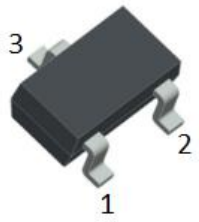
Technical Data
Data Sheet N0588, Rev. B

# BAS19W-BAS21W SURFACE MOUNT FAST SWITCHING DIODE

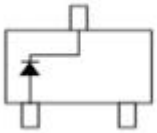



SOT-323

## Features

- High Conductance
- Fast Switching
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose and Switching
- Plastic Material – UL Recognition Flammability Classification 94V-O
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

## Schematic & Pin Configuration



## Mechanical Characteristics

- Case: SOT-323, Molded Plastic
- Terminals: Plated leads Solderable per MIL-STD-202, Method 208
- Weight: 0.006g
- Mounting Position: Any

## Maximum Ratings@$T_A$=25°C unless otherwise specified

| Characteristic | Symbol | BAS19W | BAS20W | BAS21W | Units |
|---|---|---|---|---|---|
| Non-Repetitive Peak Reverse Voltage | $V_{RM}$ | 120 | 200 | 250 | V |
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 100 | 150 | 200 | V |
| RMS Reverse Voltage(Note 1) | $V_{R(RMS)}$ | 70 | 105 | 140 | V |
| Forward Continuous Current (Note 1) | $I_{FM}$ | 400 | | | mA |
| Average Rectified Output Current(Note 1) | Io | 200 | | | mA |
| Non-Repetitive Peak Forward Surge Current @t=1us | $I_{FSM}$ | 2.5 | | | A |
| Power Dissipation | $P_D$ | 200 | | | mW |
| Thermal Resistance, Junction to Ambient(Note 1) | $R_{\theta JA}$ | 625 | | | °C/W |
| Junction and Storage Temperature Range | $T_J$, $T_{STG}$ | -65 to +150 | | | °C |

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## Electrical Characteristics @$T_A$=25°C unless otherwise specified

| Characteristic | Symbol | Min | Max | Units | Test Condition |
|---|---|---|---|---|---|
| Forward Voltage* | $V_F$ | - | 1.00<br>1.25 | V | @$I_F$=100mA<br>@$I_F$=200mA |
| Reverse Leakage Current* | $I_R$ | - | 100 | nA | @Rated DC Blocking Voltage |
| Capacitance between terminals | $C_T$ | - | 5 | pF | $V_R$=0V, f=1.0MHz |
| Reverse Recovery Time | $t_{rr}$ | - | 50 | ns | $I_F$=$I_R$=30mA,<br>$I_{RR}$=0.1×$I_R$, $R_L$=100Ω |

* Pulse width < 300 μs, duty cycle < 2%
Note: 1. Device mounted on fiberglass substrate 40×40×1.5mm

