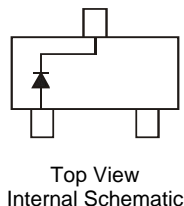


Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance
- **Lead Free/RoHS Compliant (Note 1)**

Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams (approximate)

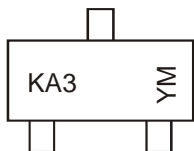


Ordering Information (Note 2)

| Part Number | Case | Packaging |
|---------------|-------|------------------|
| MMBD4448H-7-F | SOT23 | 3000/Tape & Reel |

Notes: 1. No purposefully added lead.
2. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



KA3 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Date Code Key

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | M | N | P | R | S | T | U | V | W | X | Y | Z | A | B | C |

| 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 _{RRM} | 80 | V | |
| Working Peak Reverse Voltage | V _{RWM} | | | |
| DC Blocking Voltage | V _R | | | |
| RMS Reverse Voltage | V _{R(RMS)} | 57 | V | |
| Forward Continuous Current (Note 3) | I _{FM} | 500 | mA | |
| Average Rectified Output Current (Note 3) | I _O | 250 | mA | |
| Non-Repetitive Peak Forward Surge Current | I _{FSM} | @ t = 1.0μs | 4.0 | A |
| | | @ t = 1.0s | 1.0 | |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Power Dissipation (Note 3) | P _D | 350 | mW |
| Thermal Resistance Junction to Ambient Air (Note 3) | R _{θJA} | 357 | °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 4) | V _{(BR)R} | 80 | — | V | I _R = 2.5μA |
| Forward Voltage | V _F | 0.62 | 0.72 | V | I _F = 5.0mA |
| | | — | 0.855 | | I _F = 10mA |
| | | — | 1.0 | | I _F = 100mA |
| | | — | 1.25 | | I _F = 150mA |
| Reverse Current (Note 4) | I _R | — | 100 | nA | V _R = 70V |
| | | — | 50 | μA | V _R = 75V, T _J = 150°C |
| | | — | 30 | μA | V _R = 25V, T _J = 150°C |
| | | — | 25 | nA | V _R = 20V |
| Total Capacitance | C _T | — | 3.5 | pF | V _R = 6V, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | — | 4.0 | ns | V _R = 6V, I _F = 5mA |

- Notes: 3. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.
 4. Short duration pulse test used to minimize self-heating effect.

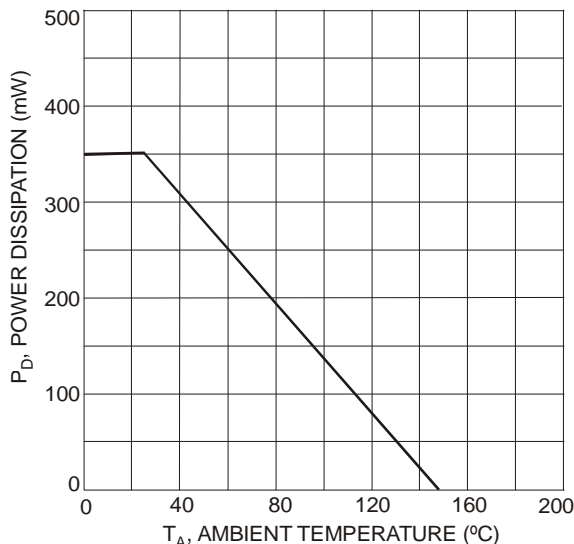


Fig. 1 Power Derating Curve (Note 3)

