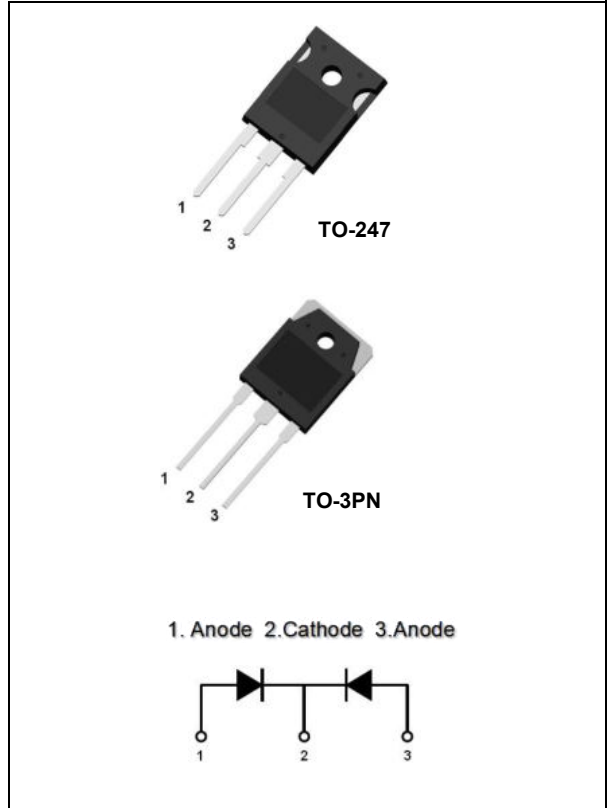
The AKS4020DNH/N is a Schottky Barrier Diode and based on silicon extension process. It has very low switching losses and high ESD / surge current capability. Because of schottky barrier structure, the device suit for rectifier、 free wheeling diode in high frequency and low voltage devices, like SMPS or PFC.

Features

- Low Forward Voltage Drop: $V_F=0.9V$ (typical @ $I_F=20A$)
- Reverse Voltage: $V_{RRM}=200V$
- Extremely Low Switching Losses
- High ESD and Surge Current Capability
- Low Reverse Leakage
- Standard TO-247/TO-3P Package

Applications

- Rectifier in SMPS
- Free Wheeling Diode in PFC
- High Frequency Devices



Absolute Maximum Ratings per diode at $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter		Ratings	Unit
V_{RRM}	Peak Repetitive Reverse Voltage		200	V
V_{RWM}	Working Peak Reverse Voltage		200	V
V_R	DC Blocking Voltage		200	V
$I_{F(AV)}$	Average Rectified Forward Current	per device at $T_C=125^\circ C$	40	A
I_{FSM}	Non-repetitive Peak Surge Current	$t_p=10ms$, half sine wave	350	A
P_D	Power Dissipation		104	W
T_J	Operating Junction Temperature Range		-55~+150	$^\circ C$
T_{STG}	Storage Temperature Range		-55~+150	$^\circ C$

Thermal Characteristics

Symbol	Parameter	Ratings	Unit
$R_{th(J-C)}$	Thermal Resistance, Junction to case	1.2	$^\circ C/W$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage Drop	$I_F=20\text{A}$	-	0.90	-	V
		$I_F=20\text{A}, T_C=125^\circ\text{C}$	-	0.95	-	V
I_R	Reverse Leakage Current	$V_R=200\text{V}$	-	-	50	μA
		$V_R=200\text{V}, T_C=125^\circ\text{C}$	-	-	20	mA

