



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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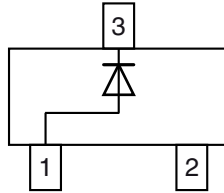
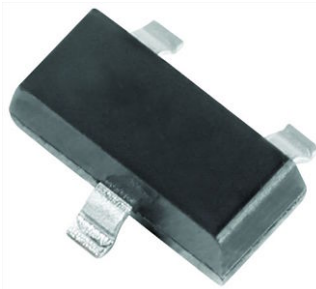
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Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Ultra fast switching speed
- Surface mount package ideally suited for automatic insertion
- High conductance
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE

| PART | ORDERING CODE | INTERNAL CONSTRUCTION | TYPE MARKING | REMARKS |
|-------|------------------------------|-----------------------|--------------|---------------|
| BAS16 | BAS16-E3-08 or BAS16-E3-18 | Single diode | A6 | Tape and reel |
| | BAS16-HE3-08 or BAS16-HE3-18 | | | |

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|--|---|---------------------------|-------|------|
| Non repetitive peak reverse voltage | | V_{RM} | 100 | V |
| Repetitive peak reverse voltage = working peak reverse voltage = DC blocking voltage | | $V_{RRM} = V_{RWM} = V_R$ | 75 | V |
| Peak forward surge current | $t_p = 1\text{ s}$ | I_{FSM} | 1 | A |
| | $t_p = 1\text{ }\mu\text{s}$ | I_{FSM} | 2 | A |
| Average forward current | Half wave rectification with resistive load and $f \geq 50\text{ MHz}$, on ceramic substrate 8 mm x 10 mm x 0.7 mm | $I_{F(AV)}$ | 150 | mA |
| Forward current | On ceramic substrate 8 mm x 10 mm x 0.7 mm | I_F | 300 | mA |
| Power dissipation | On ceramic substrate 8 mm x 10 mm x 0.7 mm | P_{tot} | 350 | mW |

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|--|---|-----------------|-------------|--------------------|
| Junction ambient | On ceramic substrate 8 mm x 10 mm x 0.7 mm | R_{thJA} | 357 | K/W |
| Junction and storage temperature range | | $T_j = T_{stg}$ | -55 to +150 | $^{\circ}\text{C}$ |
| Operating temperature range | | T_{op} | -55 to +150 | $^{\circ}\text{C}$ |

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | |
|--|---|----------|------|------|-------|---------------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | $I_F = 1\text{ mA}$ | V_F | | | 0.715 | V |
| | $I_F = 10\text{ mA}$ | V_F | | | 855 | mV |
| | $I_F = 50\text{ mA}$ | V_F | | | 1 | V |
| | $I_F = 150\text{ mA}$ | V_F | | | 1.25 | V |
| Reverse current | $V_R = 75\text{ V}$ | I_R | | | 1 | μA |
| | $V_R = 75\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$ | I_R | | | 50 | μA |
| | $V_R = 25\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$ | I_R | | | 30 | μA |
| Diode capacitance | $V_R = 0, f = 1\text{ MHz}$ | C_D | | | 4 | pF |
| Reverse recovery time | $I_F = 10\text{ mA}$ to $i_{R1} = 1\text{ mA}$, $V_R = 6\text{ V}, R_L = 100\text{ }\Omega$ | t_{rr} | | | 6 | ns |

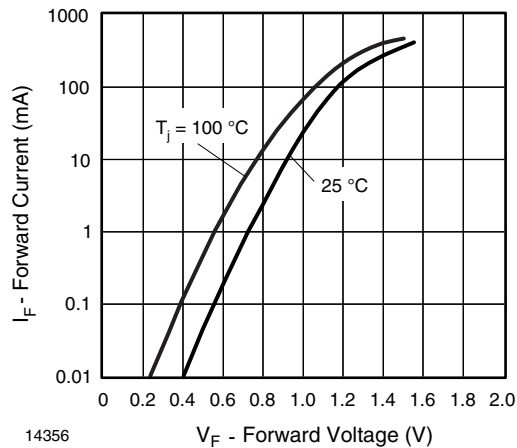
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Forward Current vs. Forward Voltage

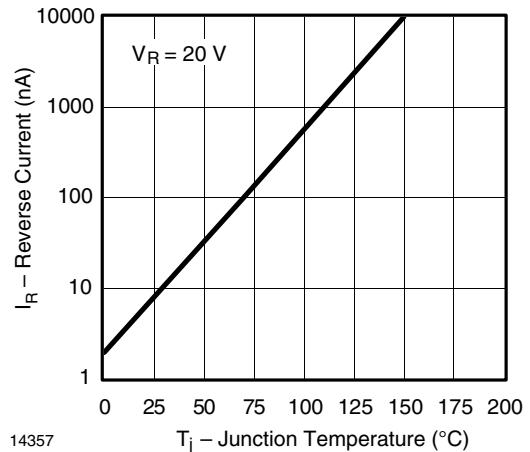
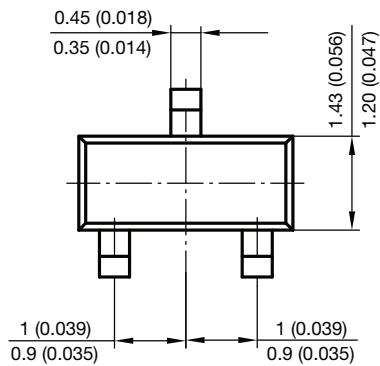
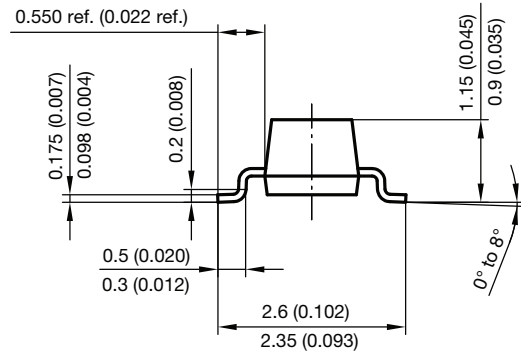
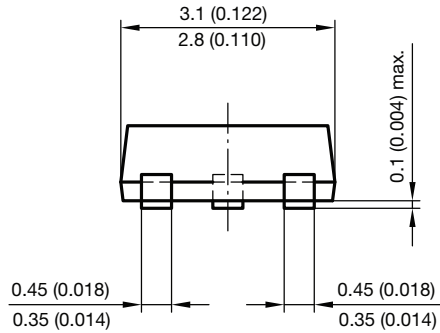


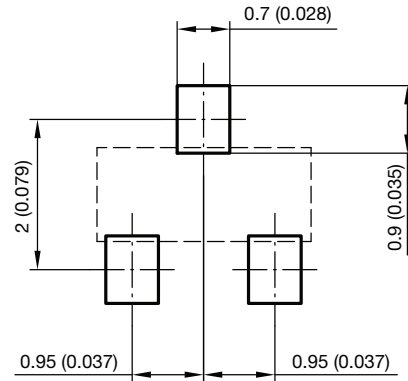
Fig. 2 - Reverse Current vs. Junction Temperature



PACKAGE DIMENSIONS in millimeters (inches): **SOT-23**



Foot print recommendation:



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