Product data sheet

1. General description

Planar Maximum Efficiency General Application (MEGA) Schottky barrier diode, encapsulated in a SOD523 (SC-79) ultra small SMD plastic package.

2. Features and benefits

- Forward current: 0.5 A
- Reverse voltage: 20 V
- · Very low forward voltage
- · Guard ring protected
- Ultra small SMD package.
- AEC-Q101 qualified

3. Applications

- · Ultra high-speed switching
- · Voltage clamping
- · Protection circuits
- · Low current rectification
- Low power consumption applications (e.g. handheld devices).

4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
V_R	reverse voltage	T _j = 25 °C	-	-	20	V
V _F	forward voltage	I_F = 500 mA; $t_p \le 300 \ \mu s; \ \delta \le 0.02;$ T_{amb} = 25 °C	-	430	480	mV

5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode[1]		K - K- -A
2	A	anode	1 2 SC 70 (SOD522)	sym001
			SC-79 (SOD523)	

[1] The marking bar indicates the cathode.



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6. Ordering information

Table 3. Ordering information

Type number	Package						
	Name	Description	Version				
PMEG2005EB		plastic, surface-mounted package; 2 leads; 1.2 mm x 0.8 mm x 0.6 mm body	SOD523				

7. Marking

Table 4. Marking codes

Type number	Marking code
PMEG2005EB	L5

8. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC60134).

Symbol	Parameter	Conditions	Min	Max	Unit
V _R	reverse voltage	T _j = 25 °C	-	20	V
I _F	forward current		-	500	mA
I _{FRM}	repetitive peak forward current	$t_p = 1 \text{ ms}; \delta \le 0.25$	-	3.5	А
I _{FSM}	non-repetitive peak forward current	t_p = 8 ms; square wave; $T_{j(init)}$ = 25 °C	-	6	А
Tj	junction temperature		-	125	°C
T _{amb}	ambient temperature		-65	125	°C
T _{stg}	storage temperature		-65	150	°C

9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions		Min	Тур	Max	Unit
uig-a)	thermal resistance from junction to ambient	in free air	[1]	-	-	400	K/W

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

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10. Characteristics

Table 7. Characteristics

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
V _F forward	forward voltage	I_F = 0.1 mA; t_p ≤ 300 μs; δ ≤ 0.02; T_{amb} = 25 °C	-	120	180	mV
		I_F = 1 mA; $t_p \le 300$ μs; $\delta \le 0.02$; T_{amb} = 25 °C	-	180	240	mV
		I_F = 10 mA; $t_p \le 300$ μs; $δ \le 0.02$; T_{amb} = 25 °C	-	245	290	mV
		I_F = 100 mA; $t_p \le 300 \ \mu s; \ \delta \le 0.02;$ T_{amb} = 25 °C	-	320	380	mV
		I_F = 500 mA; $t_p \le 300 \ \mu s; \ \delta \le 0.02;$ T_{amb} = 25 °C	-	430	480	mV
I _R	reverse current	V_R = 10 V; $t_p \le 300 \text{ μs}$; $\delta \le 0.02$; T_{amb} = 25 °C	-	7	30	μΑ
C _d	diode capacitance	V _R = 1 V; f = 1 MHz; T _{amb} = 25 °C	-	24	30	pF

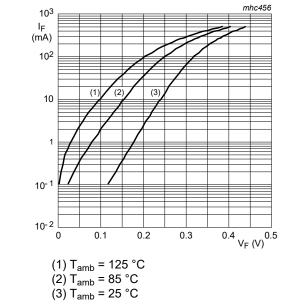
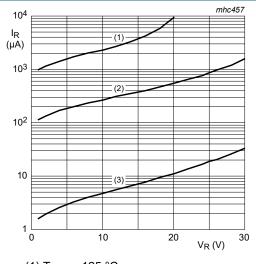


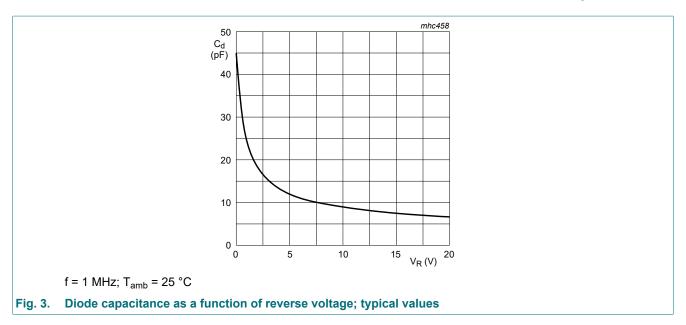
Fig. 1. Forward current as a function of forward voltage; typical values



- (1) T_{amb} = 125 °C (2) T_{amb} = 85 °C (3) T_{amb} = 25 °C

Fig. 2. Reverse current as a function of reverse voltage; typical values

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11. Package outline

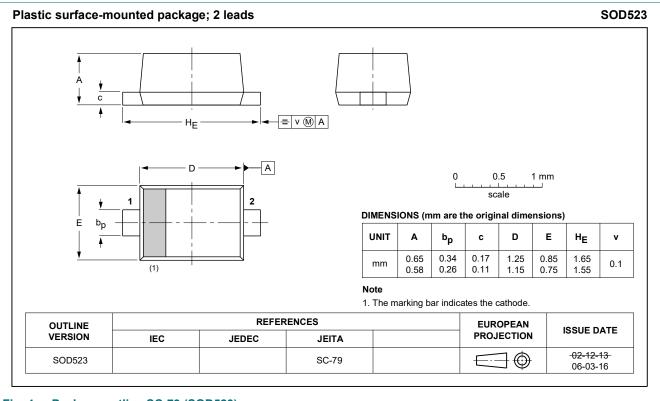
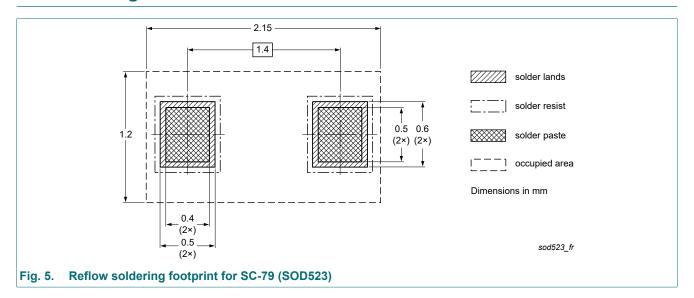


Fig. 4. Package outline SC-79 (SOD523)

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12. Soldering



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13. Revision history

Table 8. Revision history

Table of Novicion motory							
Data sheet ID	Release date	Data sheet status	Change notice	Supersedes			
PMEG2005EB v.3	20190927	Product data sheet	-	PMEG2005EB v.2			
Modifications:	 The format of this data sheet has been redesigned to comply with the identity guidelines of Nexperia. Legal texts have been adapted to the new company name where appropriate. 						
PMEG2005EB v.2	20030404	Product data sheet	-	PMEG2005EB v.1			
PMEG2005EB v.1	20030220	Product data sheet	-	-			

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14. Legal information

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.

- 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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