

Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

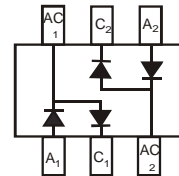
Mechanical Data

- Case: SOT363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Annealed over Alloy 42 Leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208 ②
- Polarity: See Diagram
- Weight: 0.008 grams (Approximate)



Top View

SOT363

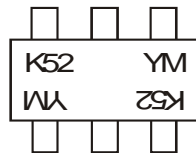

 Top View
 Internal Schematic

Ordering Information (Note 4)

| Part Number | Compliance | Case | Packaging |
|--------------|------------|--------|------------------|
| BAV199DW-7-F | Standard | SOT363 | 3000/Tape & Reel |

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



K52 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: C = 2015)
 M = Month (ex: 9 = September)

Date Code Key

| Year | 2006 | 2007 | 2008 | ... | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|------|------|------|------|-----|------|------|------|------|------|------|
| Code | T | U | V | ... | C | D | E | F | G | H |

| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

| Characteristic | Symbol | Value | Unit |
|-------------------------------------------|---------------------|-------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 85 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _R | | |
| RMS Reverse Voltage | V _{R(RMS)} | 60 | V |
| Forward Continuous Current (Note 5) | I _{FM} | 160 | mA |
| Single Diode | | 140 | |
| Double Diode | | | |
| Repetitive Peak Forward Current (Note 5) | I _{FRM} | 500 | mA |
| Non-Repetitive Peak Forward Surge Current | I _{FSM} | 4.0 | A |
| @ t = 1.0μs | | 1.0 | |
| @ t = 1.0ms | | 0.5 | |
| @ t = 1.0s | | | |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|-----------------------------------------------------|-----------------------------------|-------------|------|
| Power Dissipation (Note 5) | P _D | 200 | mW |
| Thermal Resistance Junction to Ambient Air (Note 5) | R _{θJA} | 625 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|-----|----------------------------|------|-----------------------------------------------------------------------------------------------------------|
| Reverse Breakdown Voltage (Note 6) | V _{(BR)R} | 85 | — | — | V | I _R = 100μA |
| Forward Voltage | V _F | — | — | 0.90 1.0 1.1 1.25 | V | I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA |
| Leakage Current (Note 6) | I _R | — | — | 5.0 80 | nA | V _R = 75V V _R = 75V, T _J = +150°C |
| Total Capacitance | C _T | — | 1.5 | — | pF | V _R = 0, f = 1.0MHz |
| Reverse Recovery Time | t _{RR} | — | — | 3.0 | μs | I _F = I _R = 10mA, I _{RR} = 0.1 x I _R , R _L = 100Ω |

Notes: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.
 6. Short duration pulse test used to minimize self-heating effect.

