

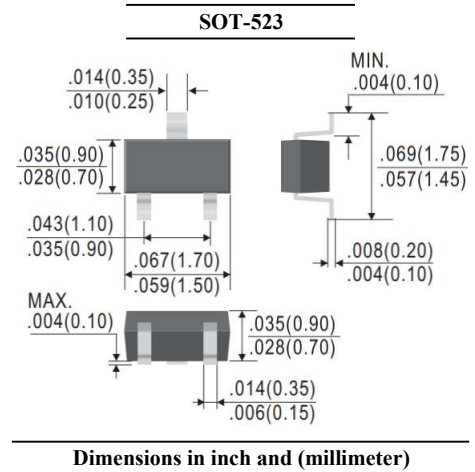
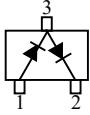


# BAV99TH

## SWITCHING DIODE

### FEATURES

- For high-speed switching applications
- Suffix "H" indicates Halogen-free parts, ex. BAV99TH.



### Maximum Ratings ( $T_A=25\text{ }^\circ\text{C}$ unless otherwise noted)

| Parameter                                 | Symbol            | Value       | Unit             |
|---|-------------------|-------------|------------------|
| Repetitive Peak Reverse Voltage           | $V_{RM}$          | 85          | V                |
| Reverse Voltage                           | $V_R$             | 75          | V                |
| Continuous Forward Current                | Single Diode Load | 150         | mA               |
|   | Double Diode Load | 130         | mA               |
| Repetitive Peak Forward Current           | $I_{FRM}$         | 500         | mA               |
| Non-Repetitive Peak Forward Surge Current | $t=1\mu\text{s}$  | 4.0         | A                |
|   | $t=1\text{ms}$    | 1.0         | A                |
|   | $t=1\text{s}$     | 0.5         | A                |
| Total Power Dissipation                   | $P_{tot}$         | 150         | mW               |
| Junction Temperature                      | $T_J$             | 150         | $^\circ\text{C}$ |
| Storage Temperature Range                 | $T_{stg}$         | -55 to +150 | $^\circ\text{C}$ |

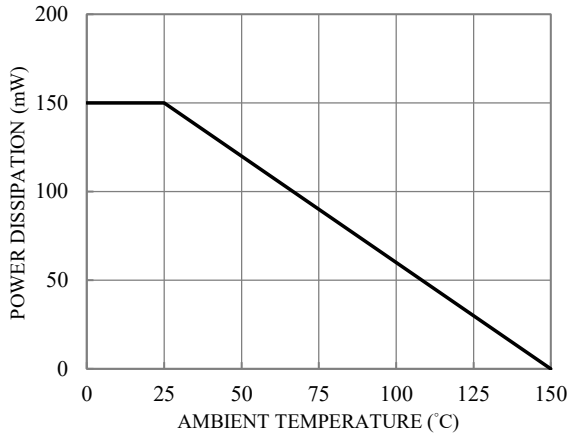
### Electrical Characteristics ( $T_A=25\text{ }^\circ\text{C}$ unless otherwise specified)

| Parameter                 | Conditions   | Symbol      | Min | Max  | Unit          |
|---------------------------|--|-------------|-----|------|---------------|
| Reverse Breakdown Voltage | $I_R=100\mu\text{A}$                                       | $V_{BR(R)}$ | 75  | -    | V             |
| Forward Voltage           | $I_F=1\text{mA}$   | $V_F$       | -   | 715  | mV            |
|                           | $I_F=10\text{mA}$  |             | -   | 855  |               |
|                           | $I_F=50\text{mA}$  |             | -   | 1000 |               |
|                           | $I_F=150\text{mA}$   |             | -   | 1250 |               |
| Reverse Current           | $V_R=25\text{V}$   | $I_R$       | -   | 30   | nA            |
|                           | $V_R=75\text{V}$   |             | -   | 2.5  | $\mu\text{A}$ |
|                           | $V_R=25\text{V}, T_J=150\text{ }^\circ\text{C}$            |             | -   | 30   | $\mu\text{A}$ |
|                           | $V_R=75\text{V}, T_J=150\text{ }^\circ\text{C}$            |             | -   | 50   | $\mu\text{A}$ |
| Diode Capacitance         | $V_R=0\text{V}, f=1\text{MHz}$                             | $C_d$       | -   | 1.5  | pF            |
| Reverse Recovery Time     | $I_F=I_R=10\text{mA}, I_{tr}=0.1\times I_R, R_L=100\Omega$ | $t_{rr}$    | -   | 4    | ns            |

