

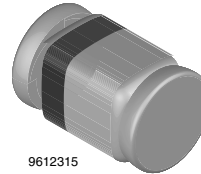
Small Signal Switching Diodes, Low Leakage Current

Features

- Silicon Planar Diodes
- Saving space
- Hermetic sealed parts
- Fits onto SOD-323/SOT-23 footprints
- Electrical data identical with the devices BAQ33 to BAQ35/BAQ133 to BAQ135
- Very low reverse current
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT
HALOGEN
FREE



9612315

Applications

- Protection circuits, time delay circuits, peak follower circuits, logarithmic amplifiers

Mechanical Data

Case: MicroMELF

Weight: approx. 12 mg

Cathode band color: black

Packaging codes/options:

TR3 / 10 k per 13" reel (8 mm tape), 10 k/box

TR / 2.5 k per 7" reel (8 mm tape), 12.5 k/box

Parts Table

| Part | Type differentiation | Ordering code | Remarks |
|--------|--------------------------|-------------------------|---------------|
| BAQ333 | $V_{RRM} = 40\text{ V}$ | BAQ333-TR3 or BAQ333-TR | Tape and Reel |
| BAQ334 | $V_{RRM} = 70\text{ V}$ | BAQ334-TR3 or BAQ334-TR | Tape and Reel |
| BAQ335 | $V_{RRM} = 140\text{ V}$ | BAQ335-TR3 or BAQ335-TR | Tape and Reel |

Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

| Parameter | Test condition | Part | Symbol | Value | Unit |
|----------------------------|------------------------------|--------|-----------|-------|------|
| Reverse voltage | | BAQ333 | V_R | 30 | V |
| | | BAQ334 | V_R | 60 | V |
| | | BAQ335 | V_R | 125 | V |
| Peak forward surge current | $t_p = 1\text{ }\mu\text{s}$ | | I_{FSM} | 2 | A |
| Forward continuous current | | | I_F | 200 | mA |

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

| Parameter | Test condition | Symbol | Value | Unit |
|--|---|------------|---------------|--------------------|
| Thermal resistance junction to ambient air | Mounted on epoxy-glass hard tissue, fig. 1 | R_{thJA} | 500 | K/W |
| | 35 μm copper clad, 0.9 mm^2 copper area per electrode | R_{thJA} | 500 | K/W |
| Junction temperature | | T_j | 175 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | - 65 to + 175 | $^{\circ}\text{C}$ |

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

| Parameter | Test condition | Part | Symbol | Min. | Typ. | Max. | Unit |
|-------------------|--|--------|------------|------|------|------|---------------|
| Forward voltage | $I_F = 100\text{ mA}$ | | V_F | | | 1000 | mV |
| Reverse current | $E \leq 300\text{ lx}$, rated V_R | | I_R | | 1 | 3 | nA |
| | $E \leq 300\text{ lx}$, rated V_R , $T_j = 125\text{ }^{\circ}\text{C}$ | | I_R | | | 0.5 | μA |
| | $E \leq 300\text{ lx}$, $V_R = 15\text{ V}$ | BAQ333 | I_R | | 0.5 | 1 | nA |
| | $E \leq 300\text{ lx}$, $V_R = 30\text{ V}$ | BAQ334 | I_R | | 0.5 | 1 | nA |
| | $E \leq 300\text{ lx}$, $V_R = 60\text{ V}$ | BAQ335 | I_R | | 0.5 | 1 | nA |
| Breakdown voltage | $I_R = 5\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$ | BAQ333 | $V_{(BR)}$ | 40 | | | V |
| | | BAQ334 | $V_{(BR)}$ | 70 | | | V |
| | | BAQ335 | $V_{(BR)}$ | 140 | | | V |
| Diode capacitance | $V_R = 0$, $f = 1\text{ MHz}$ | | C_D | | | 3 | pF |

