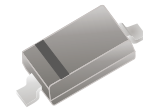


## BAV19W-HF/20W-HF

RoHS Device  
Halogen Free



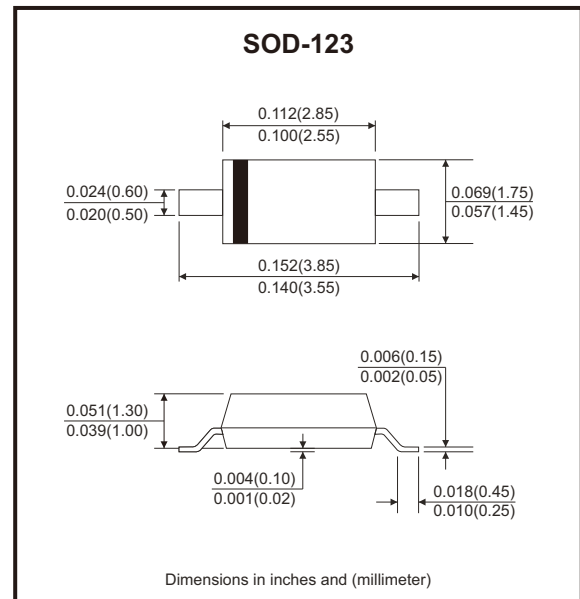
### Features

- Fast switching speed.
- Surface mount package ideally suited for automatic insertion.
- For general purpose switching applications.

### Mechanical data

- Case: Molded plastic, SOD-123.
- Polarity: Cathode line denotes the cathode end.

### Circuit Diagram



### Maximum Rating (at Ta=25°C unless otherwise noted)

| Parameter                                   | Symbol          | BAV19W-HF   | BAV20W-HF | Unit |
|---------------------------------------------|-----------------|-------------|-----------|------|
| Non-repetitive peak reverse voltage         | $V_{RM}$        | 120         | 200       | V    |
| Peak repetitive reverse voltage             | $V_{RRM}$       | 100         | 150       | V    |
| Working peak reverse voltage                | $V_{RWM}$       |             |           |      |
| DC reverse voltage                          | $V_R$           |             |           |      |
| RMS reverse voltage                         | $V_{R(RMS)}$    | 71          | 106       | V    |
| Average rectified output current            | $I_O$           | 200         |           | mA   |
| Non-repetitive peak forward surge current   | $I_{FSM}$       | 2.5         | 0.5       | A    |
|                                             |                 | 0.5         |           |      |
| 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   |

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

| Parameter                                           | Symbol      | Conditions                                                   | Min        | Max         | Unit    |
|-----------------------------------------------------|-------------|--------------------------------------------------------------|------------|-------------|---------|
| Reverse breakdown voltage<br>BAV19W-HF<br>BAV20W-HF | $V_{(BR)R}$ | $I_R = 100\mu A$                                             | 120<br>200 |             | V       |
| Forward voltage                                     | $V_F$       | $I_F = 100mA$<br>$I_F = 200mA$                               |            | 1.0<br>1.25 | V       |
| Reverse current<br>BAV19W-HF<br>BAV20W-HF           | $I_R$       | $V_R = 100V$<br>$V_R = 150V$                                 |            | 0.1         | $\mu A$ |
| Junction capacitance                                | $C_J$       | $V_R = 0V, f = 1MHz$                                         |            | 5.0         | pF      |
| Reverse recovery time                               | $t_{rr}$    | $I_F = I_F = 30mA, I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ |            | 50          | nS      |

