

200mA,120-250V Switching Diode

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

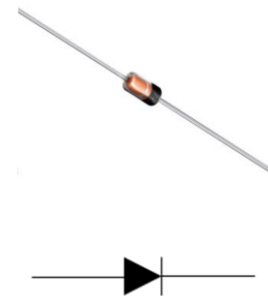
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: DO-35
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 109 ± 4 mg (approximately)

| KEY PARAMETERS | | |
|----------------------------|------------|------|
| PARAMETER | VALUE | UNIT |
| $I_{F(AV)}$ | 100-200 | mA |
| V_{RRM} | 120-250 | V |
| I_{FSM} at $PW = 1\mu s$ | 4 | A |
| V_F at $I_F=100mA$ | 1.00 | V |
| T_{JMAX} | 175 | °C |
| Package | DO-35 | |
| Configuration | Single Die | |



| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise noted) | | | | | | |
|---|---------------------------------------|------------|-------------|-------|-------|------|
| PARAMETER | | SYMBOL | PART NUMBER | | | UNIT |
| Marking code on the device | | | BAV19 | BAV20 | BAV21 | |
| Reverse Breakdown Voltage | | $V_{(BR)}$ | 120 | 200 | 250 | V |
| Peak Forward Surge Current | Pulse Width = 1 s , Square Wave | I_{FSM} | 1 | | | A |
| | Pulse Width = 1 μs , Square Wave | | 4 | | | |
| Junction temperature range | | T_J | -55 ~ 175 | | | °C |
| Storage temperature range | | T_{STG} | -55 ~ 175 | | | °C |

| THERMAL PERFORMANCE | | | |
|--|-----------------|-------|------|
| PARAMETER | SYMBOL | LIMIT | UNIT |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 300 | °C/W |

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|---|---------------|------------|------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
| Forward voltage per diode ⁽¹⁾ | $I_F = 100\text{mA}$, $T_J = 25^\circ\text{C}$ | V_F | -- | 1.00 | V |
| | $I_F = 200\text{mA}$, $T_J = 25^\circ\text{C}$ | | -- | 1.25 | V |
| Reverse current @ rated V_R per diode ⁽²⁾ | BAV19 $V_R = 100\text{V}$ | I_R | -- | 100 | nA |
| | BAV20 $V_R = 150\text{V}$ | | | | |
| | BAV21 $V_R = 200\text{V}$ | | | | |
| Junction capacitance | 1 MHz, $V_R = 0\text{V}$ | C_J | -- | 5 | μF |

Notes:

1. Pulse test with $PW = 0.3\text{ ms}$
2. Pulse test with $PW = 30\text{ ms}$

| ORDERING INFORMATION | | | | |
|-----------------------------|---------------------|----------------------------|----------------|-----------------|
| PART NO. | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
| BAVXX (Note 1&2) | R0 | G | DO-35 | 10K / 14" Reel |
| | A0 | | | 5K / Box (Ammo) |

Notes:

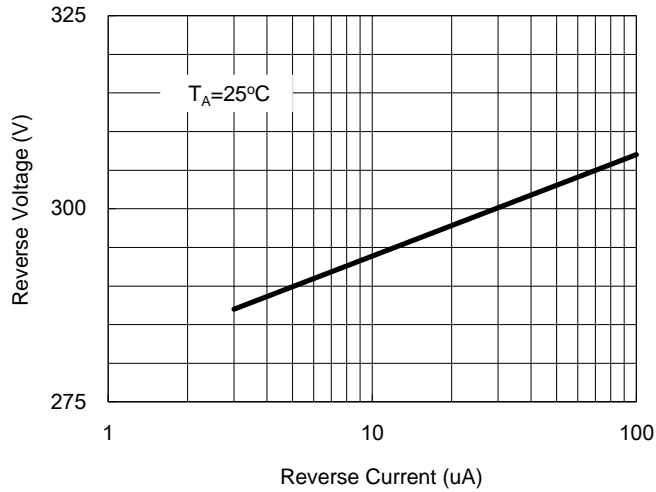
1. "xx" is Device Code from "19" to "21"
2. Whole series with green compound

| EXAMPLE | | | | |
|--------------------|-----------------|---------------------|----------------------------|--------------------|
| EXAMPLE P/N | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| BAV19 R0G | BAV19 | R0 | G | Green compound |

CHARACTERISTICS CURVES

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

Reverse Voltage VS. Reverse Current



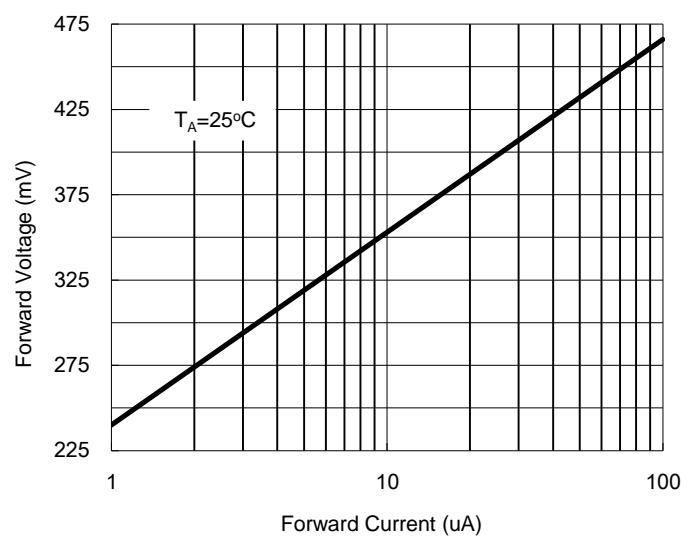
Reverse Current VS. Reverse Voltage



Reverse Current VS. Reverse Voltage



Forward Voltage VS. Forward Current



CHARACTERISTICS CURVES

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

Forward Volatage VS. Forward Current



Forward Volatage VS. Forward Current

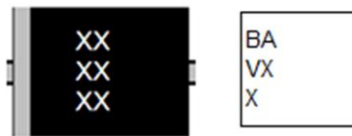


PACKAGE OUTLINE DIMENSION



| DIM. | Unit(mm) | | Unit(inch) | |
|------|----------|-------|------------|-------|
| | Min | Max | Min | Max |
| A | 0.34 | 0.60 | 0.013 | 0.024 |
| B | 2.90 | 5.08 | 0.114 | 0.200 |
| C | 25.40 | 38.10 | 1.000 | 1.500 |
| D | 1.30 | 2.28 | 0.051 | 0.090 |

MARKING DIAGRAM



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