

60A, 100V Schottky Barrier Diode

Description

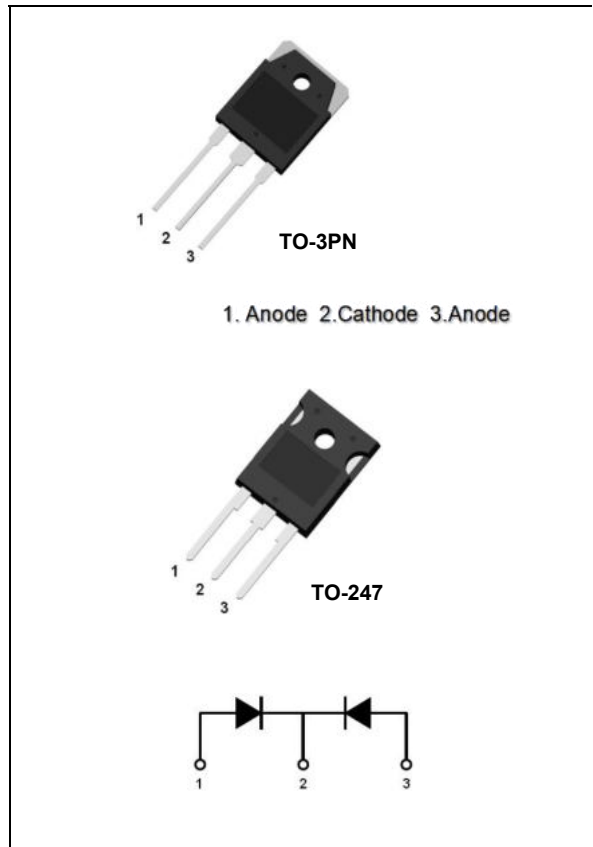
The AKS6010DNH/N is a Schottky Barrier Diode and based on silicon extension process. It has very low switching losses and high ESD / surge current capability. Because of schottky barrier structure, the device suit for rectifier、 free wheeling diode in high frequency and low voltage devices, like SMPS or PFC.

Features

- Low Forward Voltage Drop: $V_F=0.8V$ (typical @ $I_F=30A$)
- Reverse Voltage: $V_{RRM}=100V$
- Extremely Low Switching Losses
- High ESD and Surge Current Capability
- Low Reverse Leakage
- Standard TO-247/TO-3PN 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 | | 100 | V |
| V_{RWM} | Working Peak Reverse Voltage | | 100 | V |
| V_R | DC Blocking Voltage | | 100 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | per device at $T_C=125^\circ C$ | 60 | A |
| I_{FSM} | Non-repetitive Peak Surge Current | $t_p=10ms$, half sine wave | 400 | A |
| P_D | Power Dissipation | | 100 | W |
| T_J | Operating Junction Temperature Range | | -60~+175 | $^\circ C$ |
| T_{STG} | Storage Temperature Range | | -60~+175 | $^\circ C$ |

Thermal Characteristics

| Symbol | Parameter | Ratings | Unit |
|---------------|--------------------------------------|---------|--------------|
| $R_{th(J-C)}$ | Thermal Resistance, Junction to case | 1.5 | $^\circ C/W$ |

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 | $I_F=30\text{A}$ | - | 0.80 | - | V |
| | | $I_F=30\text{A}, T_C=125^\circ\text{C}$ | - | 0.90 | - | V |
| I_R | Reverse Leakage Current | $V_R=100\text{V}$ | - | - | 50 | μA |
| | | $V_R=100\text{V}, T_C=125^\circ\text{C}$ | - | - | 20 | mA |

