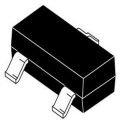
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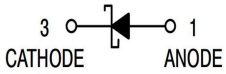
# BAS40LT1G
# Schottky Barrier Diodes

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

**40 VOLTS**
**SCHOTTKY BARRIER DIODES**



**SOT−23 (TO−236)**



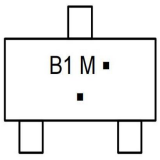

### Features

- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

### MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Reverse Voltage | $V_R$ | 40 | V |
| Forward Power Dissipation<br>@ $T_A$ = 25°C<br>Derate above 25°C | $P_F$ | <br>225<br>1.8 | <br>mW<br>mW/°C |
| Operating Junction and Storage Temperature Range | $T_J$, $T_{stg}$ | −55 to +150 | °C |
| Forward Continuous Current | $I_F$ | 120 | mA |
| Forward Surge Current<br>t ≤ 1 s<br>t ≤ 10 ms | $I_{FSM}$ | <br>200<br>600 | mA |
| Thermal Resistance (Note 1)<br>Junction−to−Ambient (Note 2) | $R_{\theta JA}$ | 508<br>311 | °C/W |

### MARKING DIAGRAM




B1 = Specific Device Code
M = Date Code*
▪ = Pb−Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

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## BAS40L, SBAS40L

**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25°C unless otherwise noted)

| Characteristic | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| Reverse Breakdown Voltage ($I_R$ = 10 μA) | $V_{(BR)R}$ | 40 | – | V |
| Total Capacitance ($V_R$ = 1.0 V, f = 1.0 MHz) | $C_T$ | – | 5.0 | pF |
| Reverse Leakage ($V_R$ = 25 V) | $I_R$ | – | 1.0 | μAdc |
| Forward Voltage ($I_F$ = 1.0 mAdc) | $V_F$ | – | 380 | mVdc |
| Forward Voltage ($I_F$ = 10 mAdc) | $V_F$ | – | 500 | mVdc |
| Forward Voltage ($I_F$ = 40 mAdc) | $V_F$ | – | 1.0 | Vdc |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

### TYPICAL CHARACTERISTICS

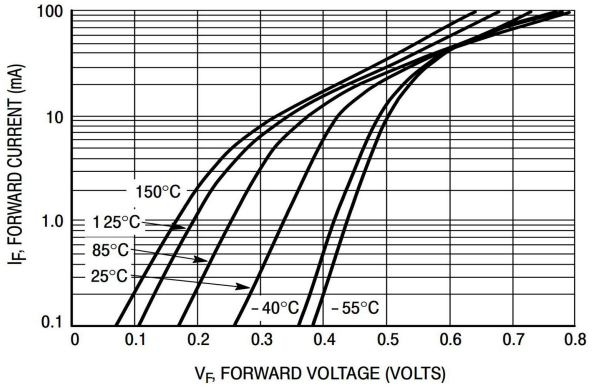



**Figure 1. Typical Forward Voltage**

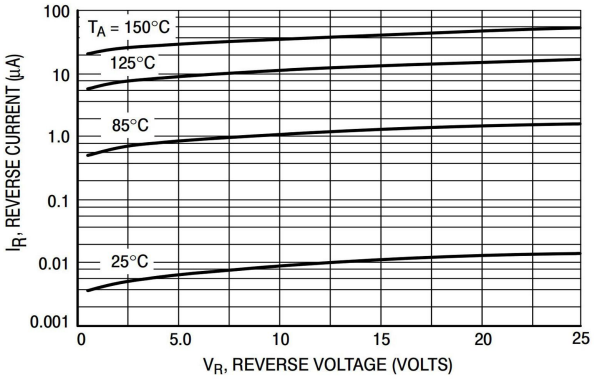



**Figure 2. Reverse Current versus Reverse Voltage**

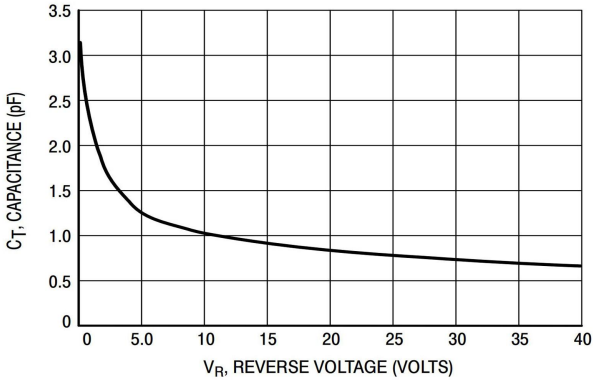


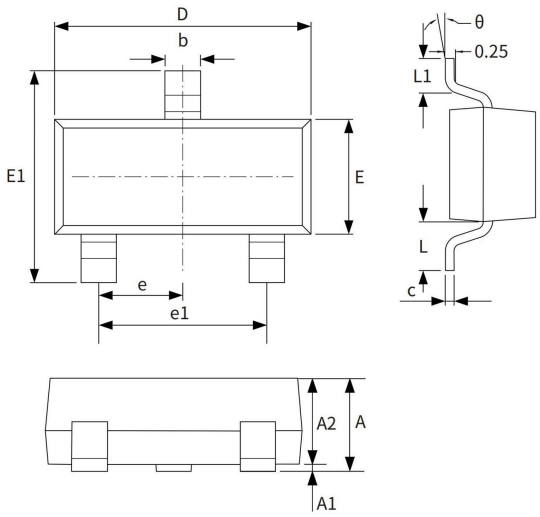

**Figure 3. Typical Capacitance**

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## Ordering Information

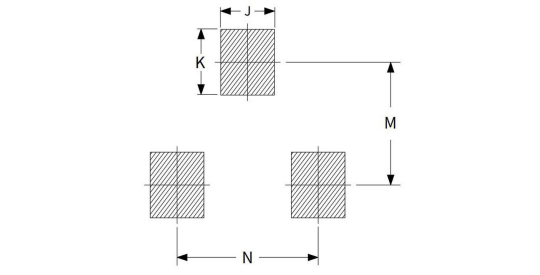
| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| SOT-23 | R1 | 0.008 | 3000 | 30000 | 240000 | 7'' |

## Package Outline Dimensions (SOT-23)




| Symbol | Dimensions | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 0.90 | 1.15 | 0.035 | 0.045 |
| A1 | - | 0.10 | - | 0.004 |
| A2 | 0.90 | 1.05 | 0.035 | 0.041 |
| b | 0.30 | 0.50 | 0.012 | 0.020 |
| c | 0.10 | 0.20 | 0.004 | 0.008 |
| D | 2.80 | 3.00 | 0.110 | 0.118 |
| E | 1.20 | 1.40 | 0.047 | 0.055 |
| E1 | 2.25 | 2.55 | 0.089 | 0.100 |
| e | 0.950TYP | | 0.037TYP | |
| e1 | 1.80 | 2.00 | 0.071 | 0.079 |
| L | 0.550REF | | 0.022REF | |
| L1 | 0.30 | 0.50 | 0.012 | 0.020 |
| θ | - | 8° | - | 8° |

## Suggested Pad Layout




| Symbol | Dimensions | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| J | 0.75 | 0.85 | 0.030 | 0.033 |
| K | 0.85 | 0.95 | 0.033 | 0.037 |
| M | 1.95 | 2.05 | 0.077 | 0.081 |
| N | 1.85 | 1.95 | 0.073 | 0.077 |