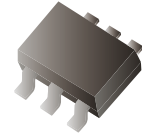


BAV199DW-HF

RoHS Device
Halogen Free



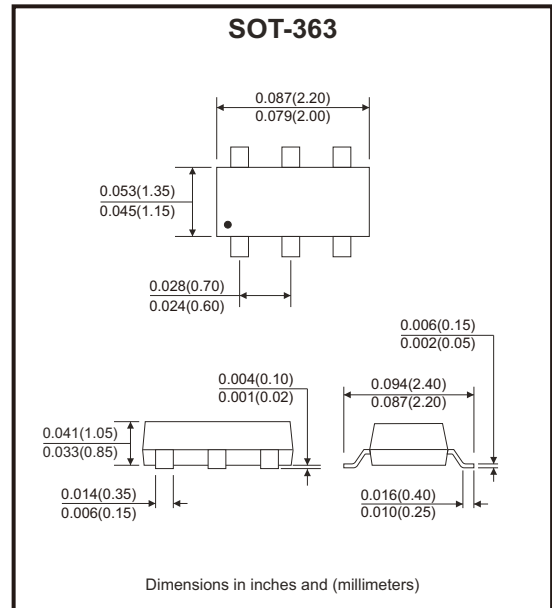
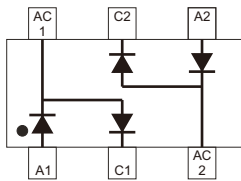
Features

- Fast switching speed.
- Very low leakage current.
- Ultra-small surface mount package.

Mechanical data

- Case: SOT-363, molded plastic.
- Mounting position: Any.

Circuit Diagram



Maximum Ratings (at TA=25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|-----------------|------------------------------|------|
| Peak repetitive reverse voltage | V_{RRM} | 85 | V |
| Working peak reverse voltage | V_{RWM} | 85 | V |
| DC reverse voltage | V_R | 85 | V |
| RMS reverse voltage | V_{RMS} | 60 | V |
| Repetitive peak forward current | I_{FRM} | 500 | mA |
| Non-repetitive peak forward surge current @ t = 8.3ms | I_{FSM} | 1 | A |
| Forward continuous current | I_{FM} | 160 140 | mA |
| | | Single diode Double diode | |
| Power dissipation | P_D | 200 | mW |
| Thermal resistance junction to ambient | $R_{\theta JA}$ | 625 | °C/W |
| Junction and storage temperature | T_J, T_{STG} | -65 to +150 | °C |

Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Unit |
|---------------------------|--|------------|------|------|------|---------|
| Reverse breakdown voltage | $I_R = 100\mu A$ | $V_{(BR)}$ | 85 | | | V |
| Forward voltage | $I_F = 1mA$ | V_F | | | 0.9 | V |
| | $I_F = 10mA$ | | | | 1.0 | |
| | $I_F = 50mA$ | | | | 1.1 | |
| | $I_F = 150mA$ | | | | 1.25 | |
| Reverse current | $V_R = 75V$ | I_R | | | 5 | nA |
| | $V_R = 75V, T_J = 150^\circ C$ | | | | 80 | |
| Junction capacitance | $V_R = 0V, f = 1MHz$ | C_J | | | 2 | pF |
| Reverse recovery time | $I_F = I_R = 10mA, I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ | t_{rr} | | | 3 | μs |

Typical Rating and Characteristic Curves (BAV199DW-HF)

