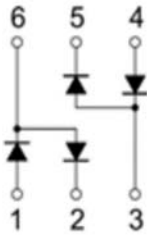


## Small-Signal Fast Switching Diodes



**SOT-363**



### Features

- Moisture sensitivity level 1
- Reverse voltage: 75V
- Average forward current : 150mA

### Application

- High frequency and low voltage rectifier

### Mechanical data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

| Parameter   | Symbol    | Unit             | Value       |
|---|-----------|------------------|-------------|
| Device marking code   |           |                  | KJG         |
| Repetitive peak reverse voltage   | $V_{RRM}$ | V                | 75          |
| Forward current   | $I_F$     | mA               | 150         |
| Non-repetitive Surge peak forward current @ $t=8.3\text{ms}$ half-sine wave | $I_{FSM}$ | A                | 1           |
| Non-repetitive Surge peak forward current @ $t=1\text{ms}$ square wave      |           |                  | 1.5         |
| Power dissipation   | $P_D$     | mW               | 200         |
| Junction temperature  | $T_J$     | $^\circ\text{C}$ | -55 to +150 |
| Storage temperature   | $T_{STG}$ | $^\circ\text{C}$ | -55 to +150 |



# BAV99DW

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## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| Parameter               | Symbol          | Unit | Conditions  | Min | Typ | Max   |
|-------------------------|-----------------|------|---|-----|-----|-------|
| Reverse voltage         | V <sub>R</sub>  | V    | I <sub>R</sub> =0.1mA   | 75  |     |       |
| Forward voltage         | V <sub>F1</sub> | V    | I <sub>F</sub> =1mA   |     |     | 0.715 |
|                         | V <sub>F2</sub> | V    | I <sub>F</sub> =10mA  |     |     | 0.855 |
|                         | V <sub>F3</sub> | V    | I <sub>F</sub> =50mA  |     |     | 1     |
|                         | V <sub>F4</sub> | V    | I <sub>F</sub> =150mA   |     |     | 1.25  |
| Reverse leakage current | I <sub>R1</sub> | uA   | V <sub>R</sub> =20V   |     |     | 0.025 |
|                         | I <sub>R2</sub> | uA   | V <sub>R</sub> =75V   |     |     | 2.5   |
| Junction capacitance    | C <sub>j</sub>  | pF   | V <sub>R</sub> =0V, f=1MHz  |     | 2   |       |
| Reverse recovery time   | T <sub>rr</sub> | ns   | I <sub>F</sub> =10mA, I <sub>rr</sub> =0.1I <sub>R</sub> , R <sub>L</sub> =100Ω |     | 4   |       |

## ■ Thermal Characteristics

| Parameter                               | Symbol                           | Unit | Value |
|---|----------------------------------|------|-------|
| Thermal resistance, junction-to-ambient | R <sub>θJ-A</sub> <sup>(1)</sup> | °C/W | 625   |
| Thermal resistance, junction-to-case    | R <sub>θJ-C</sub> <sup>(1)</sup> | °C/W | 500   |

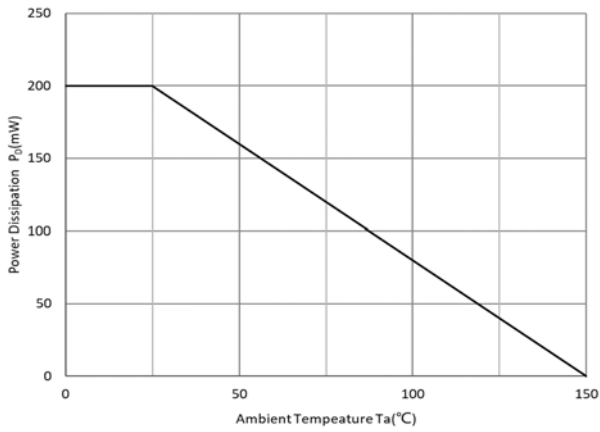
### Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint

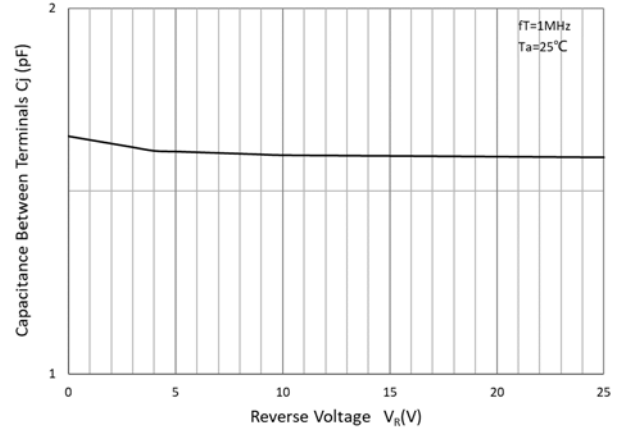


## ■ Characteristics

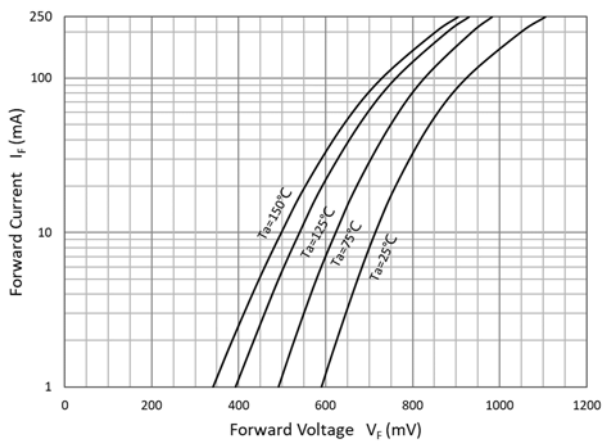
**Fig 1: P<sub>D</sub>-T<sub>a</sub> Curve**