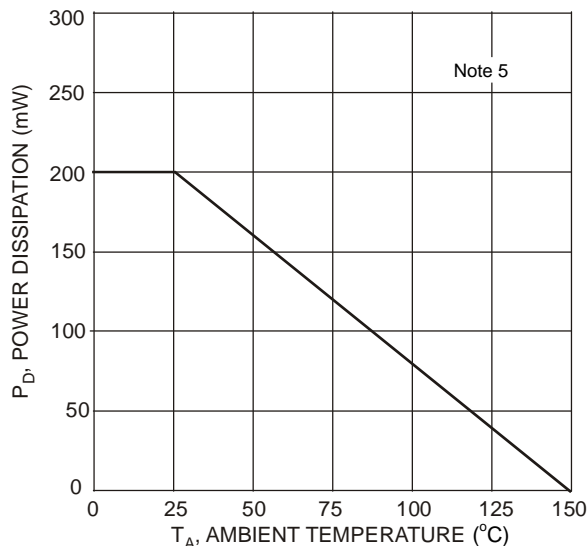


Fig. 1 Power Derating Curve, Total Package

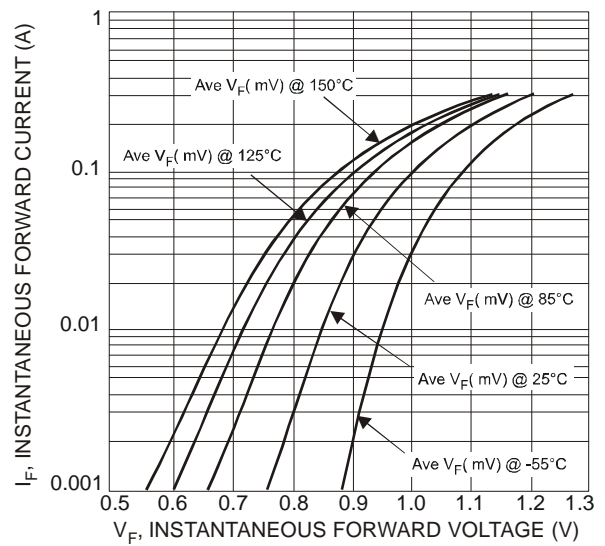


Fig. 2 Typical Forward Characteristics, Per Element

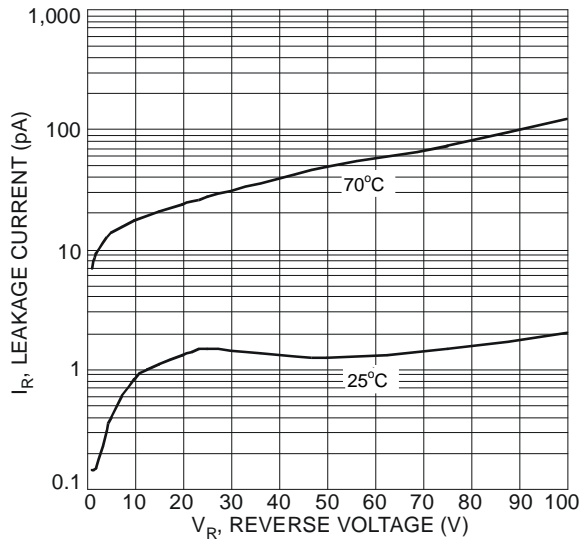


Fig. 3 Typical Reverse Characteristics, Per Element

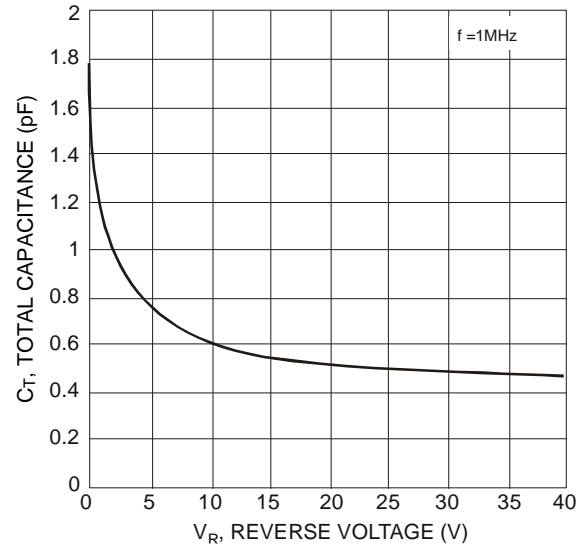


Fig. 4 Typical Total Capacitance

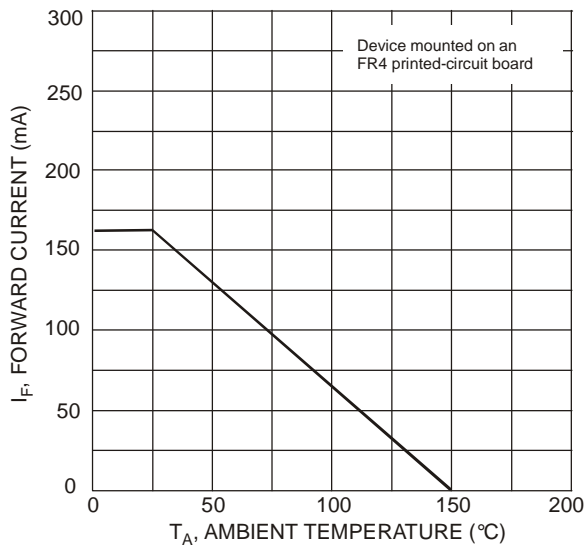
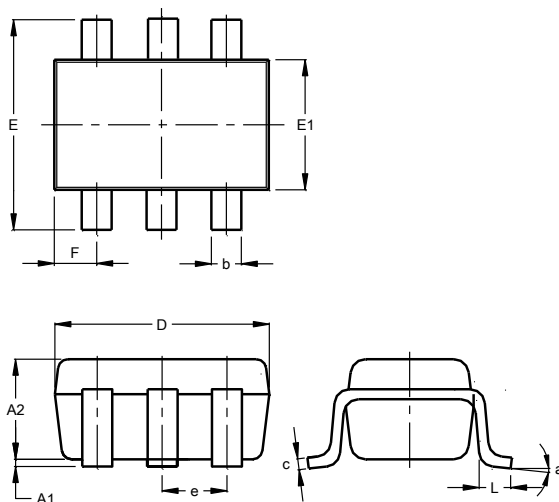


Fig. 5 Current Derating Curve, Per Element

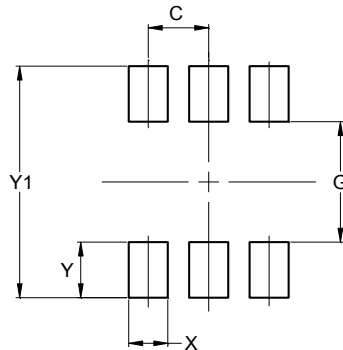
Package Outline Dimensions

 Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.


| SOT363 | | | |
|----------------------|-----------|------|-------|
| Dim | Min | Max | Typ |
| A1 | 0.00 | 0.10 | 0.05 |
| A2 | 0.90 | 1.00 | 1.00 |
| b | 0.10 | 0.30 | 0.25 |
| c | 0.10 | 0.22 | 0.11 |
| D | 1.80 | 2.20 | 2.15 |
| E | 2.00 | 2.20 | 2.10 |
| E1 | 1.15 | 1.35 | 1.30 |
| e | 0.650 BSC | | |
| F | 0.40 | 0.45 | 0.425 |
| L | 0.25 | 0.40 | 0.30 |
| a | 8° | | |
| All Dimensions in mm | | | |

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



| Dimensions | Value (in mm) |
|------------|------------------|
| C | 0.650 |
| G | 1.300 |
| X | 0.420 |
| Y | 0.600 |
| Y1 | 2.500 |

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