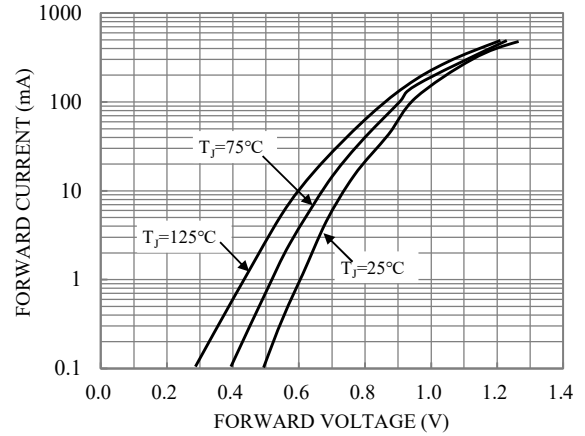


# BAV99TH SWITCHING DIODE

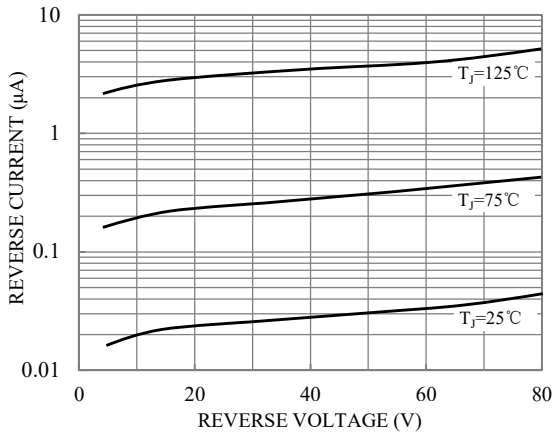
## RATINGS AND CHARACTERISTIC CURVES



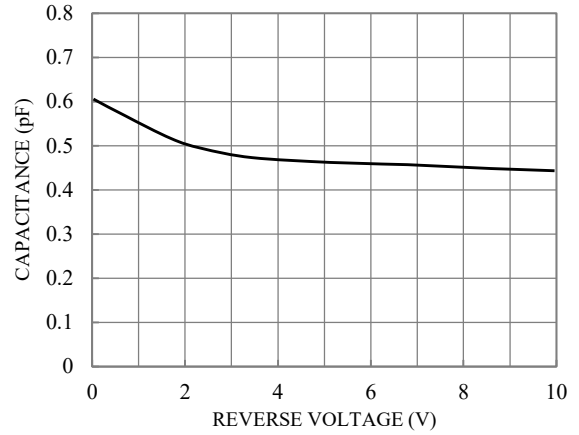
**Fig.1-POWER DERATING CURVE**



**Fig.2-TYPICAL FORWARD CHARACTERISTICS**



**Fig.3-TYPICAL REVERSE CHARACTERISTICS**

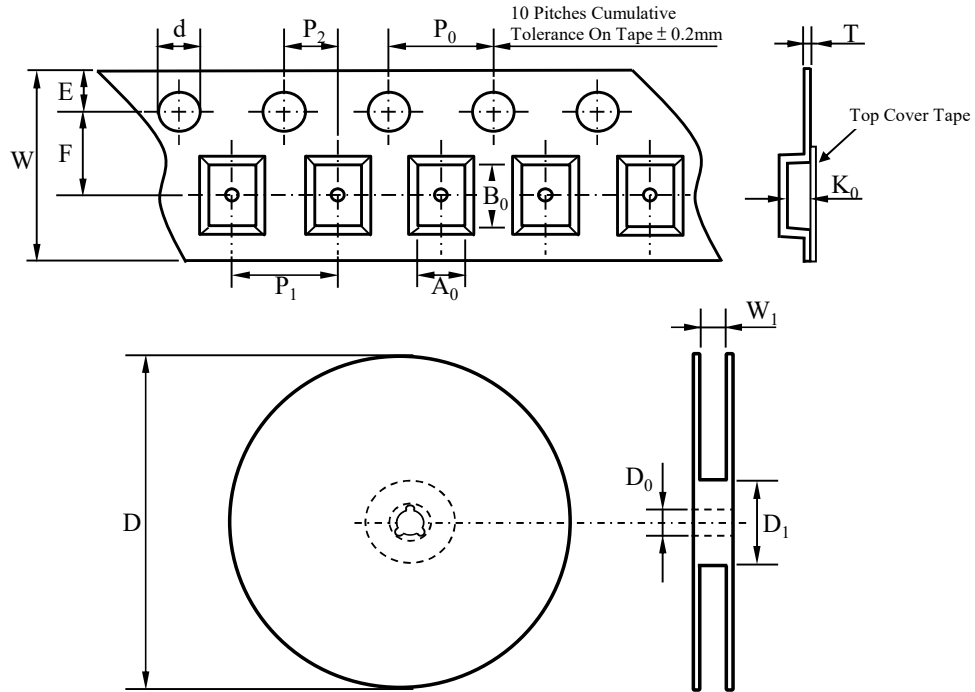


**Fig.4-CAPACITANCE vs. REVERSE VOLTAGE**



# BAV99TH SWITCHING DIODE

## TAPE & REEL SPECIFICATION



| Item                   | Symbol | SOT-523           |
|------------------------|--------|-------------------|
| Carrier width          | $A_0$  | *                 |
| Carrier length         | $B_0$  |                   |
| Carrier depth          | $K_0$  |                   |
| Sprocket hole          | d      | $1.50 \pm 0.10$   |
| Reel outside diameter  | D      | $178.00 \pm 2.00$ |
| Feed hole width        | $D_0$  | $13.00 \pm 0.50$  |
| Reel inner diameter    | $D_1$  | MIN. 50.00        |