Fig.1 - Power Derating Curve

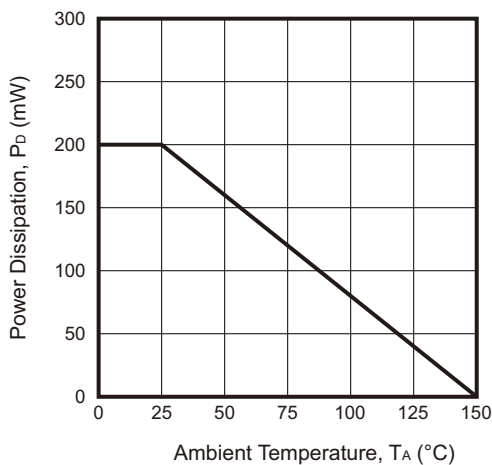


Fig.2 - Current Derating Curve

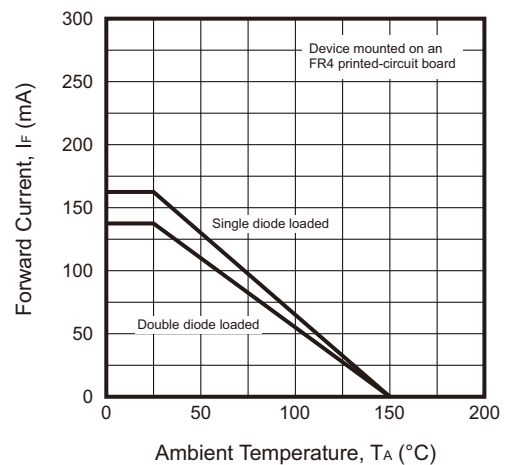


Fig.3 - Typical Forward Characteristics

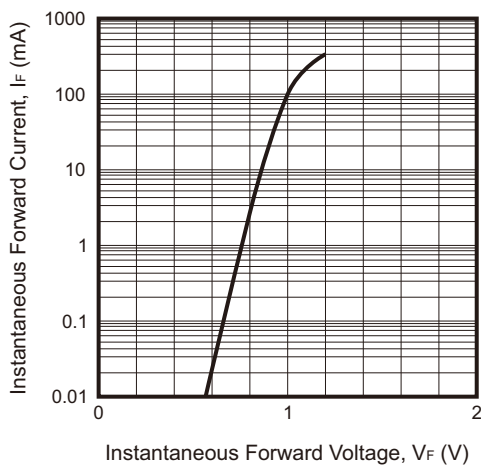
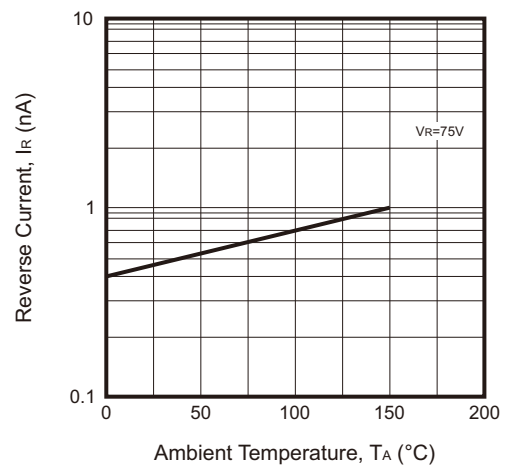
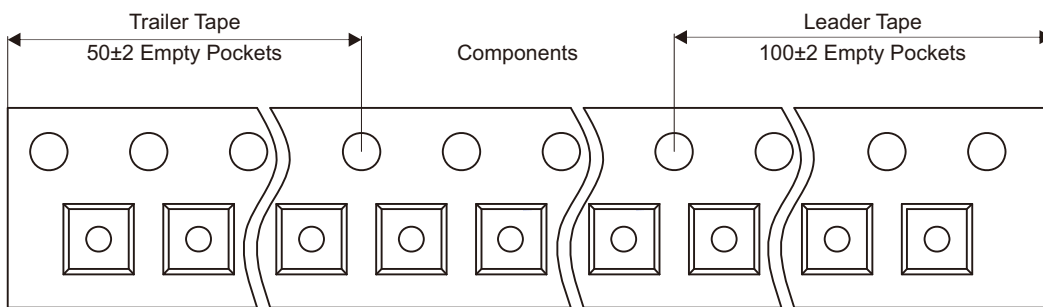
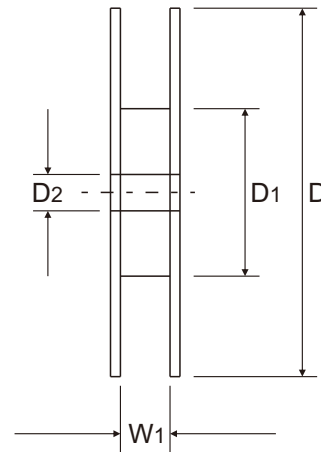
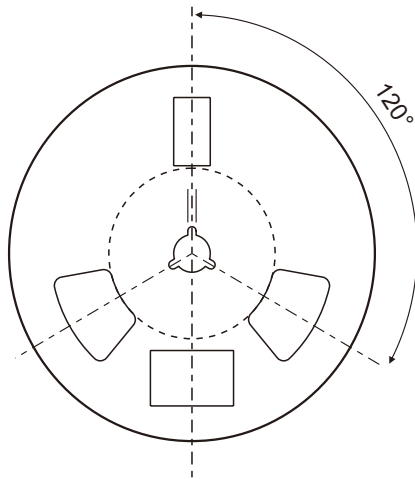
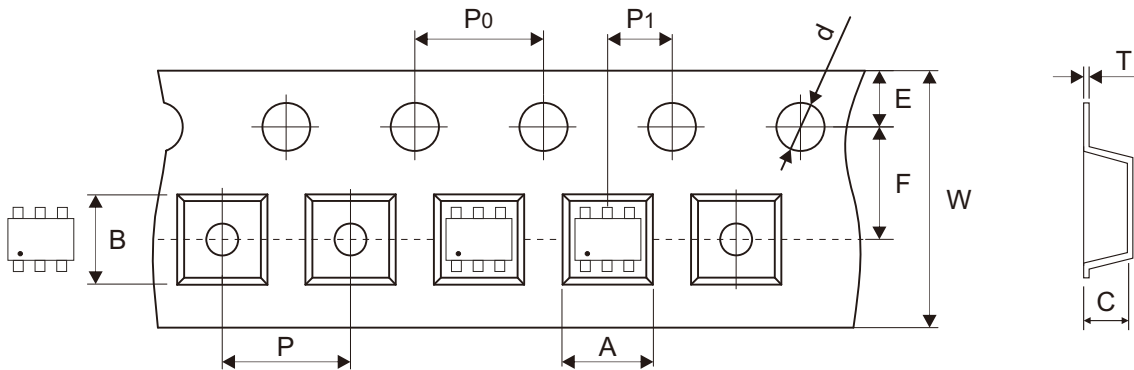


