

## Dual series switching diode

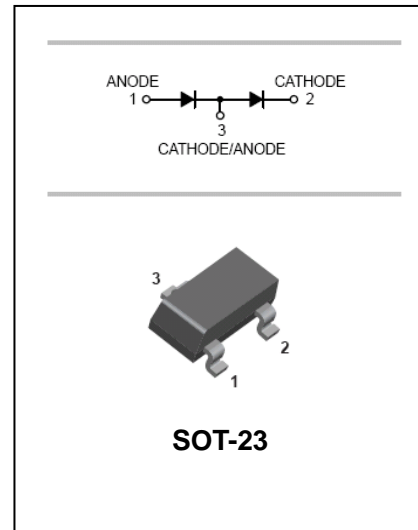
## BAV99

### FEATURES

- Fast switching speed Max:6ns
- High conductance
- Connected in series
- Surface mount package ideally suited for automatic insertion



Lead-free



### APPLICATIONS

- Small signal switching

### ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|---------|--------------|
| BAV99    | A7      | SOT-23       |

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Parameter                                  | Symbol          | Value                       | Unit |
|--|-----------------|-----------------------------|------|
| Repetitive peak reverse voltage            | $V_{RRM}$       | 85                          | V    |
| Continuous Reverse voltage                 | $V_R$           | 75                          | V    |
| Peak forward surge current                 | $I_{FSM}$       | @t=1.0μs<br>4               | A    |
|  |                 | @t=1.0ms<br>1               |      |
|  |                 | @t=1.0s<br>0.5              |      |
| Forward continuous current                 | $I_F$           | single diode loaded<br>215  | mA   |
|  |                 | double diodes loaded<br>125 |      |
| Non-Repetitive peak forward current        | $I_{FRM}$       | 450                         | mA   |
| Power dissipation                          | $P_d$           | 250                         | mW   |
| Thermal resistance junction to ambient air | $R_{\theta JA}$ | 500                         | °C/W |
| Operating and storage temperature range    | $T_j, T_{STG}$  | -65 to 150                  | °C   |

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### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter                       | Symbol     | Test conditions   | MIN | MAX  | UNIT    |
|---------------------------------|------------|---|-----|------|---------|
| Reverse breakdown voltage       | $V_{(BR)}$ | $I_R = 2.5\mu A$  | 75  |      | V       |
| Reverse voltage leakage current | $I_R$      | $V_R = 25V$   |     | 35   | nA      |
|                                 |            | $V_R = 75V$   |     | 1    | $\mu A$ |
|                                 |            | $V_R = 25V T_j = 150^\circ C$                                     |     | 30   | $\mu A$ |
|                                 |            | $V_R = 75V T_j = 150^\circ C$                                     |     | 50   | $\mu A$ |
| Forward voltage                 | $V_F$      | $I_F = 1mA$   |     | 715  | mV      |
|                                 |            | $I_F = 10mA$  |     | 855  |         |
|                                 |            | $I_F = 50mA$  |     | 1000 |         |
|                                 |            | $I_F = 150mA$   |     | 1250 |         |
| Diode capacitance               | $C_D$      | $V_R = 0V f = 1MHz$   |     | 1.5  | pF      |
| Reverse recovery time           | $t_{rr}$   | $I_F = I_R = 10mA,$<br>$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ |     | 4    | nS      |

### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

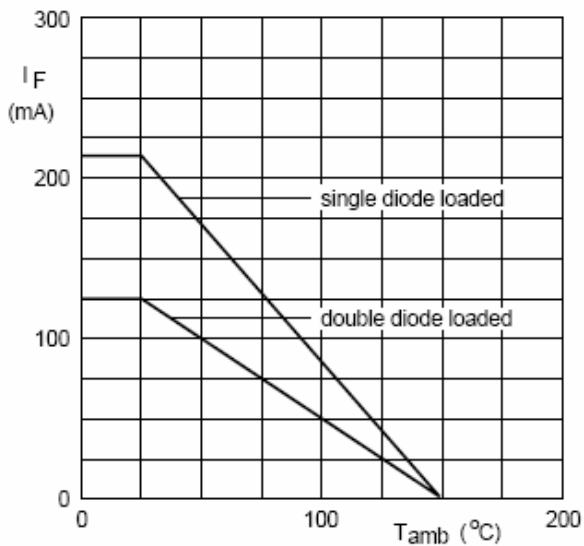
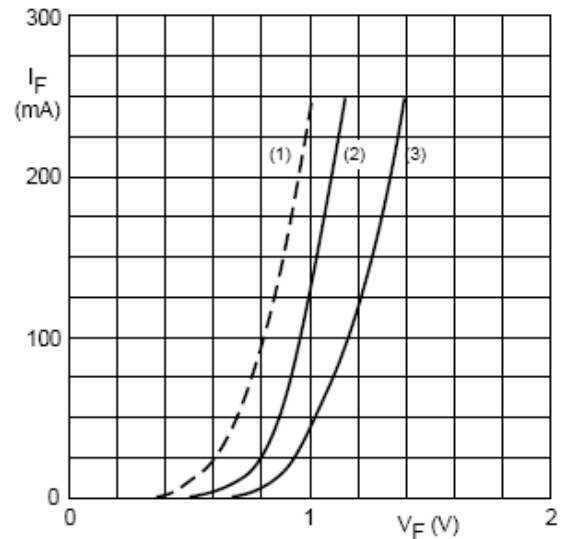


Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



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

Fig.3 Forward current as a function of forward voltage.

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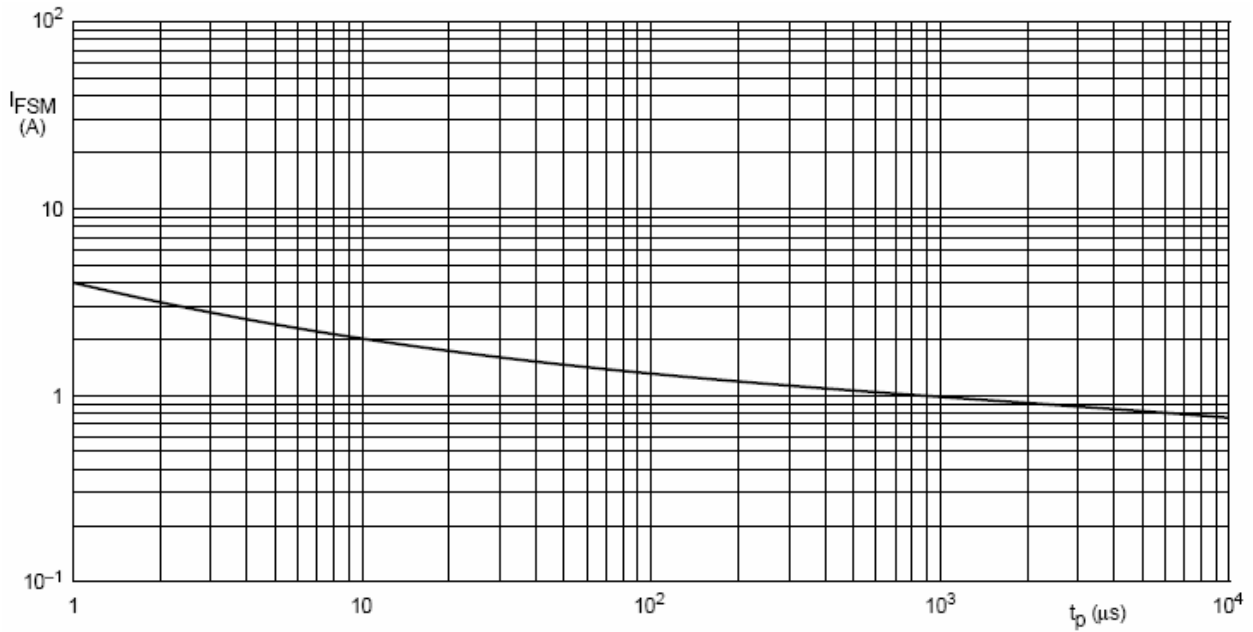


Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

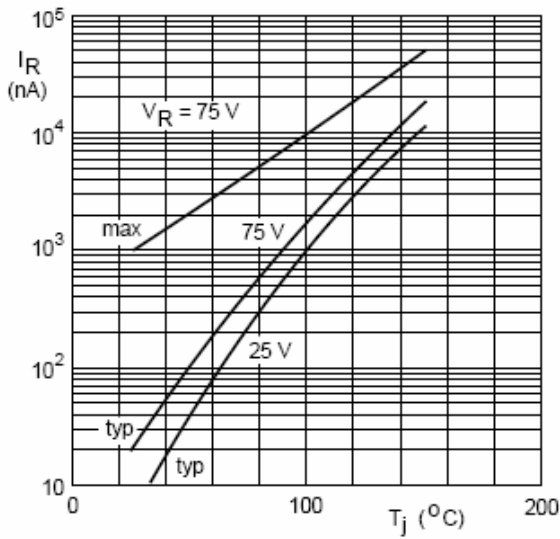


Fig.5 Reverse current as a function of junction temperature.

