AIKO ELECTRO

## 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

TO-247

TO-3PN

1. Anode 2.Cathode 3.Anode
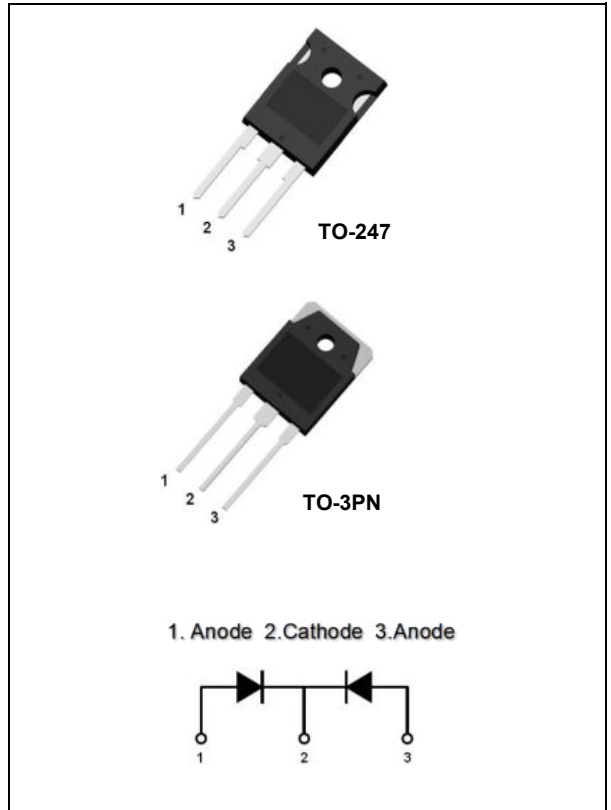
Absolute Maximum Ratings per diode at T_C=25 ℃ unless otherwise noted

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℃	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	℃
T_{STG}	Storage Temperature Range		-55~+150	℃

Thermal Characteristics

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

Electrical Characteristics per diode at T_C=25 ℃ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage Drop	I_F=20A	-	0.90	-	V
		I_F=20A, T_C=125℃	-	0.95	-	V
I_R	Reverse Leakage Current	V_R=200V	-	-	50	uA
		V_R=200V, T_C=125℃	-	-	20	mA

Typical Performance Characteristics

Fig.1- FORWARD CURRENT DERATING CURVE

CASE TEMPERATURE,℃
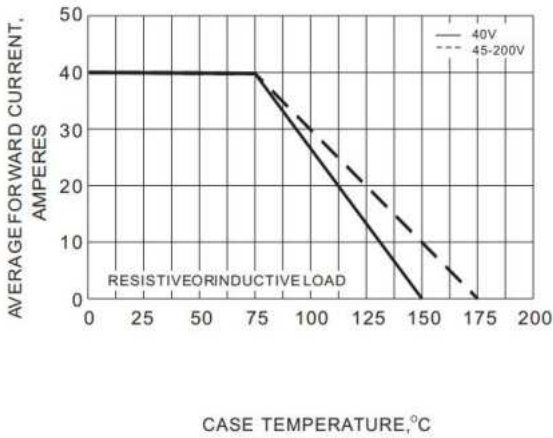
Fig.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

NO. OF CYCLE AT 60HZ
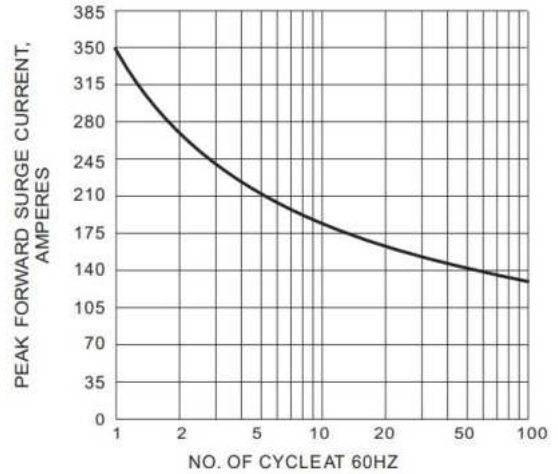
Fig.3- TYPICAL REVERSE CHARACTERISTIC