Fig.4 - Typical Reverse Characteristics



Reel Taping Specification

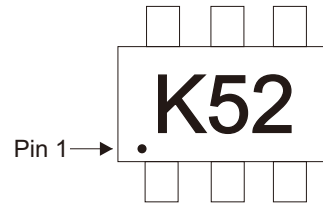


| SOT-363 | SYMBOL | A | B | C | d | D | D1 | D2 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | (mm) | 2.40 ± 0.10 | 2.50 ± 0.10 | 1.20 ± 0.10 | 1.50 ± 0.10 | 178.00 ± 1.00 | 54.00 ± 0.50 | 13.00 ± 0.50 |
| | (inch) | 0.094 ± 0.004 | 0.098 ± 0.004 | 0.047 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.039 | 2.126 ± 0.020 | 0.512 ± 0.020 |

| SOT-363 | SYMBOL | E | F | P | P0 | P1 | T | W | W1 |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------|---------------|
| | (mm) | 1.75 ± 0.10 | 3.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 0.20 ± 0.02 | 8.00 + 0.30 - 0.10 | 9.50 ± 1.00 |
| | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.008 ± 0.001 | 0.315 + 0.012 - 0.004 | 0.374 ± 0.039 |

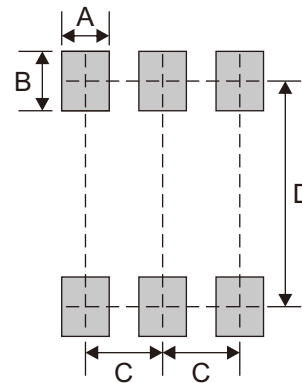
Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| BAV199DW-HF | K52 |



Suggested P.C.B. PAD Layout

| SIZE | SOT-363 | |
|------|---------|--------|
| | (mm) | (inch) |
| A | 0.40 | 0.016 |
| B | 0.50 | 0.020 |
| C | 0.65 | 0.026 |
| D | 1.90 | 0.075 |



Standard Packaging

| Case Type | REEL PACK | |
|-----------|--------------|------------------|
| | REEL (pcs) | Reel Size (inch) |
| SOT-363 | 3,000 | 7 |