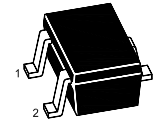
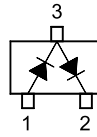


BAV99W

Silicon Epitaxial Planar Switching Diode



SOT-323 Plastic Package
Marking Code: **A7**

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

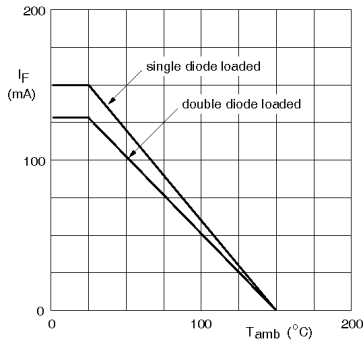
| Parameter | Symbol | Value | Unit |
|---------------------------------------------|-----------------|---------------|--------------------|
| Repetitive Peak Reverse Voltage | V_{RRM} | 85 | V |
| Reverse Voltage | V_R | 75 | V |
| Continuous Forward Current | I_F | 150 | mA |
| | | 130 | |
| Repetitive Peak Forward Current | I_{FRM} | 500 | mA |
| Non-Repetitive Peak Forward Surge Current | I_{FSM} | 4 | A |
| | | 1 | |
| | | 0.5 | |
| Total Power Dissipation | P_{tot} | 200 | mW |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 625 | $^\circ\text{C/W}$ |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 55 to + 150 | $^\circ\text{C}$ |

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter | Symbol | Max. | Unit |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------|---------------|
| Forward Voltage at $I_F = 1\text{ mA}$ at $I_F = 10\text{ mA}$ at $I_F = 50\text{ mA}$ at $I_F = 150\text{ mA}$ | V_F | 0.715 | V |
| | | 0.855 | |
| | | 1 | |
| | | 1.25 | |
| Reverse Current at $V_R = 25\text{ V}$ at $V_R = 75\text{ V}$ at $V_R = 25\text{ V}, T_j = 150\text{ }^\circ\text{C}$ at $V_R = 75\text{ V}, T_j = 150\text{ }^\circ\text{C}$ | I_R | 30 | nA |
| | | 1 | μA |
| | | 30 | μA |
| | | 50 | μA |
| Diode Capacitance at $V_R = 0, f = 1\text{ MHz}$ | C_d | 1.5 | pF |
| Reverse Recovery Time at $I_F = I_R = 10\text{ mA}, I_{rr} = 0.1 \times I_R, R_L = 100\ \Omega$ | t_{rr} | 4 | ns |

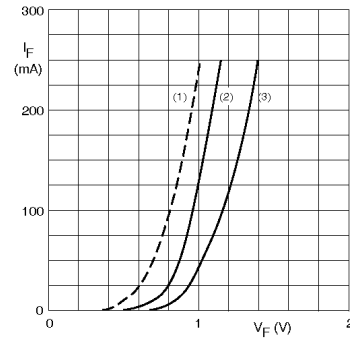
BAV99W

Typical Characteristics



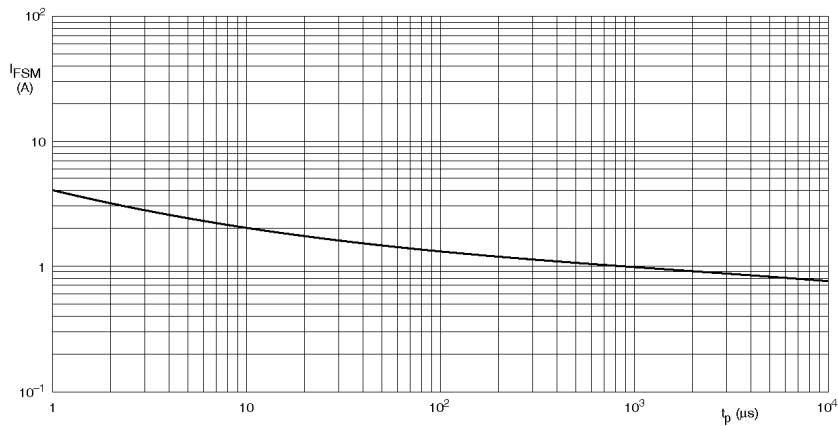
Device mounted on an FR4 printed-circuit board.

Maximum permissible continuous forward current as a function of ambient temperature.



