

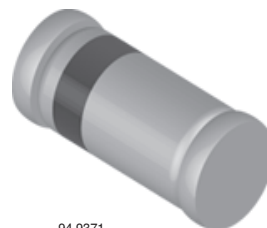
## Small Signal Switching Diodes, Low Leakage Current

### Features

- Silicon Planar Diodes
- Very low reverse current

### Applications

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



94 9371

### Mechanical Data

**Case:** MiniMELF Glass case (SOD-80)

**Weight:** approx. 31 mg

**Cathode Band Color:** Black

#### Packaging Codes/Options:

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

### Parts Table

Part	Type differentiation	Ordering code	Remarks
BAQ33	$V_{RRM} = 40\text{ V}$	BAQ33-GS18 or BAQ33-GS08	Tape and Reel
BAQ34	$V_{RRM} = 70\text{ V}$	BAQ34-GS18 or BAQ34-GS08	Tape and Reel
BAQ35	$V_{RRM} = 140\text{ V}$	BAQ35-GS18 or BAQ35-GS08	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		BAQ33	$V_R$	30	V
		BAQ34	$V_R$	60	V
		BAQ35	$V_R$	125	V
Peak forward surge current	$t_p = 1\text{ }\mu\text{s}$		$I_{FSM}$	2	A
Forward current			$I_F$	200	mA

### Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	on PC board 50 mm x 50 mm x 1.6 mm	$R_{thJA}$	500	K/W
Junction temperature		$T_j$	200	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 200	$^{\circ}\text{C}$

### Electrical Characteristics

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

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 100\text{ mA}$		$V_F$			1	V
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	$\mu\text{A}$
	$E \leq 300\text{ lx}$ , $V_R = 15\text{ V}$	BAQ33	$I_R$		0.5	1	nA
	$E \leq 300\text{ lx}$ , $V_R = 30\text{ V}$	BAQ34	$I_R$		0.5	1	nA
	$E \leq 300\text{ lx}$ , $V_R = 60\text{ V}$	BAQ35	$I_R$		0.5	1	nA
Breakdown voltage	$I_R = 5\text{ }\mu\text{A}$ , $t_p/T = 0.01$ , $t_p = 0.3\text{ ms}$	BAQ33	$V_{(BR)}$	40			V
	$I_R = 5\text{ }\mu\text{A}$ , $t_p/T = 0.01$ , $t_p = 0.3\text{ ms}$	BAQ34	$V_{(BR)}$	70			V
	$I_R = 5\text{ }\mu\text{A}$ , $t_p/T = 0.01$ , $t_p = 0.3\text{ ms}$	BAQ35	$V_{(BR)}$	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)

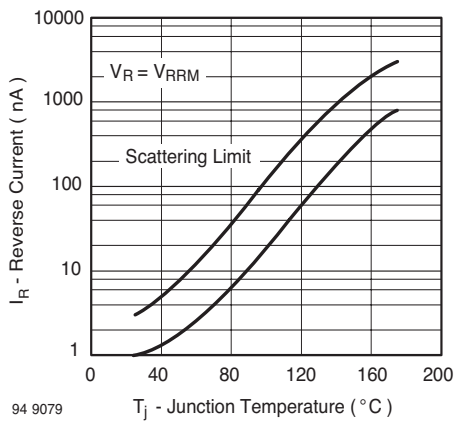


Figure 1. Reverse Current vs. Junction Temperature

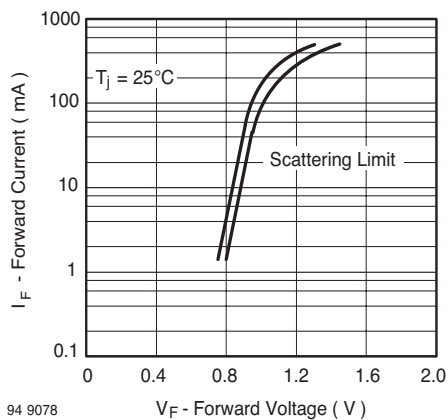
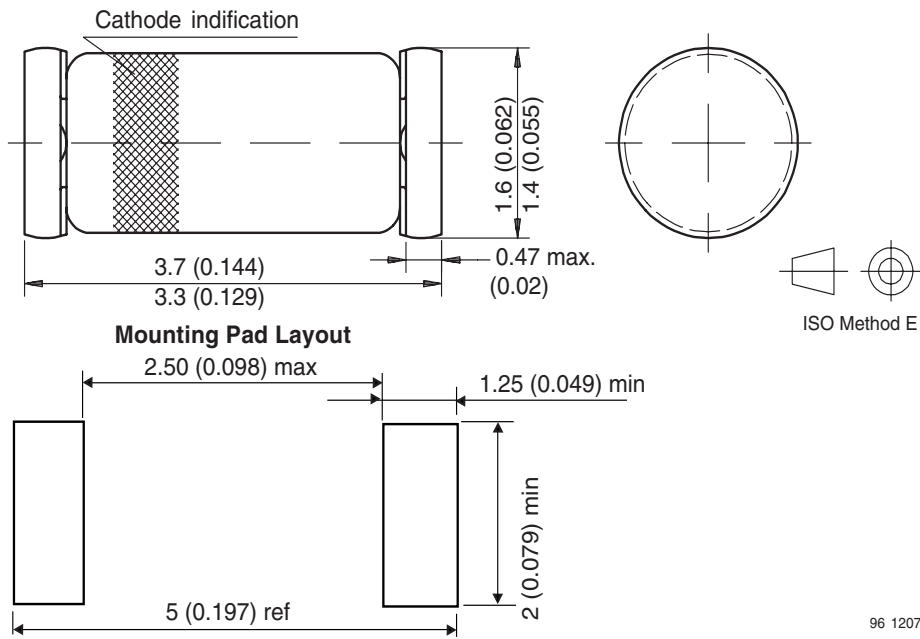


Figure 2. Forward Current vs. Forward Voltage

## Package Dimensions in mm (Inches)



### Ozone Depleting Substances Policy Statement

It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

We reserve the right to make changes to improve technical design  
and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany  
Telephone: 49 (0)7131 67 2831, Fax number: 49 (0)7131 67 2423