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 hermetically-sealed subminiature SOD68 (DO-34) package. The diode is suitable for mounting on a 2 E (5.08 mm) pitch.

1.2 Features and benefits

- Low forward voltage
- Guard ring protected
- Hermetically-sealed leaded glass package

1.3 Applications

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

1.4 Quick reference data

Table 1. C	uick reference data					
Symbol	Parameter	Conditions	Min	Тур	Max	Unit
I _{F(AV)}	average forward current	$\delta \le 0.5$; f = 20 kHz; PCB mounting, lead length = 4 mm; half sine wave	-	-	200	mA
V _R	reverse voltage		-	-	30	V
V _F	forward voltage	I _F = 10 mA; T _{amb} = 25 °C	-	-	400	mV

2. Pinning information

Table 2.	Pinning	information		
Pin	Symbol	Description	Simplified outline	Graphic symbol
1	К	cathode	k a	К _ А
2	A	anode	DO-34 (SOD68)	aaa-003679



3. Ordering information

Table 3. Ordering in	formation		
Type number	Package		
	Name	Description	Version
BAT85	DO-34	hermetically sealed glass package; axial leaded; 2 leads	SOD68

4. Marking

Table 4. Marking codes	
Type number	Marking code
BAT85	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
l _F	forward current		-	200	mA
I _{F(AV)}	average forward current	$\delta \le 0.5$; f = 20 kHz; PCB mounting, lead length = 4 mm; half sine wave	-	200	mA
I _{FRM}	repetitive peak forward current	t _p ≤ 1 s; δ ≤ 0.5	-	300	mA
I _{FSM}	non-repetitive peak forward current	$t_p \le 10 \text{ ms; } T_{j(init)} = 25 \text{ °C}$	-	5	A
Tj	junction temperature		-	125	°C
T _{amb}	ambient temperature		-65	125	°C
T _{stg}	storage temperature		-65	150	°C

6. Thermal characteristics

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

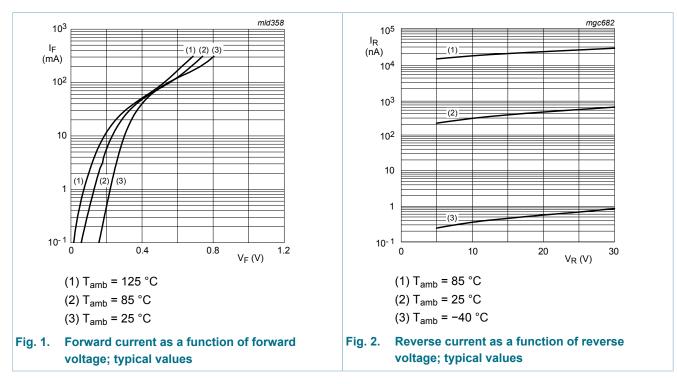
[1] Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

BAT85

Schottky barrier single diode

7. Characteristics

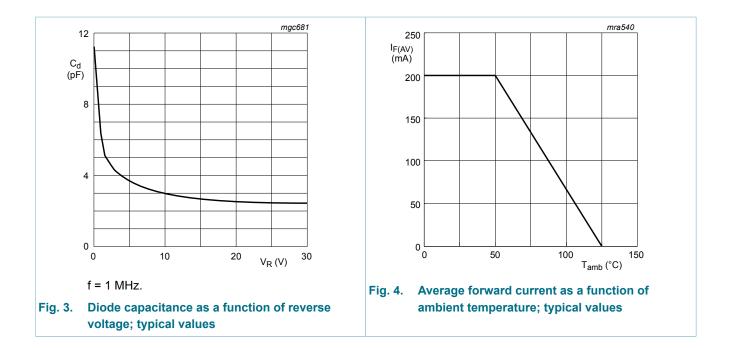
Table 7. C	haracteristics					
Symbol	Parameter	Conditions	Min	Тур	Мах	Unit
V _F	forward voltage	I _F = 0.1 mA; T _{amb} = 25 °C	-	-	240	mV
		I _F = 1 mA; T _{amb} = 25 °C	-	-	320	mV
		I _F = 10 mA; T _{amb} = 25 °C	-	-	400	mV
		I _F = 30 mA; T _{amb} = 25 °C	-	-	500	mV
		I _F = 100 mA; T _{amb} = 25 °C	-	-	800	mV
I _R	reverse current	V _R = 25 V; T _{amb} = 25 °C	-	-	2	μA
C _d	diode capacitance	f = 1 MHz; T _{amb} = 25 °C; V _R = 1 V	-	-	10	pF
t _{rr}	reverse recovery time	I_F = 10 mA; I_R = 10 mA; R_L = 100 Ω; $I_{R(meas)}$ = 1 mA; T_{amb} = 25 °C	-	-	4	ns



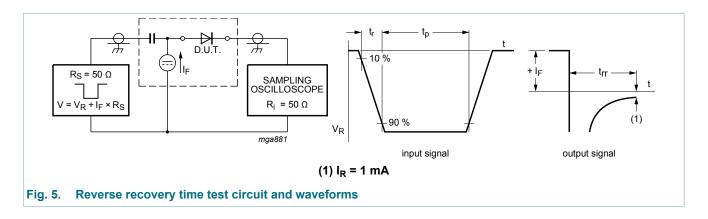
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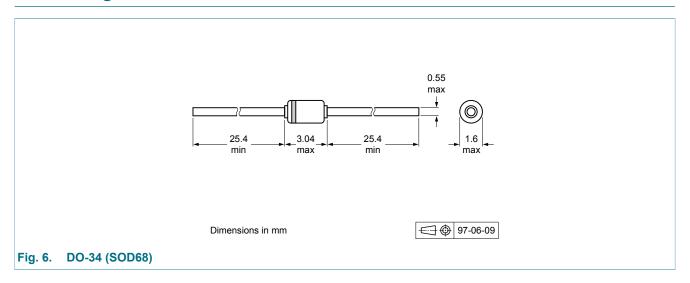


8. Test information



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9. Package outline



10. Revision history

Table 8. Revision his	story					
Data sheet ID	Release date	Data sheet status	Change notice	Supersedes		
BAT85 v.5	20120724	Product data sheet	-	BAT85 v.4		
Modifications:	• The format of this document has been redesigned to comply with the new identity guidelines of NXP Semiconductors.					
	 Legal texts have be Section "Marking" a 	en adapted to the new co dded	ompany name where app	ropriate.		
 Package outline drawing replaced by minimized package outline drawing Section "Test information" added 						
BAT85 v.4	20000525	Product specification	-	BAT85 v.3		
BAT85 v.3	19960320	Product specification	-	-		

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11. Legal information

11.1 Data sheet status

Document status [1][2]	Product status [<u>3]</u>	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.

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

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

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