

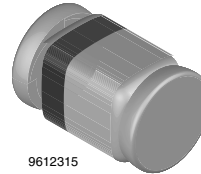
Small Signal Switching Diodes, Low Leakage Current

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

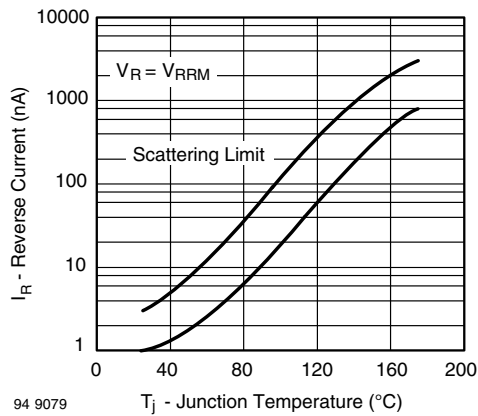


Figure 1. Reverse Current vs. Junction Temperature

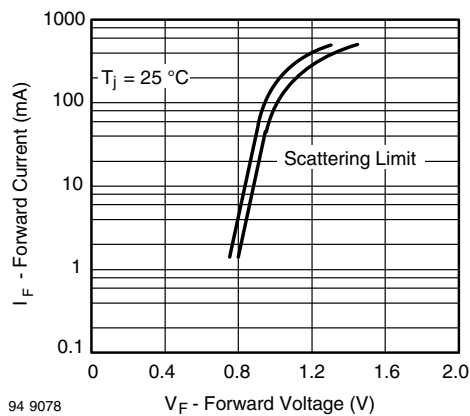


Figure 2. Forward Current vs. Forward Voltage

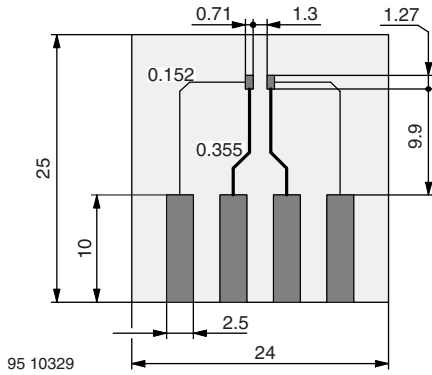
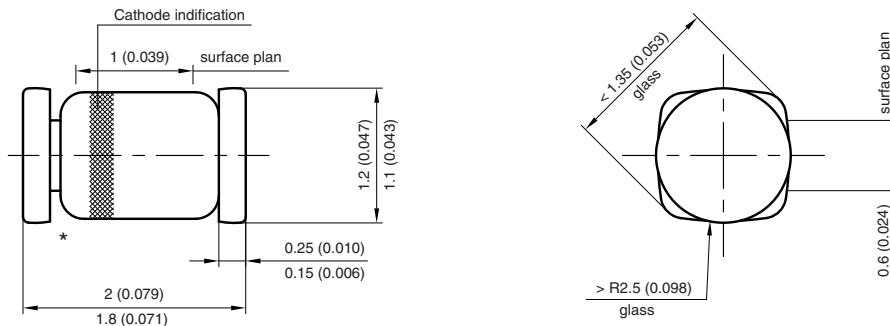


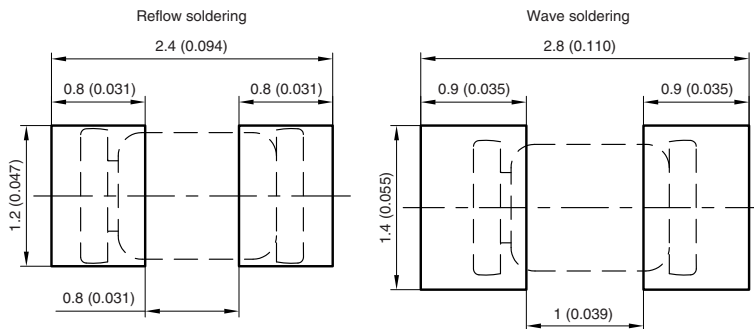
Figure 3. Board for R_{thJA} Definition (in mm)

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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