Typical Performance Characteristics

Fig.1- FORWARD CURRENT DERATING CURVE

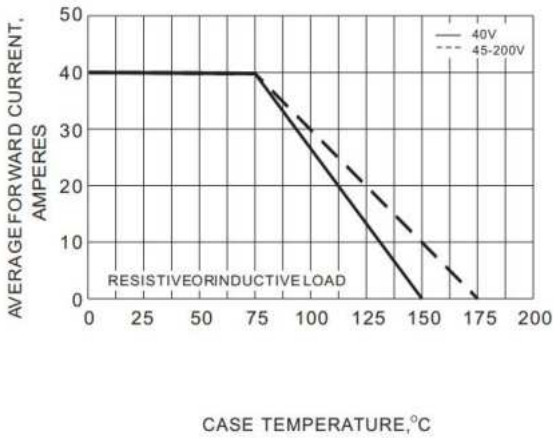


Fig.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

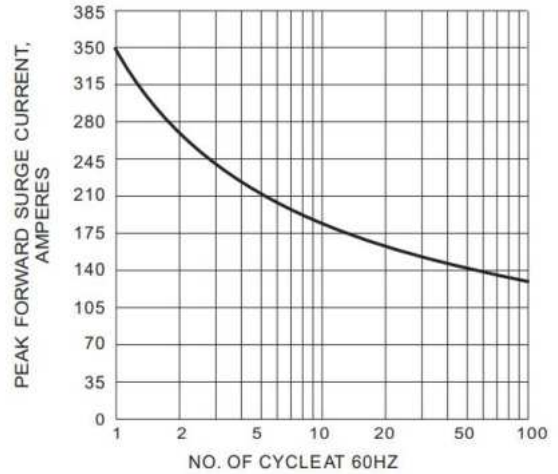


Fig.3- TYPICAL REVERSE CHARACTERISTIC

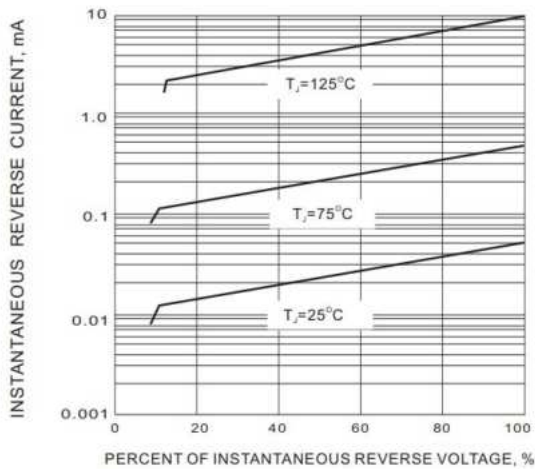
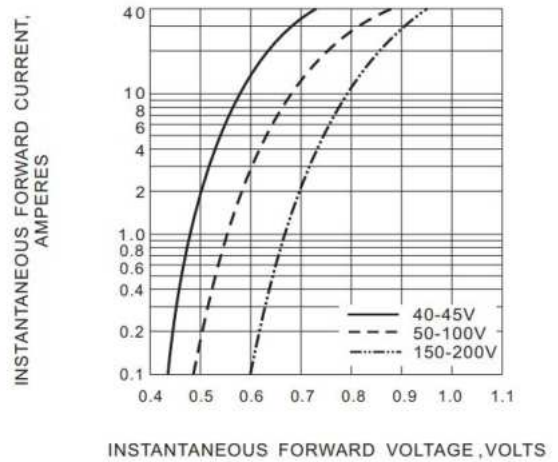


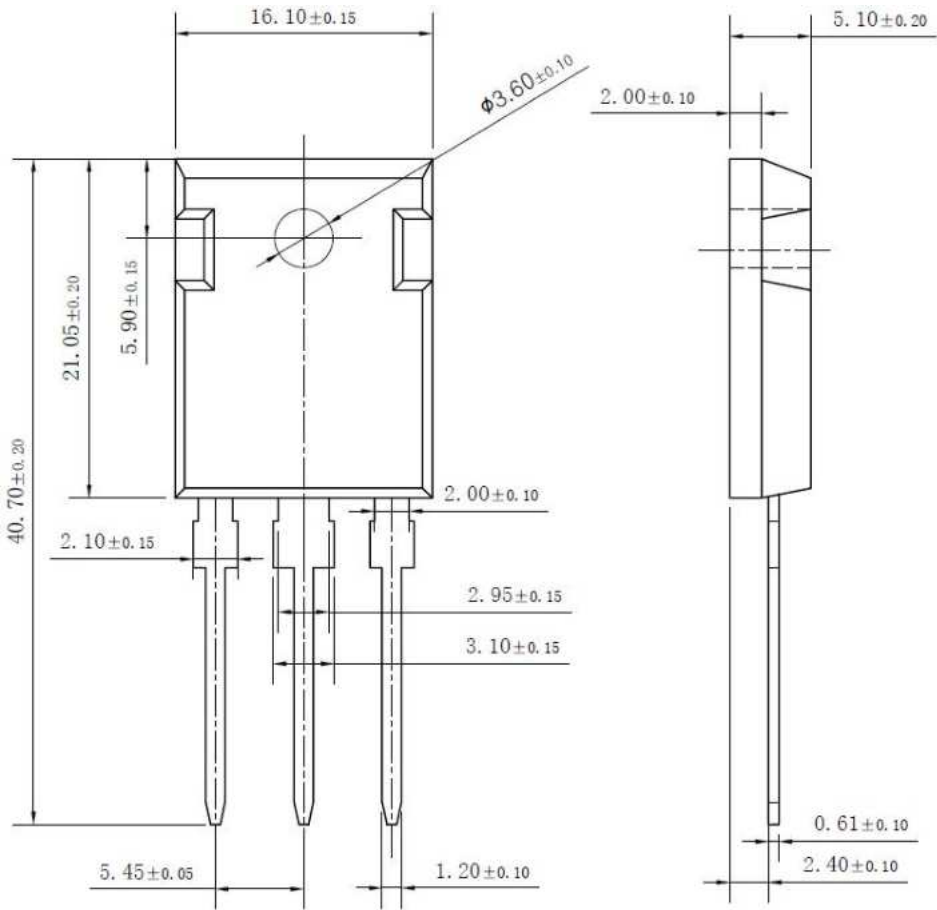
Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC



Package Dimensions

TO-247

(Dimensions in Millimeters)



Package Dimensions

TO-3PN

(Dimensions in Millimeters)

