## Features

$\begin{array}{ll}\diamond & \text { Fast Switching Speed } \\ \diamond & \text { Surface Mount Package Ideally Suited for } \\ & \text { Automatic Insertion } \\ \diamond & \text { For General Purpose Switching Applications }\end{array}$

## Mechanical Data

$\star \quad$ Case: SOD-123, Molded Plastic
$\triangleleft \quad$ Case Material: UL Flammability Rating
Classification 94V-0
$\triangleleft \quad$ Polarity: Cathode Band
$\triangleleft \quad$ Type Code: BAV19W: A8 or T2 or T3
BAV20W: T2 or T3
BAV21W: T3
$\triangleleft \quad$ Weight: 0.01 grams (approx.)

SOD-123


Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at $25^{\circ} \mathrm{C}$ ambient temperature unless otherwise specified.
Maximum Ratings

| Characteristic | Symbol | BAV19W | BAV20W | BAV21W | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Peak Repetitive Reverse Voltage | VRRM | 120 | 200 | 250 | V |
| Working Peak Reverse Voltage DC Blocking Voltage | $\begin{gathered} \mathrm{V}_{\mathrm{RWM}} \\ \mathrm{~V}_{\mathrm{R}} \end{gathered}$ | 100 | 150 | 200 | V |
| RMS Reverse Voltage | $\mathrm{V}_{\mathrm{R} \text { (RMS) }}$ | 71 | 106 | 141 | V |
| Forward Continuous Current | $\mathrm{I}_{\text {FM }}$ | 400 |  |  | mA |
| Average Rectified Output Current | 10 | 200 |  |  | mA |
| Non-Repetitive Peak Forward Surge Current @ t=1.0ms <br> @ $\mathrm{t}=1.0 \mathrm{~s}$ | $\mathrm{I}_{\text {FSM }}$ | $\begin{aligned} & 2.5 \\ & 0.5 \end{aligned}$ |  |  | A |
| Repetitive Peak Forward Surge Current | $\mathrm{I}_{\text {FRM }}$ | 625 |  |  | mA |
| Power Dissipation (Note 2) | $\mathrm{P}_{\mathrm{d}}$ | 250 |  |  | mW |
| Thermal Resistance Junction to Ambient Air (Note 2) | $\mathrm{R}_{\text {өJA }}$ | 500 |  |  | ${ }^{\circ} \mathrm{C} / \mathrm{W}$ |
| Operating and Storage Temperature Range | $\mathrm{T}_{\mathrm{j}}, \mathrm{T}_{\text {STG }}$ | -65 to +150 |  |  | ${ }^{\circ} \mathrm{C}$ |

## Electrical Characteristics

| Characteristic | Symbol | Min | Max | Unit | Test Condition |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{ll}\text { Reverse Breakdown Voltage (Note 1) } & \text { BAV19W } \\ \\ \text { BAV20W } \\ \text { BAV21W }\end{array}$ | $V_{(B R) R}$ | $\begin{aligned} & 120 \\ & 200 \\ & 250 \end{aligned}$ | - | V | $\mathrm{I}_{\mathrm{R}}=100 \mu \mathrm{~A}$ |
| Forward Voltage (Note 1) | $\mathrm{V}_{\mathrm{FM}}$ | - | $\begin{gathered} 1.0 \\ 1.25 \end{gathered}$ | V | $\begin{aligned} & I_{F}=100 \mathrm{~mA} \\ & I_{F}=200 \mathrm{~mA} \end{aligned}$ |
| Peak Reverse Current <br> @ Rated DC Blocking Voltage (Note 1) | $\mathrm{I}_{\mathrm{RM}}$ | - | $\begin{gathered} 100 \\ 15 \\ \hline \end{gathered}$ | $\begin{aligned} & \mathrm{nA} \\ & \mu \mathrm{~A} \end{aligned}$ | $\begin{aligned} & \mathrm{T}_{\mathrm{j}}=25^{\circ} \mathrm{C} \\ & \mathrm{~T}_{\mathrm{j}}=100^{\circ} \mathrm{C} \end{aligned}$ |
| Total Capacitance | $\mathrm{C}_{\text {T }}$ | - | 5.0 | pF | $\mathrm{V}_{\mathrm{R}}=0, \mathrm{f}=1.0 \mathrm{MHz}$ |
| Reverse Recovery Time | $\mathrm{t}_{\mathrm{rr}}$ | - | 50 | ns | $\begin{aligned} & I_{F}=I_{R}=30 \mathrm{~mA}, \\ & I_{r r}=0.1 \times I_{R}, R_{L}=100 \Omega \end{aligned}$ |

Notes: 1. Short duration pulse test used to minimize self-heating effect.

## BAV19W-BAV21W

LGE

## Surface Mount Fast Switching Diode

RoHS
COMPLIANT



Fig. 2 Typical Forward Characteristics

$\mathrm{T}_{\mathrm{j}}$, JUNCTION TEMPERATURE ( ${ }^{\circ} \mathrm{C}$ )

Fig. 3 Leakage Current vs Junction Temperature

| PACKAGE | SPQ/PCS | CARTON <br> SPQ/PCS | CARTON <br> SIZE/CM | CARTON <br> GW/KG | CARTON <br> NW/KG |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SOD-123 | $3000 / R E E L$ | 90000 | $40 \times 20 \times 22$ | 5.00 | 4.00 |

## X-ON Electronics

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