## Rating and Characteristic Curves (BAV19W-HF/20W-HF)

Fig.1 - Forward Characteristics

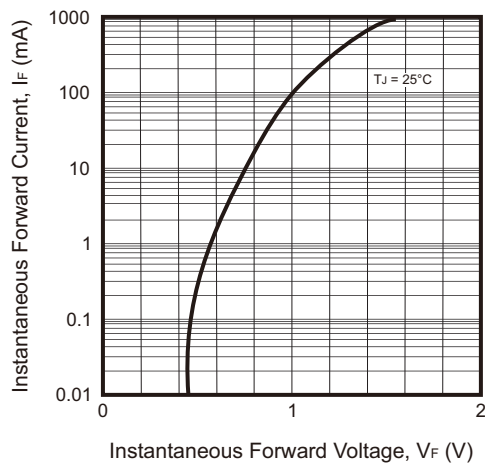
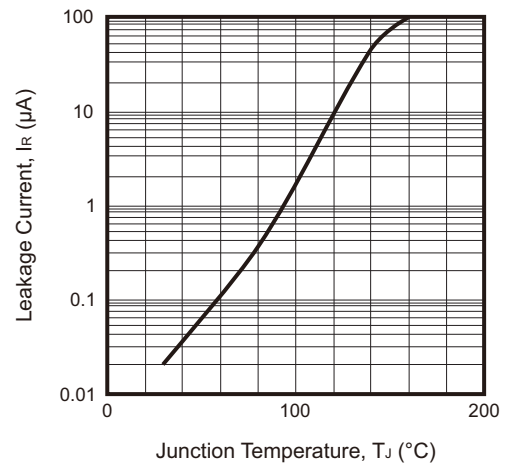
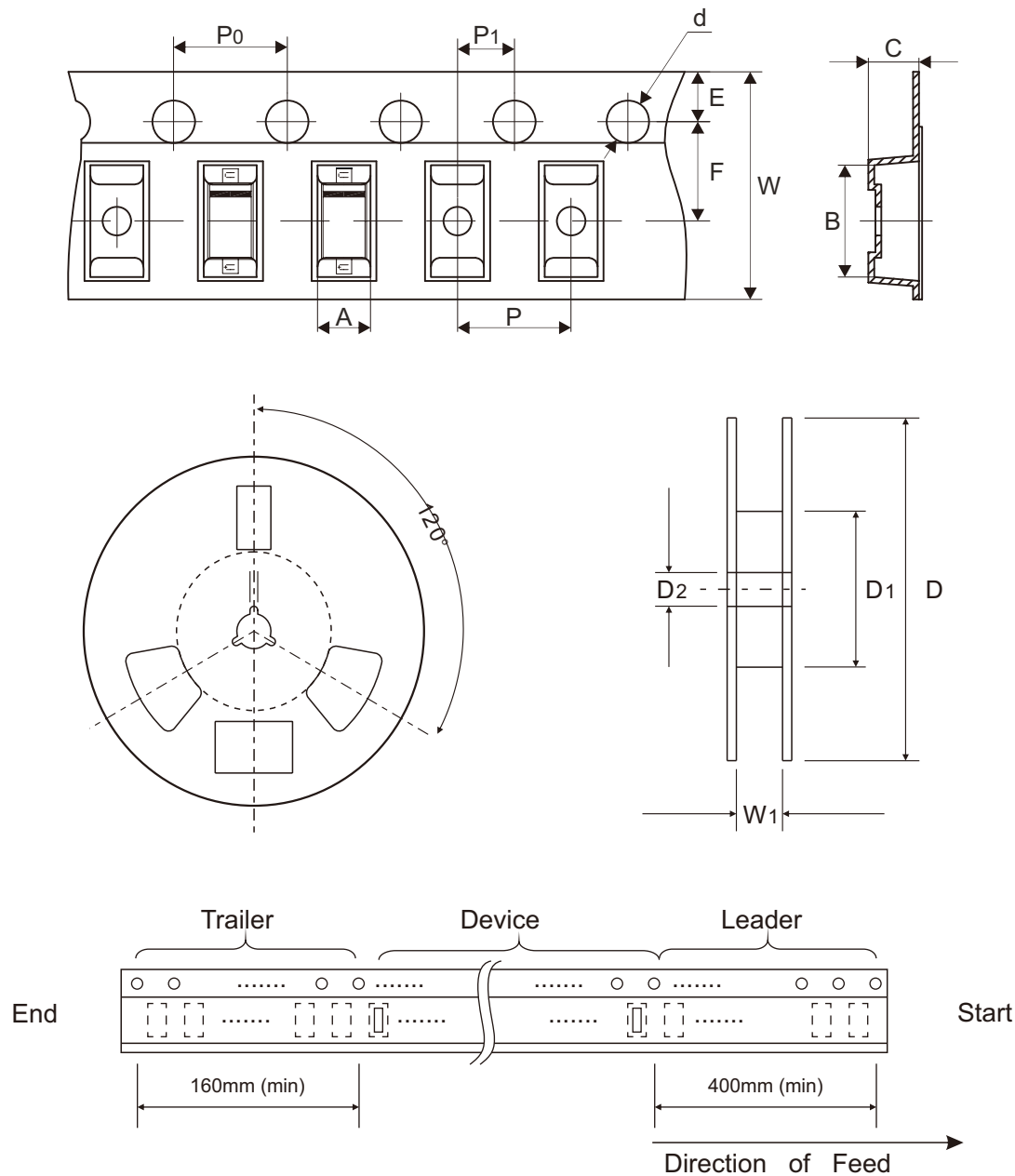


Fig.2 - Leakage Current vs Junction Temperature



Reel Taping Specification



| SOD-123 | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1                | D2                |
|---------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|         | (mm)   | $1.85 \pm 0.10$   | $3.94 \pm 0.10$   | $1.57 \pm 0.10$   | $1.55 \pm 0.05$   | $178.00 \pm 1.00$ | $54.00 \pm 0.50$  | $13.00 \pm 0.50$  |
|         | (inch) | $0.073 \pm 0.004$ | $0.155 \pm 0.004$ | $0.062 \pm 0.004$ | $0.061 \pm 0.002$ | $7.008 \pm 0.039$ | $2.126 \pm 0.020$ | $0.512 \pm 0.020$ |

| SOD-123 | SYMBOL | E                 | F                 | P                 | P1                | P0                | W                       | W1                |
|---------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------------|-------------------|
|         | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.05$   | $4.00 \pm 0.10$   | $2.00 \pm 0.05$   | $4.00 \pm 0.10$   | $8.00 + 0.30 - 0.10$    | $9.50 \pm 1.00$   |
|         | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.002$ | $0.157 \pm 0.004$ | $0.079 \pm 0.002$ | $0.157 \pm 0.004$ | $0.315 + 0.012 - 0.004$ | $0.374 \pm 0.039$ |

Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| BAV19W-HF   | A8           |
| BAV20W-HF   | T2           |

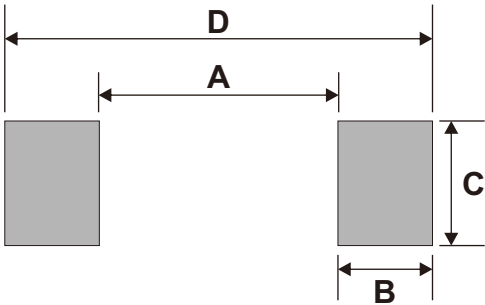


■ = Cathode band

xx = Product type marking code

Suggested P.C.B. PAD Layout

| SIZE | SOD-123 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 2.36    | 0.093  |
| B    | 0.91    | 0.036  |
| C    | 1.22    | 0.048  |
| D    | 4.19    | 0.165  |



Note: 1.The pad layout is for reference purposes only.

Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOD-123   | 3,000           | 7                   |

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