

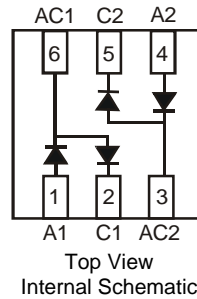
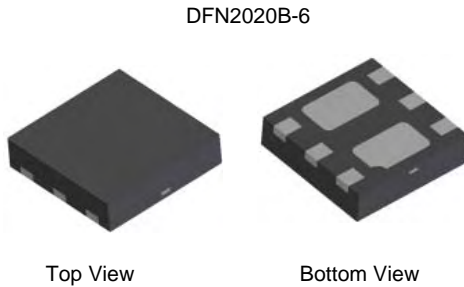
NEW PRODUCT

Features

- Fast Switching Speed
- Low Profile DFN Package (0.575mm typical thickness) is Much Thinner than Conventional SOT Style Packages
- Thermally Efficient DFN Package Features 500mW Power Dissipation Capability in a Compact 2.0 * 2.0mm Footprint
- Two "BAV99" Circuits In One Package
- **Lead Free/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

Mechanical Data

- Case: DFN2020B-6
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: NiPdAu over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.006 grams (approximate)



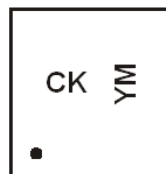
Pin 1 = A1 (anode 1, right below the notch indication)
 Pin 2 = C1 (cathode 1)
 Pin 3 = AC2 (internally connected to rectangular pad)
 Pin 4 = A2 (anode 2)
 Pin 5 = C2 (cathode 2)
 Pin 6 = AC1 (internally connected to the pad with a notch)

Ordering Information (Note 3)

| Part Number | Case | Packaging |
|-------------|------------|------------------|
| BAV99BRLP-7 | DFN2020B-6 | 3000/Tape & Reel |

- Notes:
1. No purposefully added lead.
 2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



CK = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: Y = 2011)
 M = Month (ex: 9 = September)

Date Code Key

| Year | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|
| Code | Y | Z | A | B | C | D | E |

| 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 |
|---|---------------------|-------------|------|
| Non-Repetitive Peak Reverse Voltage | V _{RM} | 100 | V |
| Peak Repetitive Reverse Voltage | V _{R(RM)} | 75 | V |
| Working Peak Reverse Voltage | V _{R(WM)} | | |
| DC Blocking Voltage | V _R | | |
| RMS Reverse Voltage | V _{R(RMS)} | 53 | V |
| Forward Continuous Current (Note 4) | I _{FM} | 300 | mA |
| Non-Repetitive Peak Forward Surge Current | I _{FSM} | @ t = 1.0μs | 3.0 |
| | | @ t = 1.0ms | 2.0 |
| | | @ t = 1.0s | 0.5 |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Power Dissipation (Note 4) | P _D | 500 | mW |
| Thermal Resistance Junction to Ambient Air (Note 4) | R _{θJA} | 250 | °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 | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|-------|------|---|
| Reverse Breakdown Voltage (Note 5) | V _{(BR)R} | 75 | — | V | I _R = 2.5μA |
| Forward Voltage | V _F | — | 0.715 | V | I _F = 1.0mA |
| | | | 0.855 | | I _F = 10mA |
| | | | 1.0 | | I _F = 50mA |
| | | | 1.25 | | I _F = 150mA |
| Reverse Current (Note 5) | I _R | — | 2.5 | μA | V _R = 75V |
| | | | 50 | μA | V _R = 75V, T _J = 150°C |
| | | | 30 | μA | V _R = 20V, T _J = 150°C |
| | | | 25 | nA | V _R = 20V |
| Total Capacitance | C _T | — | 2.0 | pF | V _R = 0, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | — | 4.0 | ns | I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω |

Notes: 4. Device mounted on FR-4 PCB, on minimum recommended, 2oz copper pad layout.
5. Short duration pulse test used to minimize self-heating effect.