| Sprocket hole position | E      | $1.75 \pm 0.10$   |
| Punch hole position    | F      | $3.50 \pm 0.10$   |
| Sprocket hole pitch    | $P_0$  | $4.00 \pm 0.10$   |
| Punch hole pitch       | $P_1$  | $4.00 \pm 0.10$   |
| Embossment center      | $P_2$  | $2.00 \pm 0.10$   |
| Overall tape thickness | T      | MAX. 0.60         |
| Tape width             | W      | $8.00 \pm 0.20$   |
| Reel width             | $W_1$  | MAX. 14.90        |

Note \*:  $A_0$ ,  $B_0$ , and  $K_0$  are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm max.

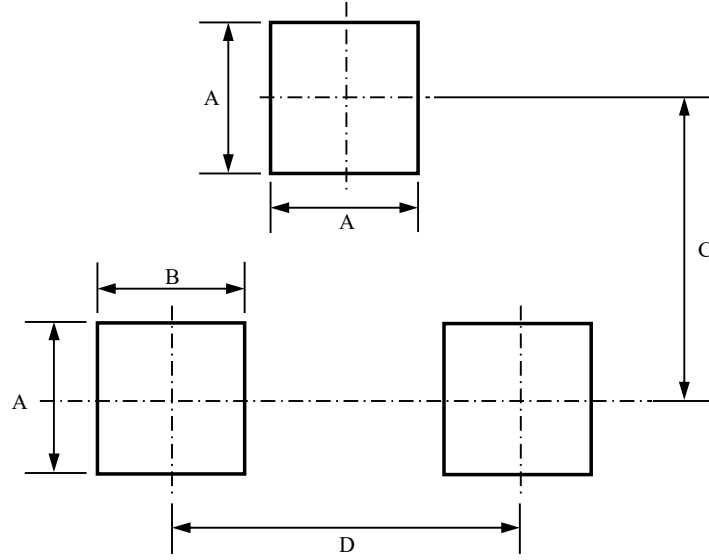
## ORDER INFORMATION

| Part Number | Marking Code | Reel Size | Quantity |
|-------------|--------------|-----------|----------|
| BAV99TH     | A7           | 7"        | 4,000    |



# BAV99TH SWITCHING DIODE

## SUGGESTED SOLDER PAD LAYOUT



Unit :mm

| PACKAGE | A    | B    | C    | D    |
|---------|------|------|------|------|
| SOT-523 | 0.70 | 0.60 | 1.30 | 1.00 |