

BAS85 Schottky barrier diode Rev. 6 — 10 September 2010

Product data sheet

1. Product profile

1.1 General description

Planar Schottky barrier diode with an integrated guard ring for stress protection, encapsulated in a small hermetically sealed glass SOD80C Surface-Mounted Device SMD package with tin-plated metal discs at each end. It is suitable for "automatic placement" and as such it can withstand immersion soldering.

1.2 Features and benefits

- Low forward voltage
- High breakdown voltage
- Guard-ring protected
- Hermetically sealed glass SMD package

1.3 Applications

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes

1.4 Quick reference data

Table 1.Quick reference data

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
I _F	forward current		-	-	200	mA
V _R	reverse voltage		-	-	30	V
V _F	forward voltage	I _F = 100 mA	-	-	800	mV



2. Pinning information

Pinning		
Description	Simplified outline	Graphic symbol
cathode	[1]	64
anode	k	1 1 2
		sym001
	Description cathode	Description Simplified outline cathode [1]

[1] The marking band indicates the cathode.

3. Ordering information

Table 3. Ordering information					
Type number	Package				
	Name	Description	Version		
BAS85	-	hermetically sealed glass surface-mounted package; 2 connectors	SOD80C		

4. Marking

Table 4.	Marking codes	
Type num	ber	Marking code
BAS85		marking band

5. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions	Min	Max	Unit
V _R	reverse voltage		-	30	V
I _F	forward current		-	200	mA
I _{F(AV)}	average forward current		<u>[1]</u> _	200	mA
I _{FRM}	repetitive peak forward current	$t_p \leq 1 \; s; \delta \leq 0.5$	-	300	mA
I _{FSM}	non-repetitive peak forward current	t _p = 10 ms	-	5	A
Tj	junction temperature		-	125	°C
T _{amb}	ambient temperature		-65	+125	°C
T _{stg}	storage temperature		-65	+150	°C

[1] Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

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6. Thermal characteristics

Table 6.	Thermal characteristics					
Symbol	Parameter	Conditions	Min	Тур	Max	Unit
R _{th(j-a)}	thermal resistance from junction to ambient	in free air	<u>[1]</u> _	-	320	K/W

[1] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

7. Characteristics

Table 7.Characteristics $T_{amb} = 25 \ ^{\circ}C$ unless otherwise specified.						
Symbol	Parameter	Conditions	Min	Тур	Max	Unit
V _F forward voltage	forward voltage	I _F = 0.1 mA	-	-	240	mV
		I _F = 1 mA	-	-	320	mV
		I _F = 10 mA	-	-	400	mV
		I _F = 30 mA	-	-	500	mV
		I _F = 100 mA	-	-	800	mV
I _R	reverse current	V _R = 25 V	<u>[1]</u> _	-	2.3	μA
C _d	diode capacitance	V _R = 1 V; f = 1 MHz	-	-	10	pF

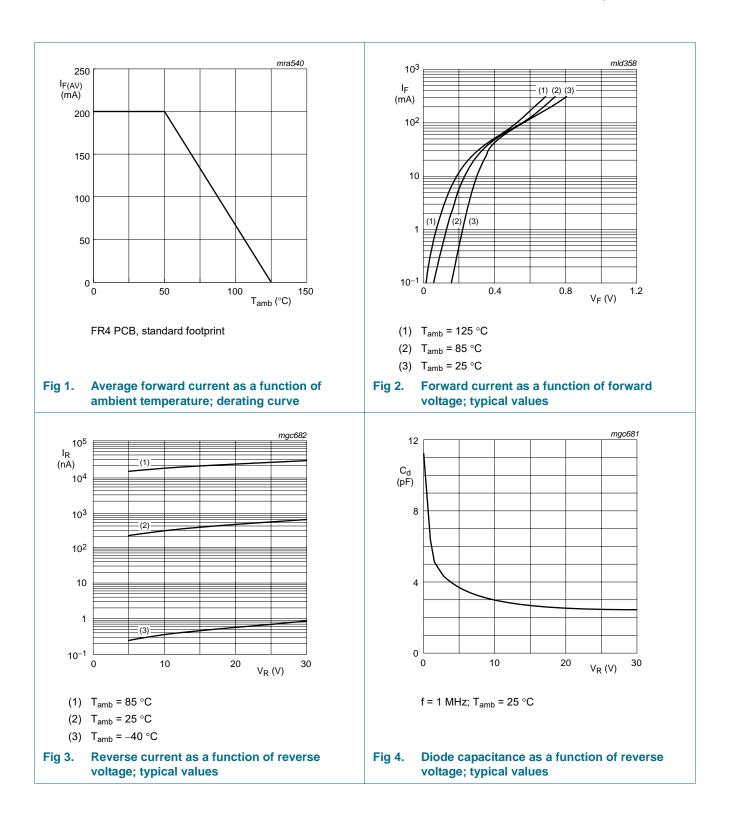
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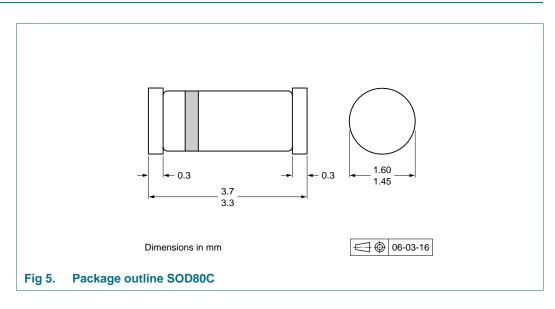
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8. Package outline

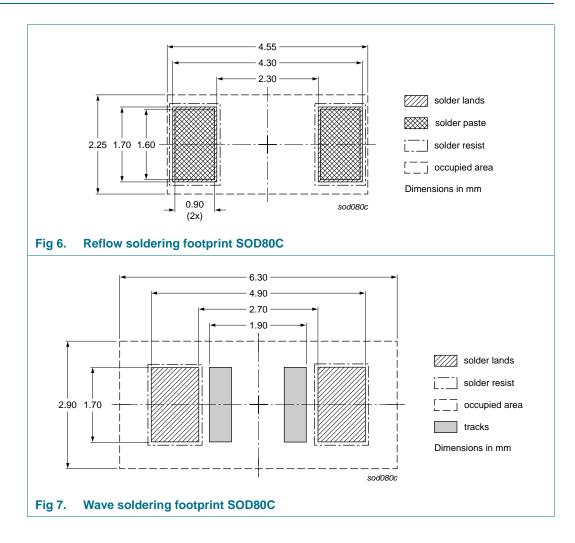


9. Packing information

Please refer to packing information on <u>www.nexperia.com</u>.

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10. Soldering



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11. Revision history

Table 9. Revision	history			
Document ID	Release date	Data sheet status	Change notice	Supersedes
BAS85_6	20100910	Product data sheet	-	BAS85_5
Modifications:	 Section 4 "M 	/larking": updated		
	 Section 12 ' 	<u>'Legal information</u> ": updated		
BAS85_5	20090325	Product data sheet	-	BAS85_4
BAS85_4	20000525	Product specification	-	BAS85_3
BAS85_3	19961001	Product specification	-	BAS85_2
BAS85_2	19960320	Product specification	-	-

12. Legal information

12.1 Data sheet status

Document status[1][2]	Product status ^[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <u>http://www.nexperia.com</u>.

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