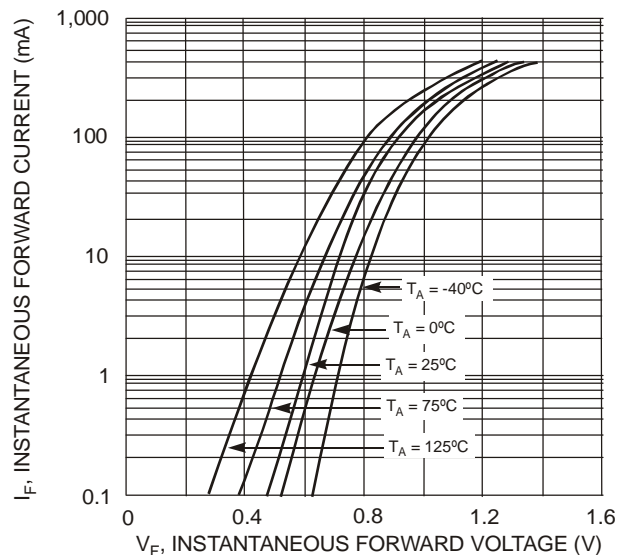


Fig. 2 Typical Forward Characteristics

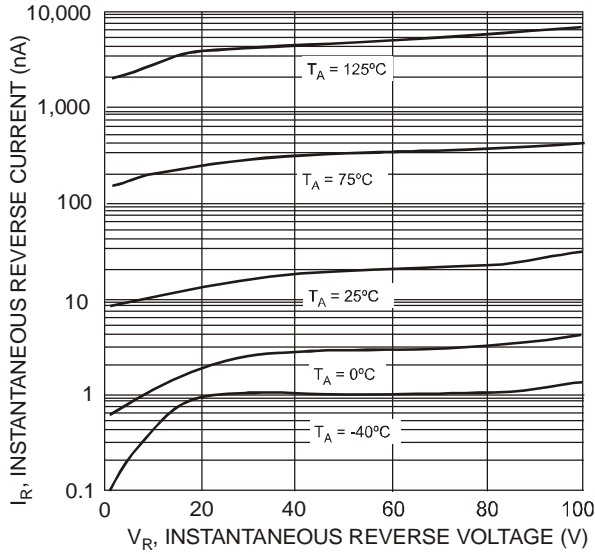


Fig. 3 Typical Reverse Characteristics

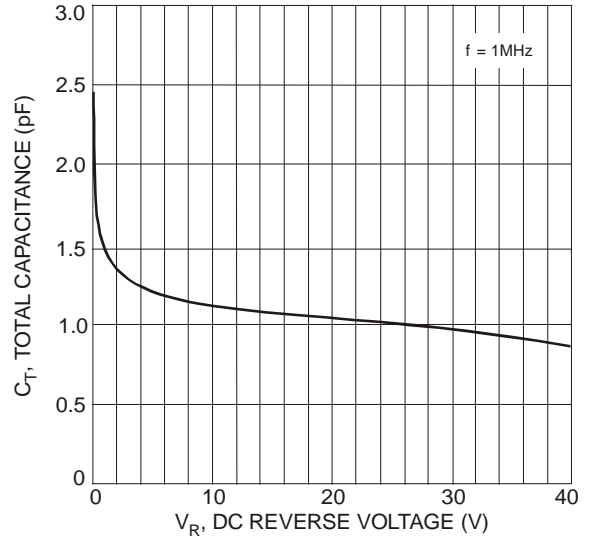
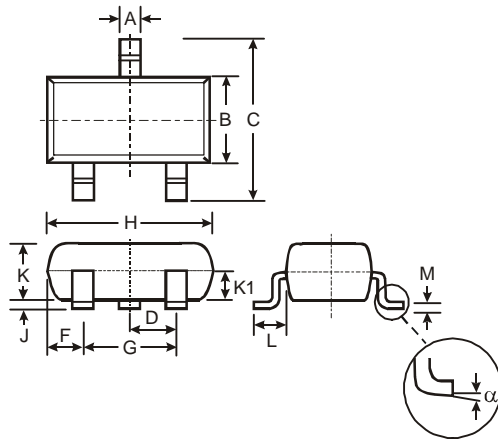


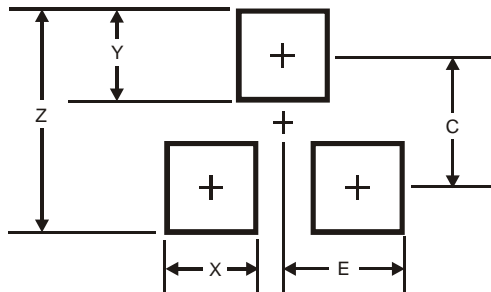
Fig. 4 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions



| SOT23 | | | |
|-----------------------------|-------|------|-------|
| Dim | Min | Max | Typ |
| A | 0.37 | 0.51 | 0.40 |
| B | 1.20 | 1.40 | 1.30 |
| C | 2.30 | 2.50 | 2.40 |
| D | 0.89 | 1.03 | 0.915 |
| F | 0.45 | 0.60 | 0.535 |
| G | 1.78 | 2.05 | 1.83 |
| H | 2.80 | 3.00 | 2.90 |
| J | 0.013 | 0.10 | 0.05 |
| K | 0.903 | 1.10 | 1.00 |
| K1 | - | - | 0.400 |
| L | 0.45 | 0.61 | 0.55 |
| M | 0.085 | 0.18 | 0.11 |
| α | 0° | 8° | - |
| All Dimensions in mm | | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 2.9 |
| X | 0.8 |
| Y | 0.9 |
| C | 2.0 |
| E | 1.35 |

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