

## 30A, 200V Schottky Barrier Diode

### Description

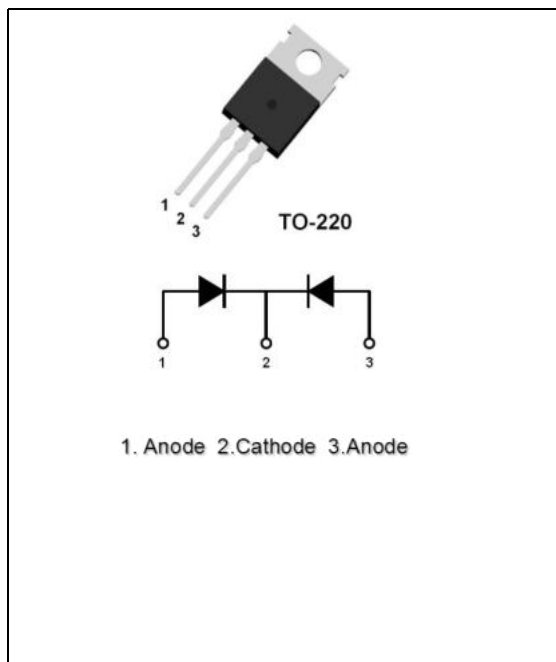
The AKS3020DNT is a Schottky Barrier Diode and based on silicon extension process. It has very low switching losses and high ESD / surge current capability. Because of schottky barrier structure, the device suit for rectifier、 free wheeling diode in high frequency and low voltage devices, like SMPS or PFC.

### Features

- Low Forward Voltage Drop:  $V_F=0.6V$  (typical @  $I_F=30A$ )
- Reverse Voltage:  $V_{RRM}=200V$
- Extremely Low Switching Losses
- High ESD and Surge Current Capability
- Low Reverse Leakage
- Standard TO-220 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 $T_C=125^\circ C$	30	A
$I_{FSM}$	Non-repetitive Peak Surge Current	$t_p=10ms$ , half sine wave	300	A
$P_D$	Power Dissipation		104	W
$T_J$	Operating Junction Temperature Range		-60~+150	$^\circ C$
$T_{STG}$	Storage Temperature Range		-60~+175	$^\circ C$

### Thermal Characteristics

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

## 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	$I_F=30\text{A}$	-	0.6	0.8	V
		$I_F=30\text{A}, T_C=125^\circ\text{C}$	-	0.55	-	V
$I_R$	Reverse Leakage Current	$V_R=200\text{V}$	-	-	100	$\mu\text{A}$
		$V_R=200\text{V}, T_C=125^\circ\text{C}$	-	-	2.5	$\text{mA}$

## Typical Performance Characteristics

Fig. 1. Typical Characteristics:  $I_F$  vs.  $V_F$

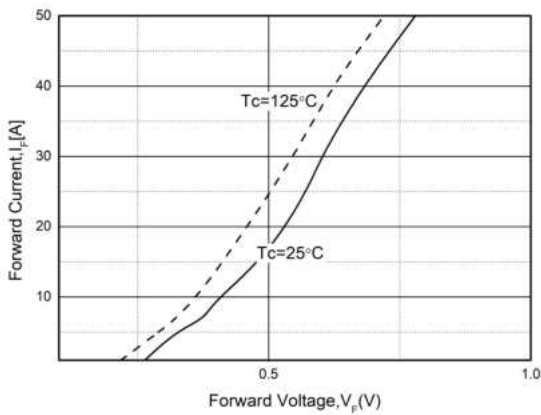


Fig. 2. Typical Characteristics:  $I_R$  vs.  $V_R$

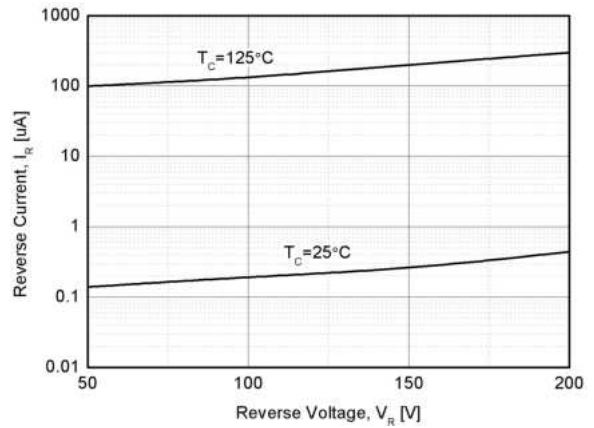


Fig. 3. Typical Characteristics:  $I_{F(AV)}$  vs.  $T_C$

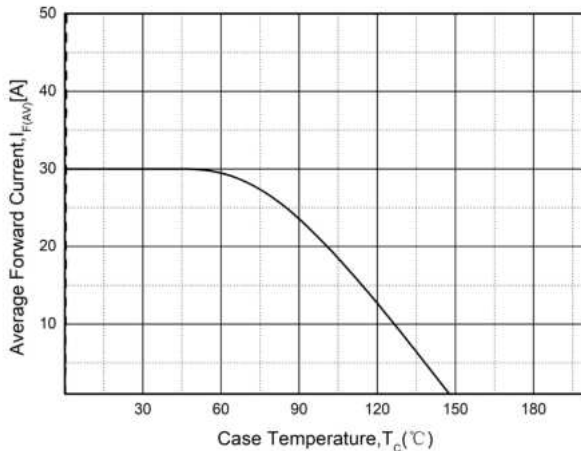
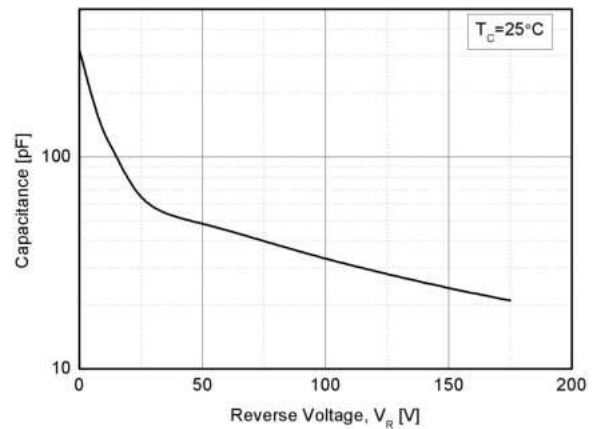


Fig. 4. Typical Characteristics: Capacitance vs.  $V_R$



**Package Dimensions**

**TO-220**

(Dimensions in Millimeters)