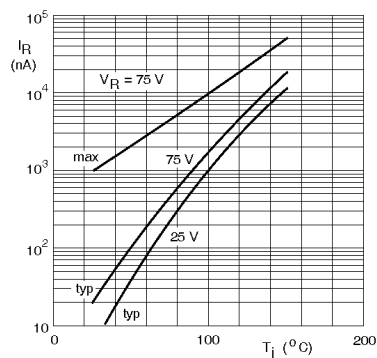
- (1) $T_j = 150\text{ }^\circ\text{C}$; typical values.
- (2) $T_j = 25\text{ }^\circ\text{C}$; typical values.
- (3) $T_j = 25\text{ }^\circ\text{C}$; maximum values.

Forward current as a function of forward voltage.

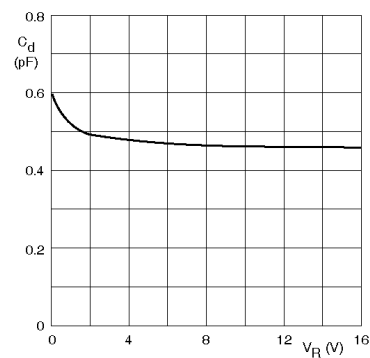


Based on square wave currents.
 $T_j = 25\text{ }^\circ\text{C}$ prior to surge.

Maximum permissible non-repetitive peak forward current as a function of pulse duration.



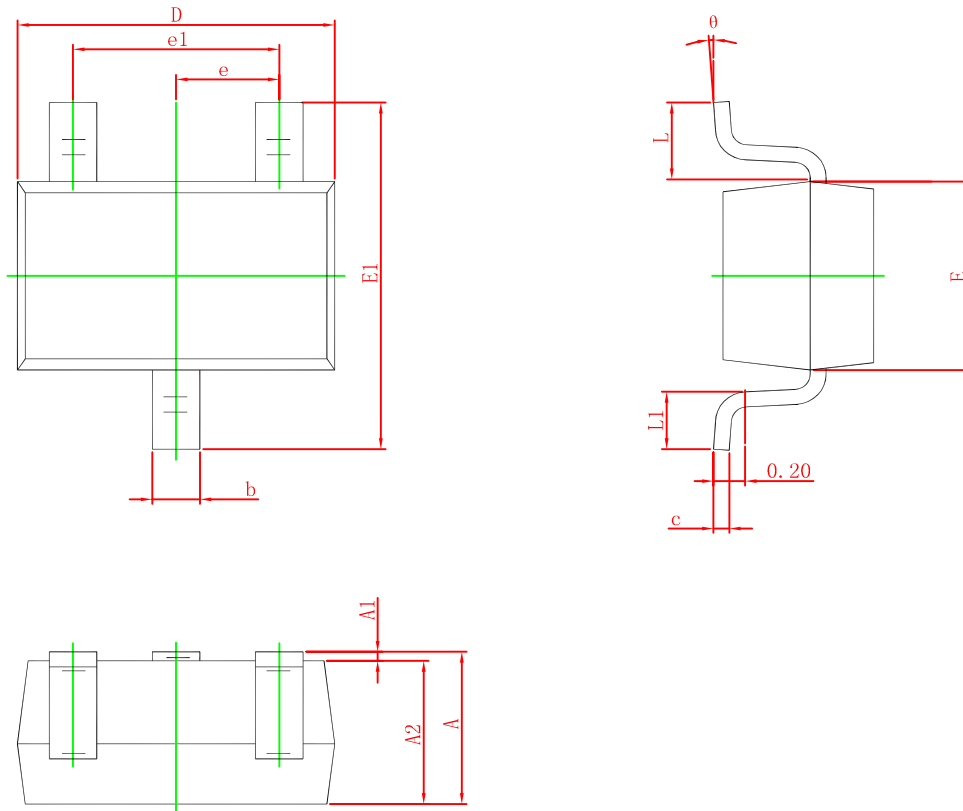
Reverse current as a function of junction temperature.



$f = 1\text{ MHz}$; $T_j = 25\text{ }^\circ\text{C}$.

Diode capacitance as a function of reverse voltage; typical values.

SOT-323 PACKAGE OUTLINE DIMENSIONS



| Symbol | Dimensions In Millimeters | | Dimensions In 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° |