Typical Performance Characteristics

Fig.1- FORWARD CURRENT DERATING CURVE

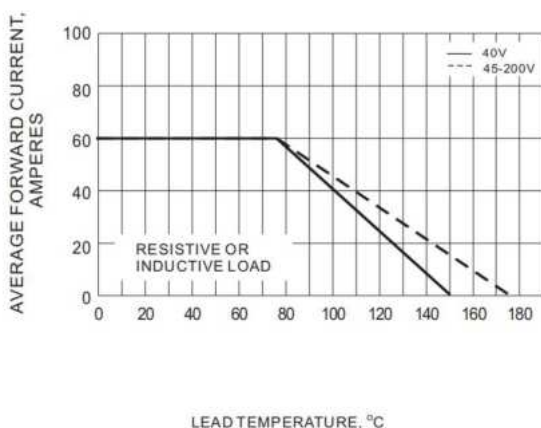


Fig.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

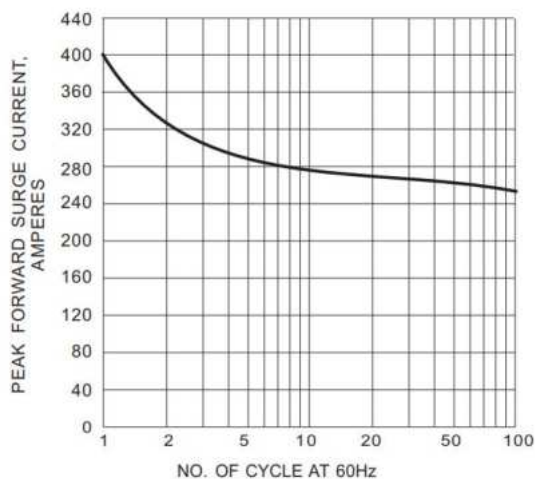


Fig.3- TYPICAL REVERSE CHARACTERISTIC

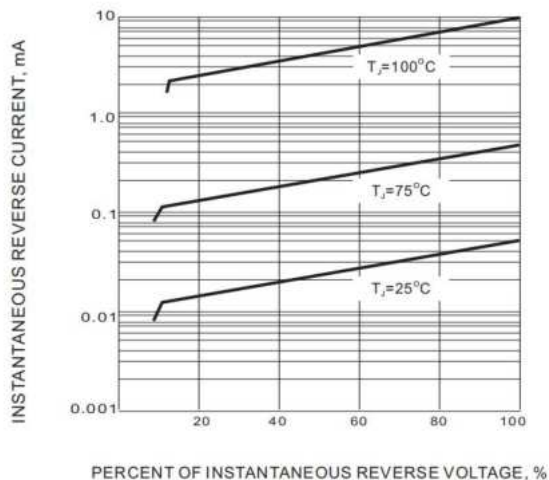
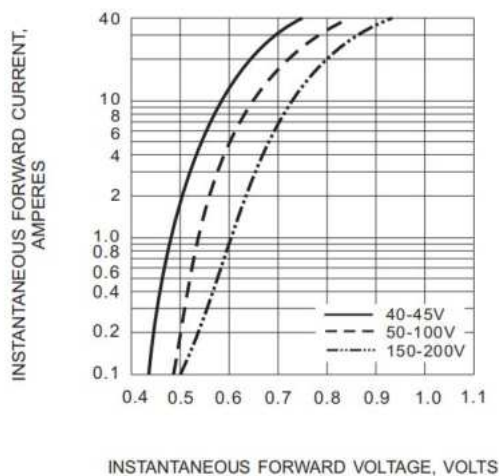


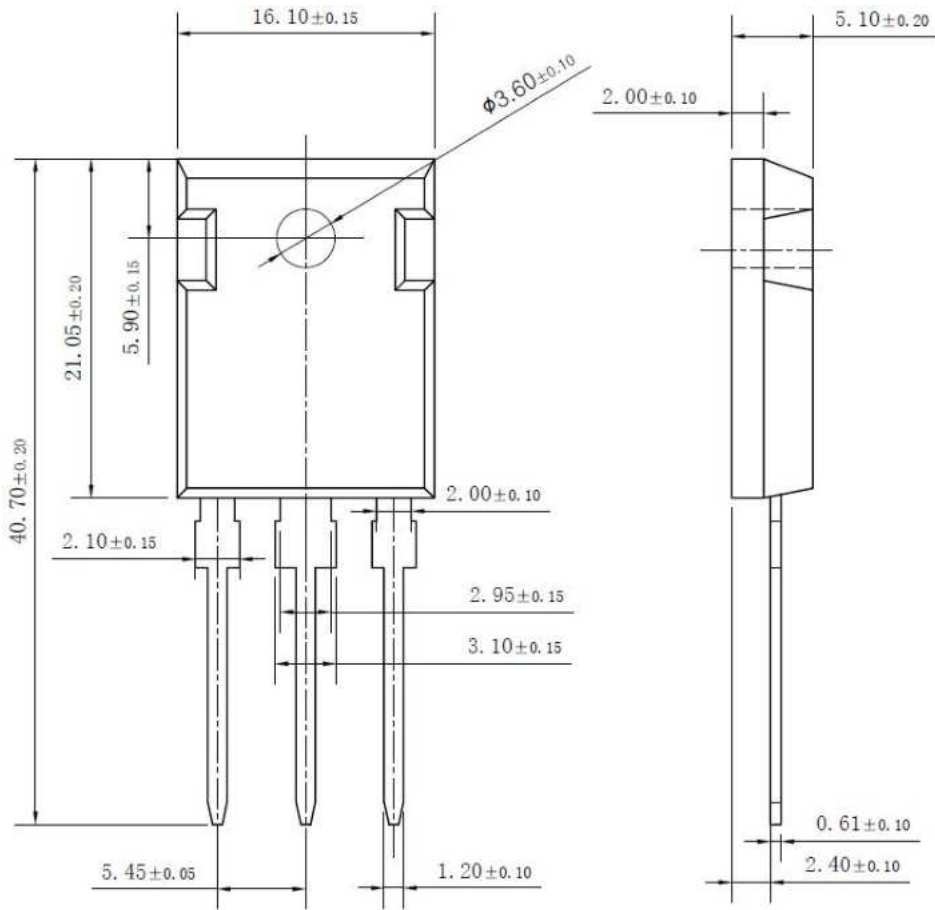
Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC



Package Dimensions

TO-247

(Dimensions in Millimeters)



Package Dimensions

TO-3PN

(Dimensions in Millimeters)