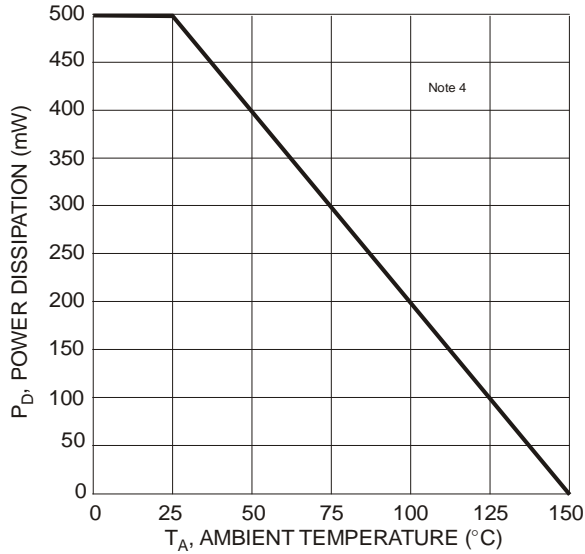


Fig. 1 Power Derating Curve, Total Package

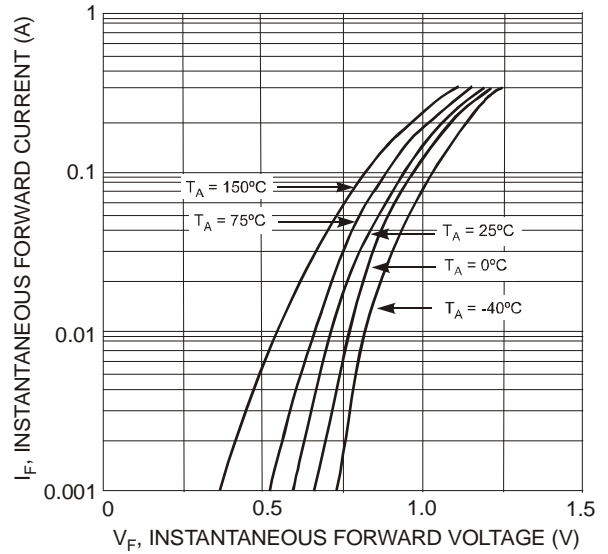


Fig. 2 Typical Forward Characteristics, Per Element

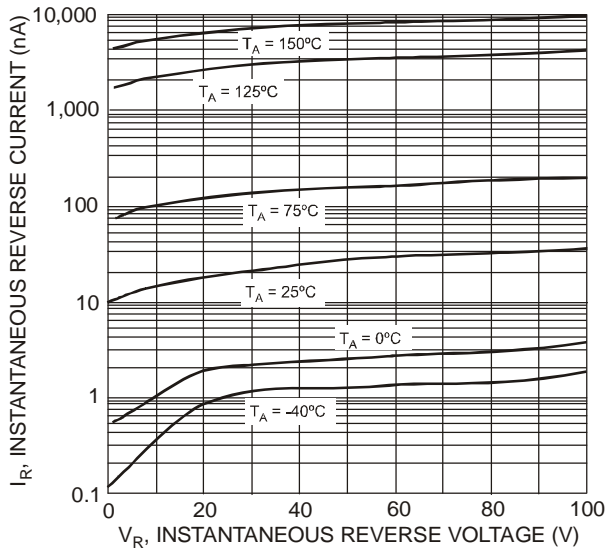


Fig. 3 Typical Reverse Characteristics, Per Element

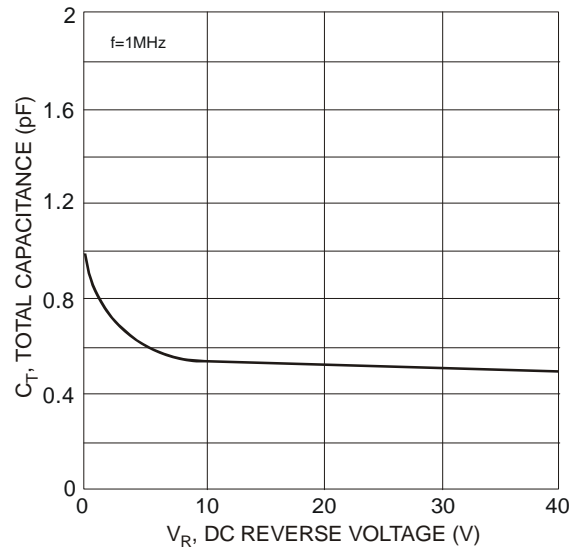
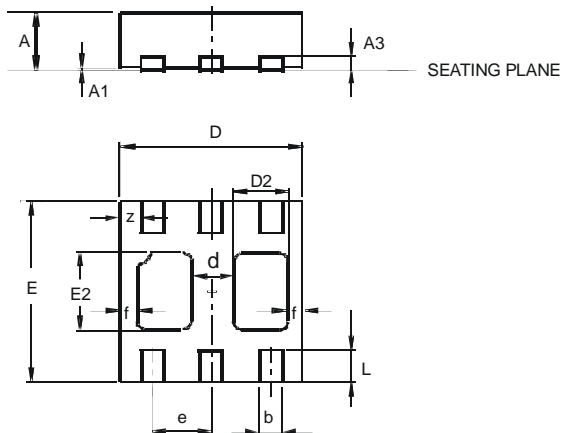


Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

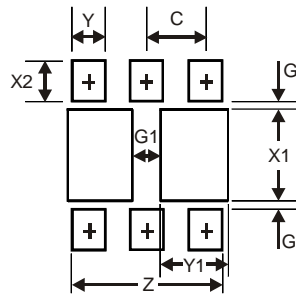
Package Outline Dimensions



Bottom View

| DFN2020B-6 | | | |
|----------------------|-------|-------|-------|
| Dim | Min | Max | Typ |
| A | 0.545 | 0.605 | 0.575 |
| A1 | 0 | 0.05 | 0.02 |
| A3 | — | — | 0.13 |
| b | 0.20 | 0.30 | 0.25 |
| D | 1.95 | 2.075 | 2.00 |
| d | — | — | 0.45 |
| D2 | 0.50 | 0.70 | 0.60 |
| e | — | — | 0.65 |
| E | 1.95 | 2.075 | 2.00 |
| E2 | 0.90 | 1.10 | 1.00 |
| f | — | — | 0.15 |
| L | 0.25 | 0.35 | 0.30 |
| z | — | — | 0.225 |
| All Dimensions in mm | | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 1.67 |
| G | 0.20 |
| G1 | 0.40 |
| X1 | 1.0 |
| X2 | 0.45 |
| Y | 0.37 |
| Y1 | 0.70 |
| C | 0.65 |

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