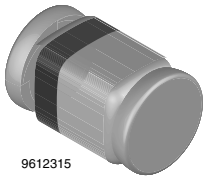
Small Signal Switching Diodes, Low Leakage Current

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



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 V	BAQ333-TR3 or BAQ333-TR	Tape and Reel
BAQ334	V_{RRM} = 70 V	BAQ334-TR3 or BAQ334-TR	Tape and Reel
BAQ335	V_{RRM} = 140 V	BAQ335-TR3 or BAQ335-TR	Tape and Reel

Absolute Maximum Ratings

T_{amb} = 25 °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 µs		I_{FSM}	2	A
Forward continuous current			I_F	200	mA

Thermal Characteristics

T_{amb} = 25 °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	°C
Storage temperature range		T_{stg}	- 65 to + 175	°C

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

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

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

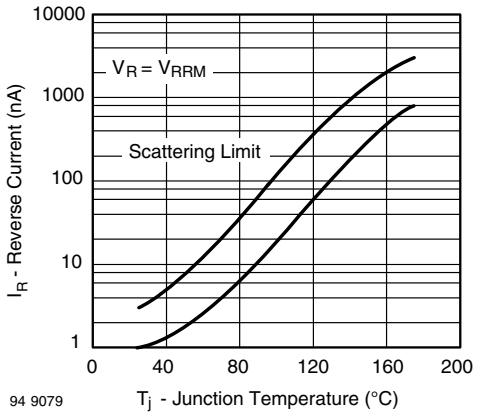


Figure 1. Reverse Current vs. Junction Temperature

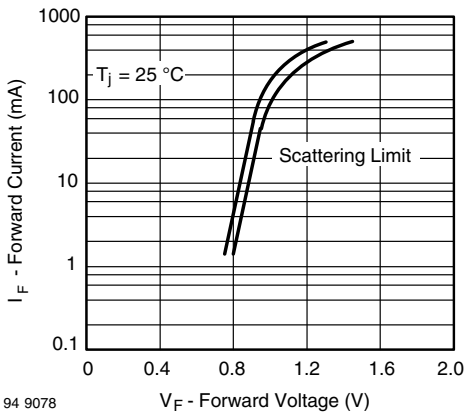


Figure 2. Forward Current vs. Forward Voltage

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

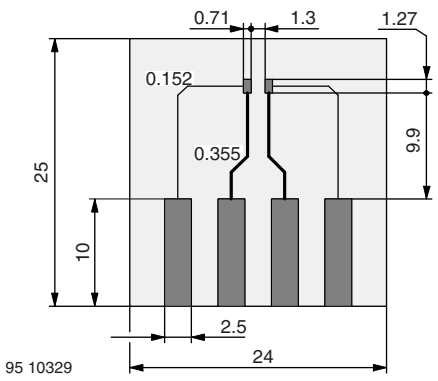
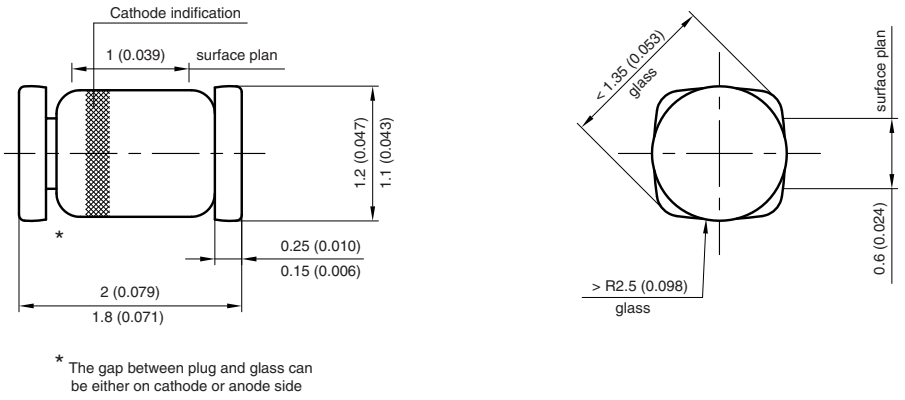


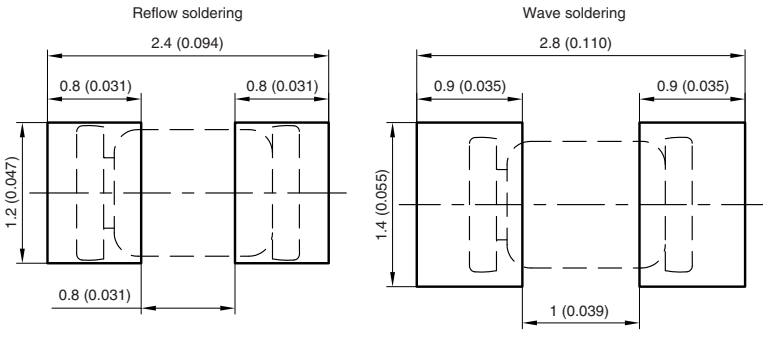
Figure 3. Board for R_{thJA} Definition (in mm)

Package Dimensions in millimeters (inches): **MicroMELF**



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

Foot print recommendation:



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