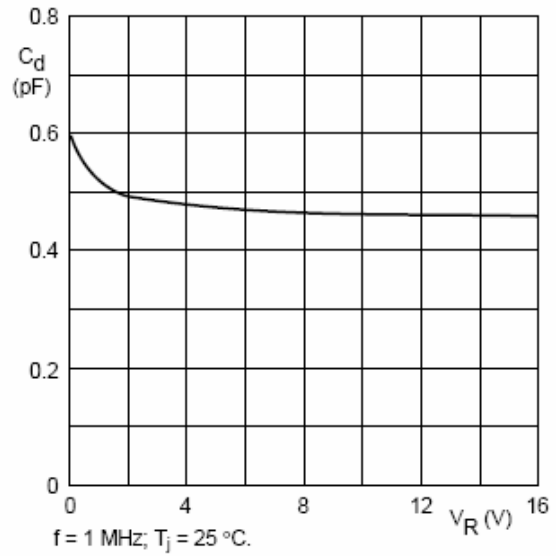


Fig.6 Diode capacitance as a function of reverse voltage; typical values.

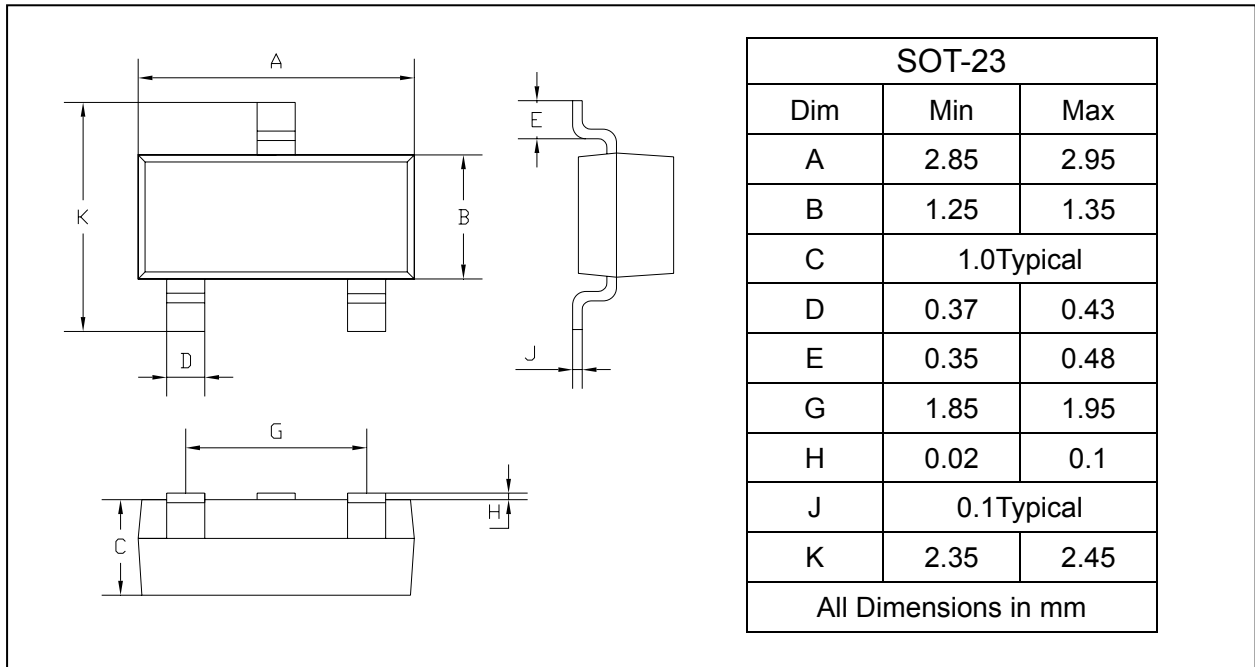
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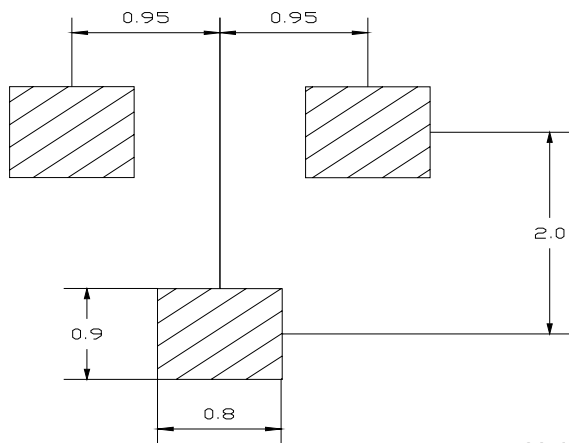
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



Unit : mm

### PACKAGE INFORMATION

| Device | Package | Shipping       |
|--------|---------|----------------|
| BAV99  | SOT-23  | 3000/Tape&Reel |