PERCENT OF INSTANTANEOUS REVERSE VOLTAGE, %
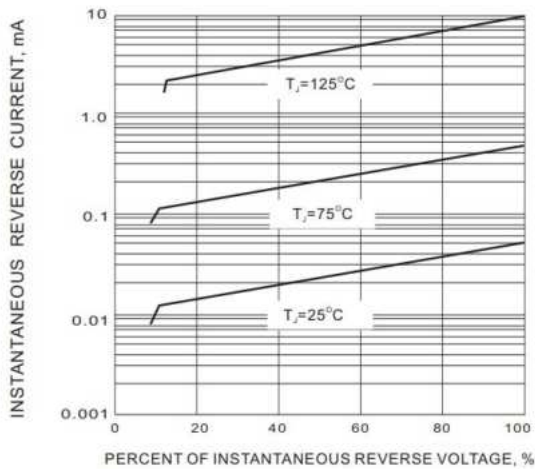
Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

INSTANTANEOUS FORWARD VOLTAGE ,VOLTS

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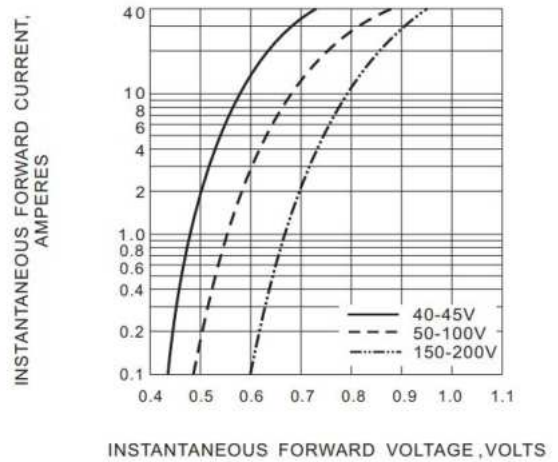
Package Dimensions

TO-247

(Dimensions in Millimeters)
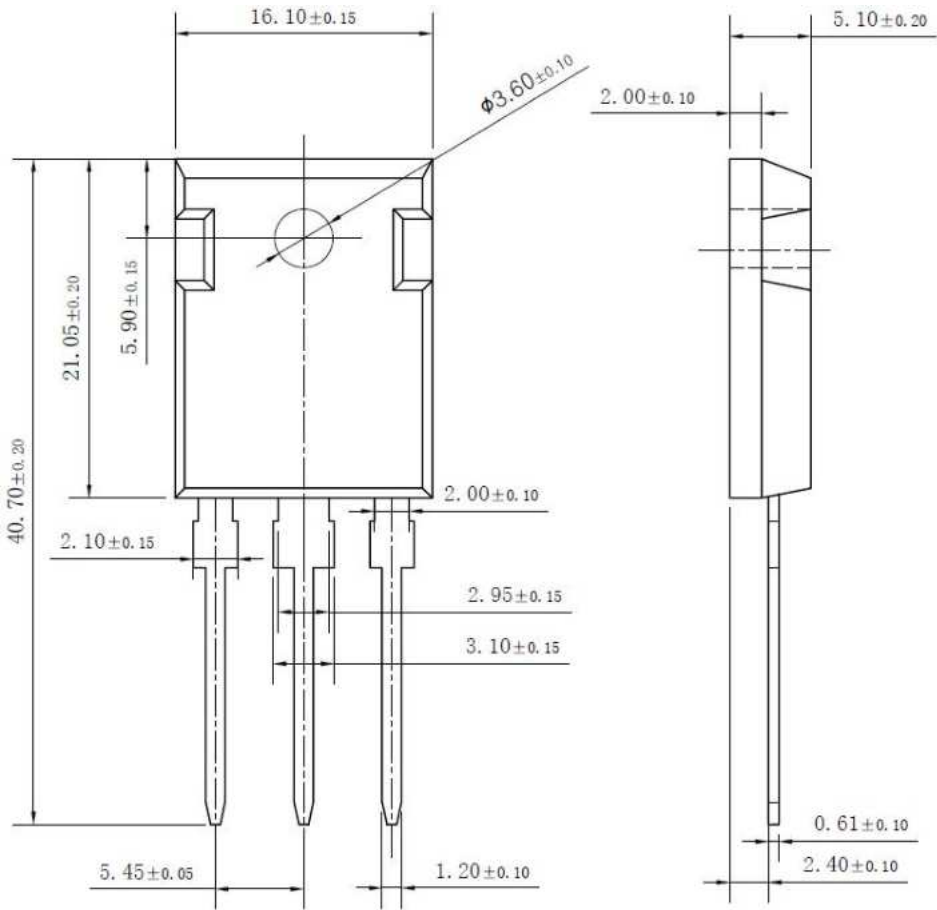
Package Dimensions

TO-3PN

(Dimensions in Millimeters)