

## SILICON PLANAR EPITAXIAL HIGH-SPEED DIODES

Silicon planar high-speed switching series diode pair

## Marking

BAV99 = A7

## PACKAGE OUTLINE DETAILS

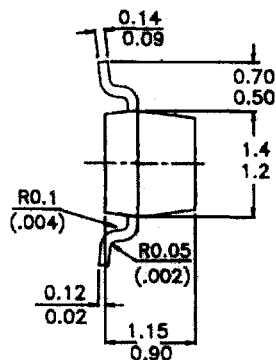
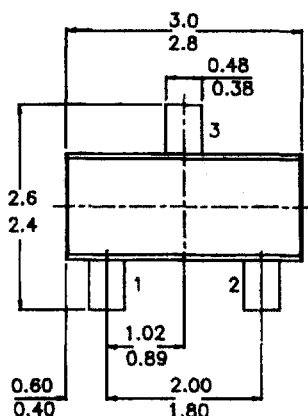
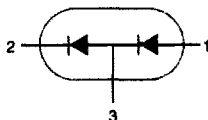
ALL DIMENSIONS IN mm

## Pin configuration

1 = ANODE

2 = CATHODE

3 = CATHODE/ANODE



## ABSOLUTE MAXIMUM RATINGS

|                                                                                                                              |           |      |        |
|------------------------------------------------------------------------------------------------------------------------------|-----------|------|--------|
| Continuous reverse voltage                                                                                                   | $V_R$     | max. | 75 V   |
| Repetitive peak reverse voltage                                                                                              | $V_{RRM}$ | max. | 85 V   |
| Repetitive peak forward current                                                                                              | $I_{FRM}$ | max. | 450 mA |
| Junction temperature                                                                                                         | $T_j$     | max. | 150 °C |
| Forward voltage at $I_F = 50$ mA                                                                                             | $V_F$     | <    | 1.0 V  |
| Reverse recovery time when switched from<br>$I_F = 10$ mA to $I_R = 10$ mA; $R_L = 100 \Omega$ ;<br>measured at $I_R = 1$ mA | $t_{rr}$  | <    | 4 ns   |
| Recovery charge when switched from<br>$I_F = 10$ mA to $V_R = 5$ V; $R_L = 100 \Omega$                                       | $Q_s$     | <    | 45 pC  |

RATINGS (per diode) (at  $T_A = 25^\circ\text{C}$  unless otherwise specified)

## Limiting values

|                                 |           |      |      |
|---------------------------------|-----------|------|------|
| Continuous reverse voltage      | $V_R$     | max. | 75 V |
| Repetitive peak reverse voltage | $V_{RRM}$ | max. | 85 V |

|                                                      |           |      |                |
|------------------------------------------------------|-----------|------|----------------|
| Forward current (d.c.)                               | $I_F$     | max. | 215 mA         |
| Repetitive peak forward current                      | $I_{FRM}$ | max. | 450 mA         |
| Non-repetitive peak forward current<br>(per crystal) |           |      |                |
| $t = 1\mu s$                                         | $I_{FSM}$ | max. | 4 A            |
| $t = 1 ms$                                           | $I_{FSM}$ | max. | 1 A            |
| $t = 1 s$                                            | $I_{FSM}$ | max. | 0,5 A          |
| Storage temperature range                            | $T_{stg}$ |      | -55 to +150 °C |
| Junction temperature                                 | $T_j$     | max. | 150 °C         |

**THERMAL RESISTANCE**

|                          |             |   |         |
|--------------------------|-------------|---|---------|
| From junction to ambient | $R_{thj-a}$ | = | 500 K/W |
|--------------------------|-------------|---|---------|

**CHARACTERISTICS (per diode) (at  $T_A = 25^\circ C$  unless otherwise specified)**

$T_j = 25^\circ C$  unless otherwise specified

**Forward voltage**

|                |       |   |         |
|----------------|-------|---|---------|
| $I_F = 1 mA$   | $V_F$ | < | 715 mV  |
| $I_F = 10 mA$  | $V_F$ | < | 855 mV  |
| $I_F = 50 mA$  | $V_F$ | < | 1000 mV |
| $I_F = 150 mA$ | $V_F$ | < | 1250 mV |

**Reverse current**

|                                |       |   |             |
|--------------------------------|-------|---|-------------|
| $V_R = 25V; T_j = 150^\circ C$ | $I_R$ | < | 30 $\mu A$  |
| $V_R = 75 V$                   | $I_R$ | < | 1,0 $\mu A$ |
| $V_R = 75V; T_j = 150^\circ C$ | $I_R$ | < | 50 $\mu A$  |

**Diode capacitance**

|                      |       |   |        |
|----------------------|-------|---|--------|
| $V_R = 0; f = 1 MHz$ | $C_d$ | < | 1,5 pF |
|----------------------|-------|---|--------|

**Forward recovery voltage when switched to**

|                          |          |   |        |
|--------------------------|----------|---|--------|
| $I_F = 10mA; t_r = 20ns$ | $V_{fr}$ | < | 1,75 V |
|--------------------------|----------|---|--------|