

60A, 1200V Standard Rectifier

Description

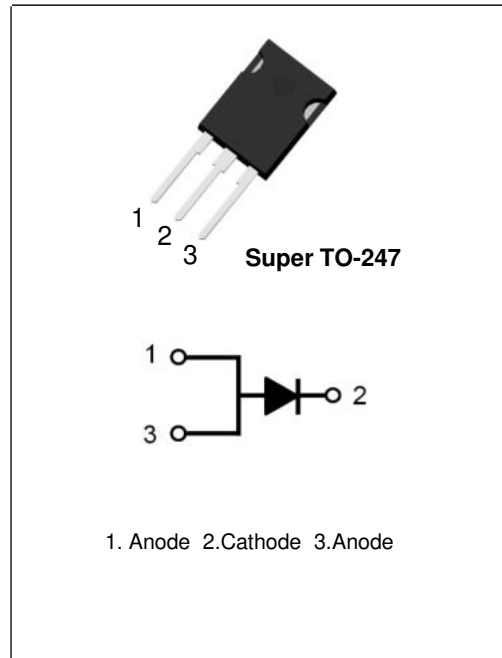
The AKD60120NCS is a Standard Rectifier. It's a SIPOS+GPP double passivation chip, with high reliability. It has low leakage current and low forward voltage drop, Improved thermal behaviour

Features

- Typical Forward Voltage: $V_F=1.1V@ I_F=60A$
- Reverse Voltage: $V_{RRM}=1200V$
- 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 | | 1200 | V | |
| V_{RWM} | Working Peak Reverse Voltage | | 1200 | V | |
| V_R | DC Blocking Voltage | | 1200 | V | |
| $I_{F(AV)}$ | Average Rectified Forward Current | per device at $T_C=120^\circ C$ | 60 | A | |
| I_{FSM} | Non-repetitive Peak Surge Current | $t = 10\text{ ms}$ (50 Hz), sine | $T_{VJ}= 45^\circ C$ $V_R = 0\text{ V}$ | 720 | A |
| | | | $T_{VJ}= 150^\circ C$ $V_R = 0\text{ V}$ | 540 | |
| I^2t | value for fusing | $t = 10\text{ ms}$ (50 Hz), sine | $T_{VJ}= 45^\circ C$ $V_R = 0\text{ V}$ | 2592 | A ² S |
| | | | $T_{VJ}= 150^\circ C$ $V_R = 0\text{ V}$ | 1458 | |
| 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 | 0.46 | $^{\circ}C/W$ |

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

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|--------|-------------------------|-----------------------------|------|------|------|------|
| V_F | Forward Voltage Drop | $I_F=60A$ | - | 1.1 | 1.50 | V |
| | | $I_F=60A, T_C=120^{\circ}C$ | - | 1.0 | 1.25 | V |
| I_R | Reverse Leakage Current | $V_R=1200V$ | - | - | 1 | mA |

Typical Performance Characteristics

Fig. 1. Typical Characteristics: V_F vs. I_F

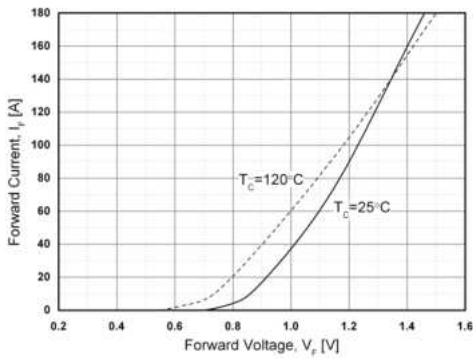


Fig. 2. Typical Characteristics: V_R vs. I_R

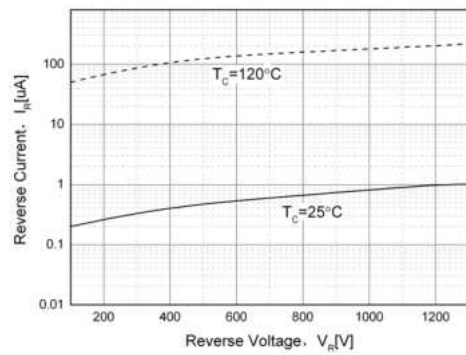
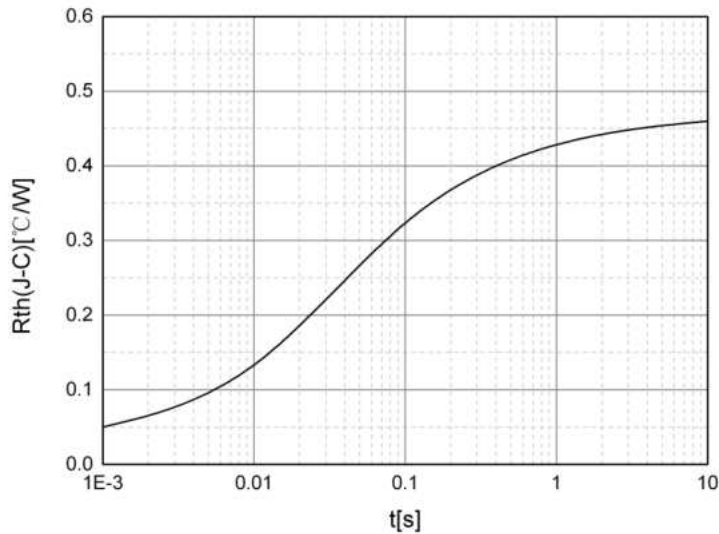


Fig. 3. Transient thermal impedance junction to case



Package Dimensions

Super TO-247

(Dimensions in Millimeters)