## Ratings and Characteristics Curves

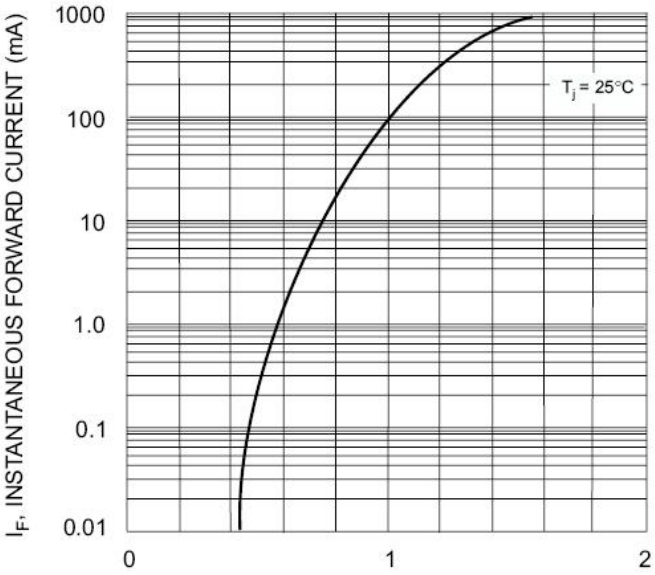

Fig. 1 Forward Characteristics

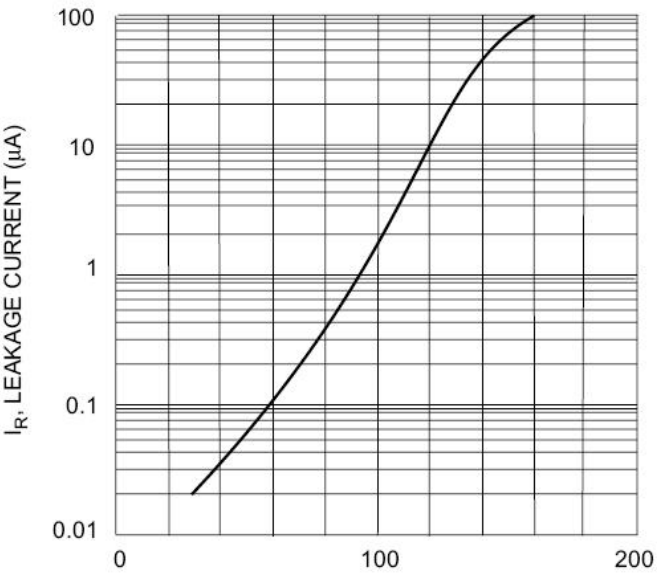

Fig. 2 Leakage Current vs Junction Temperature

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RoHS

## Ordering Information

| Device | Package | Shipping |
|---|---|---|
| BAS19W-BAS21W | SOT-323 (Pb-Free) | 3000pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

## Marking Diagram

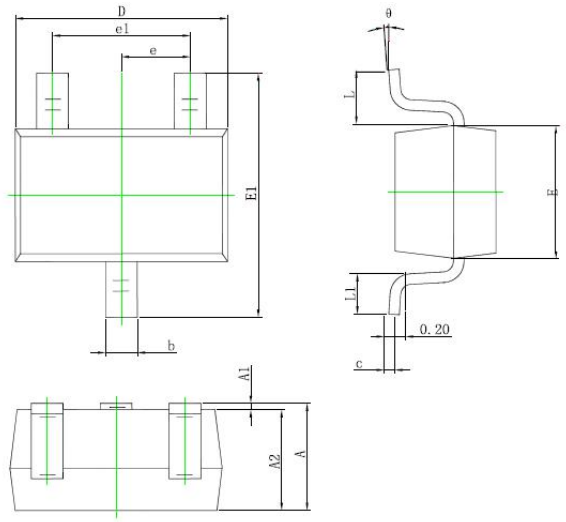
Marking before 16441(Date Code)

| Part Number | Device Marking Code |
|---|---|
| BAS19W | A8 |
| BAS20W | A80 |
| BAS21W | A82 |

Marking from 16441(Date Code)

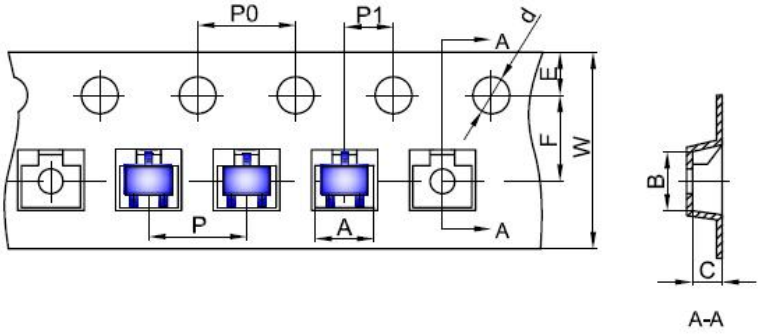
| Part Number | Device Marking Code |
|---|---|
| BAS19W | KA8 |
| BAS20W | KT2 |
| BAS21W | KT3 |

## Mechanical Dimensions SOT-323




| SYMBOL | Millimeters | | Inches | |
|---|---|---|---|---|
| | MIN. | MAX. | MIN. | MAX. |
| A | 0.900 | 1.100 | 0.035 | 0.043 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.000 | 0.035 | 0.039 |
| b | 0.200 | 0.400 | 0.008 | 0.016 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.000 | 2.200 | 0.079 | 0.087 |
| E | 1.150 | 1.350 | 0.045 | 0.053 |
| E1 | 2.150 | 2.450 | 0.085 | 0.096 |
| e | 0.650 TYP. | | 0.026 TYP. | |
| e1 | 1.200 | 1.400 | 0.047 | 0.055 |
| L | 0.525 REF. | | 0.021 REF. | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| θ | 0° | 8° | 0° | 8° |

## Carrier Tape Specification SOT-323




| SYMBOL | Millimeters | |
|---|---|---|
| | Min. | Max. |
| A | 2.20 | 2.30 |
| B | 2.50 | 2.60 |
| C | 1.14 | 1.24 |
| d | 1.45 | 1.65 |
| E | 1.65 | 1.85 |
| F | 3.40 | 3.60 |
| P | 3.90 | 4.10 |
| P0 | 3.90 | 4.10 |
| P1 | 1.90 | 2.10 |
| W | 7.90 | 8.30 |

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