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

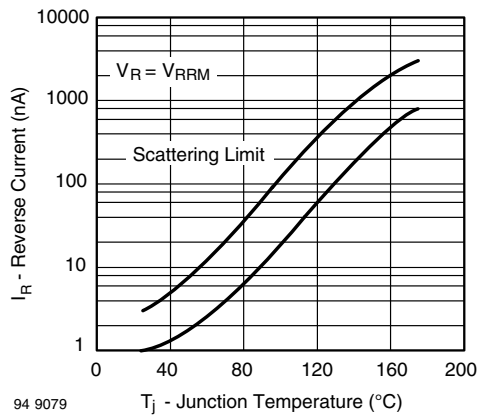


Figure 1. Reverse Current vs. Junction Temperature

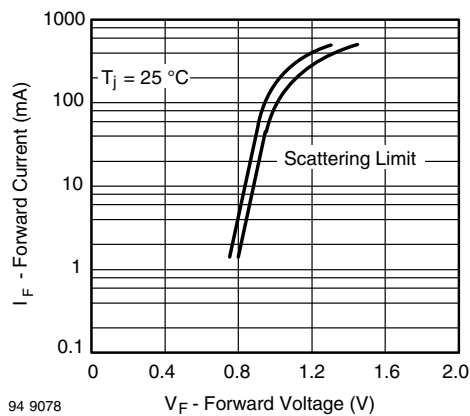


Figure 2. Forward Current vs. Forward Voltage

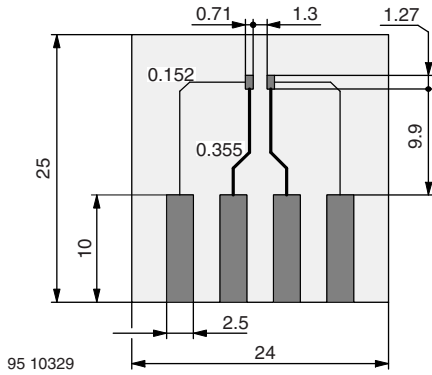
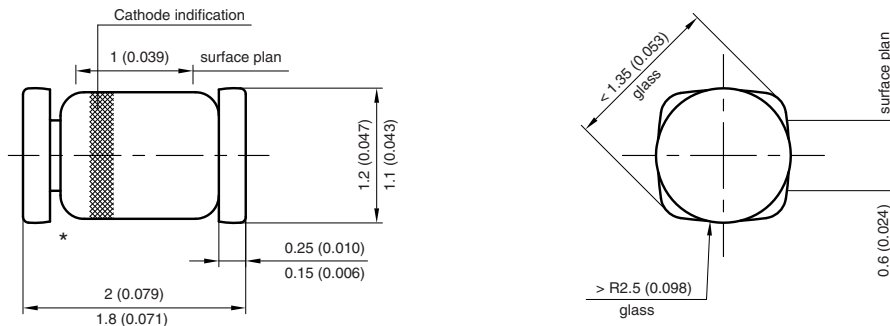


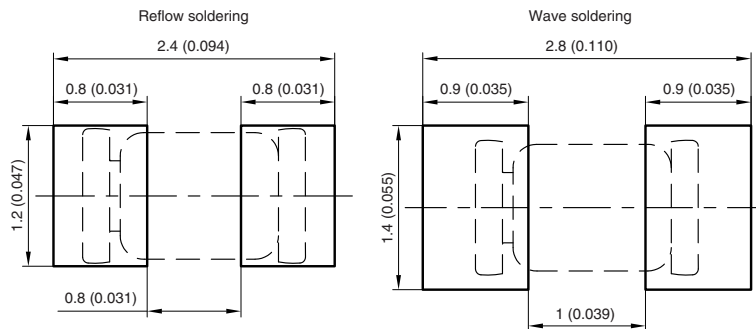
Figure 3. Board for R_{thJA} Definition (in mm)

Package Dimensions in millimeters (inches): MicroMELF



* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



Created - Date: 26.July.1996
 Rev. 13 - Date: 07.June.2006
 Document no.: 6.560-5007.01-4
 96 12072



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