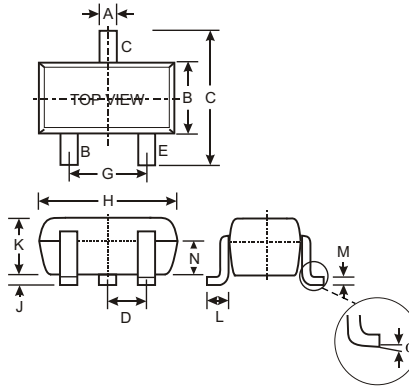


Features

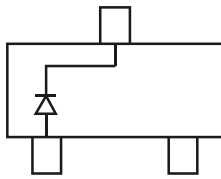
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection

Mechanical Data

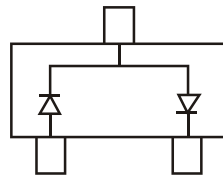
- Case: SOT-523, Molded Plastic
- Case material - UL Flammability Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Marking: See Diagrams Below (& Page 2)
- Weight: 0.002 grams (approx.)
- Ordering Information, see Page 2



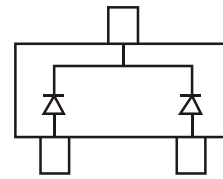
| SOT-523 | | | |
|----------------------|------|------|------|
| Dim | Min | Max | Typ |
| A | 0.15 | 0.30 | 0.22 |
| B | 0.75 | 0.85 | 0.80 |
| C | 1.45 | 1.75 | 1.60 |
| D | | | 0.50 |
| G | 0.90 | 1.10 | 1.00 |
| H | 1.50 | 1.70 | 1.60 |
| J | 0.00 | 0.10 | 0.05 |
| K | 0.60 | 0.80 | 0.75 |
| L | 0.10 | 0.30 | 0.22 |
| M | 0.10 | 0.20 | 0.12 |
| N | 0.45 | 0.65 | 0.50 |
| | 0 | 8 | |
| All Dimensions in mm | | | |



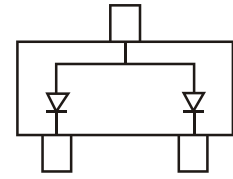
BAS40T Marking: 43



BAS40-04T Marking: 44



BAS40-05T Marking: 45



BAS40-06T Marking: 46

Maximum Ratings @ T_A = 25 C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|--|---------------------|-------------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 40 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _R | | |
| RMS Reverse Voltage | V _{R(RMS)} | 28 | V |
| Forward Continuous Current (Note 1) | I _{FM} | 200 | mA |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0s | I _{FSM} | 600 | mA |
| Power Dissipation (Note 1) | P _d | 150 | mW |
| Thermal Resistance Junction to Ambient (Note 1) | R _{JA} | 833 | C/W |
| Operating Temperature Range | T _j | -55 to +125 | C |
| Storage Temperature Range | T _{STG} | -65 to +150 | C |

Electrical Characteristics @ T_A = 25 C unless otherwise specified

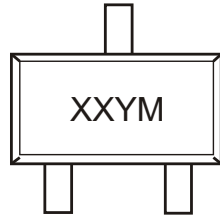
| Characteristic | Symbol | Min | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|-------------|----------|--|
| Reverse Breakdown Voltage (Note 2) | V _{(BR)R} | 40 | | V | I _R = 10 A |
| Forward Voltage (Note 2) | V _F | | 380 1000 | mV mV | I _F = 1.0mA, t _p < 300 s I _F = 40mA, t _p < 300 s |
| Leakage Current (Note 2) | I _R | | 200 | nA | V _R = 30V |
| Total Capacitance | C _T | | 5.0 | pF | V _R = 0, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | | 5.0 | ns | I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100 |

- Notes:
- Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 - Short duration test pulse used to minimize self-heating effect.

Ordering Information (Note 3)

| Device | Packaging | Shipping |
|-------------|-----------|------------------|
| BAS40T-7 | SOT-523 | 3000/Tape & Reel |
| BAS40-04T-7 | SOT-523 | 3000/Tape & Reel |
| BAS40-05T-7 | SOT-523 | 3000/Tape & Reel |
| BAS40-06T-7 | SOT-523 | 3000/Tape & Reel |

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

XX = Product Type Marking Code (See Page 1, e.g. 43 = BAS40T)
 YM = Date Code Marking
 Y = Year (ex: N = 2002)
 M = Month (ex: 9 = September)

Date Code Key

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|------|------|------|------|------|------|------|
| Code | L | M | N | P | R | S | T | U | V | W |

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