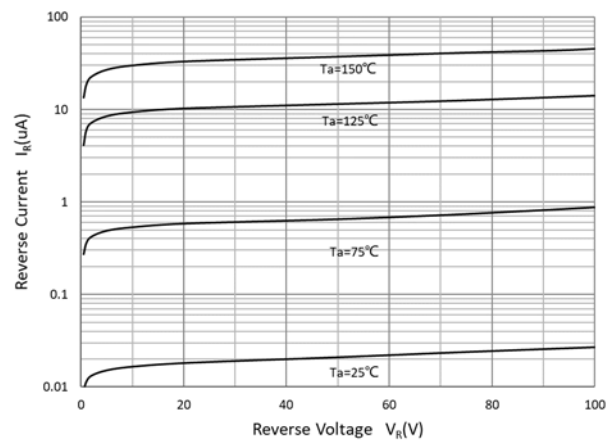
**Fig 2: Capacitance Capability**



**Fig 3: Typical Forward Characteristics**



**Fig 4: Typical Reverse Characteristics**





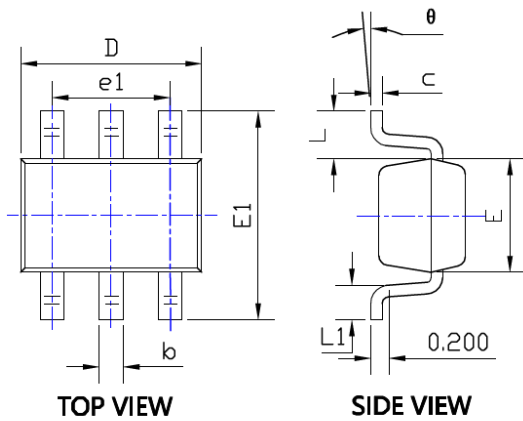
# BAV99DW

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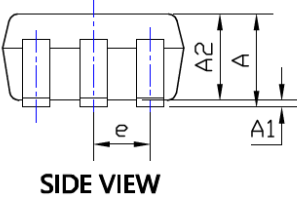
## Ordering Information

| Preferred P/N | Packing code | Unit weight(g)    | Minimum package(pcs) | Inner box quantity(pcs) | Outer carton quantity (pcs) | Delivery mode |
|---------------|--------------|-------------------|----------------------|-------------------------|-----------------------------|---------------|
| BAV99DW       | F2           | Approximate 0.009 | 3000                 | 30000                   | 120000                      | 7" reel       |
| BAV99DW       | F3           | Approximate 0.009 | 10000                | /                       | 210000                      | 7" reel       |

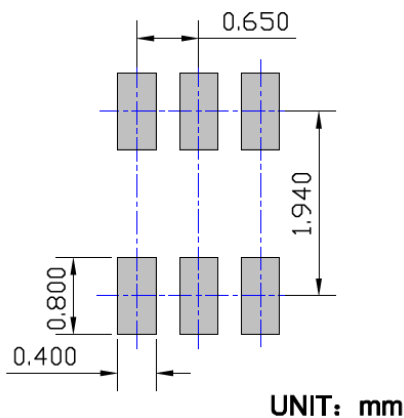
## Outline Dimensions



| SYMBOL   | DIMENSIONS |       |            |       |
|----------|------------|-------|------------|-------|
|          | INCHES     |       | Millimeter |       |
|          | MIN.       | MAX.  | MIN.       | MAX.  |
| A        | 0.035      | 0.043 | 0.900      | 1.100 |
| A1       | 0.000      | 0.004 | 0.000      | 0.100 |
| A2       | 0.035      | 0.039 | 0.900      | 1.000 |
| b        | 0.006      | 0.014 | 0.150      | 0.350 |
| c        | 0.004      | 0.010 | 0.100      | 0.250 |
| D        | 0.071      | 0.087 | 1.800      | 2.200 |
| E        | 0.045      | 0.053 | 1.150      | 1.350 |
| E1       | 0.085      | 0.096 | 2.150      | 2.450 |
| e        | 0.026TYP   |       | 0.650TYP   |       |
| e1       | 0.047      | 0.055 | 1.200      | 1.400 |
| L        | 0.021REF   |       | 0.525REF   |       |
| L1       | 0.010      | 0.018 | 0.260      | 0.460 |
| $\theta$ | 0°         | 8°    | 0°         | 8°    |



## Suggested Pad Layout





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