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Electronic Components Sourcing Information

Product Reference Information

Part Number: PMEG6002EB-QF
Manufacturer: Nexperia USA Inc.
Package: SC-79, SOD-523
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/nexperia-usa-inc/pmeg6002eb-qf.html>

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Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.



PMEG6002EB-Q

60 V, 0.2 A very low VF Schottky barrier rectifier

6 August 2026

Product data sheet

1. General description

Planar Schottky barrier rectifier with an integrated guard ring for stress protection, encapsulated in a SOD523 (SC-79) ultra small and flat lead Surface-Mounted Device (SMD) plastic package.

2. Features and benefits

- Forward current: $I_F \leq 0.2$ A
- Reverse voltage: $V_R \leq 60$ V
- Very low forward voltage
- Ultra small and flat lead SMD plastic package
- Qualified according to AEC-Q101 and recommended for use in automotive applications

3. Applications

- Low voltage rectification
- High efficiency DC-to-DC conversion
- Switch mode power supply
- Reverse polarity protection
- Low power consumption applications

4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
I_F	forward current	$T_{amb} \leq 25$ °C		-	-	0.2	A
V_R	reverse voltage	$T_j = 25$ °C		-	-	60	V
V_F	forward voltage	$I_F = 200$ mA	[1]	-	540	600	mV

[1] Pulsed test: $t_p \leq 300$ μ s; $\delta \leq 0.02$

5. Pinning information

Table 2. Pinning information

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

[1] The marking bar indicates the cathode

6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
PMEG6002EB-Q	SC-79	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
PMEG6002EB-Q	B2

8. 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	$T_j = 25\text{ }^{\circ}\text{C}$		-	60	V
I_F	forward current	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$		-	0.2	A
I_{FRM}	repetitive peak forward current	$t_p \leq 1\text{ ms}$; $\delta \leq 0.25$		-	2	A
I_{FSM}	non-repetitive peak forward current	$t_p = 8\text{ ms}$; square wave		-	2.5	A
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$	[1]	-	300	mW
T_j	junction temperature			-	150	$^{\circ}\text{C}$
T_{amb}	ambient temperature			-65	150	$^{\circ}\text{C}$
T_{stg}	storage temperature			-65	150	$^{\circ}\text{C}$

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

9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$R_{th(j-a)}$	thermal resistance from junction to ambient	in free air	[1] [2]	-	-	400	K/W
$R_{th(j-sp)}$	thermal resistance from junction to solder point		[3]	-	-	75	K/W

[1] For Schottky barrier diodes thermal runaway has to be considered, as in some applications the reverse power losses P_R are a significant part of the total power losses.
[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.
[3] Soldering point of cathode tab.

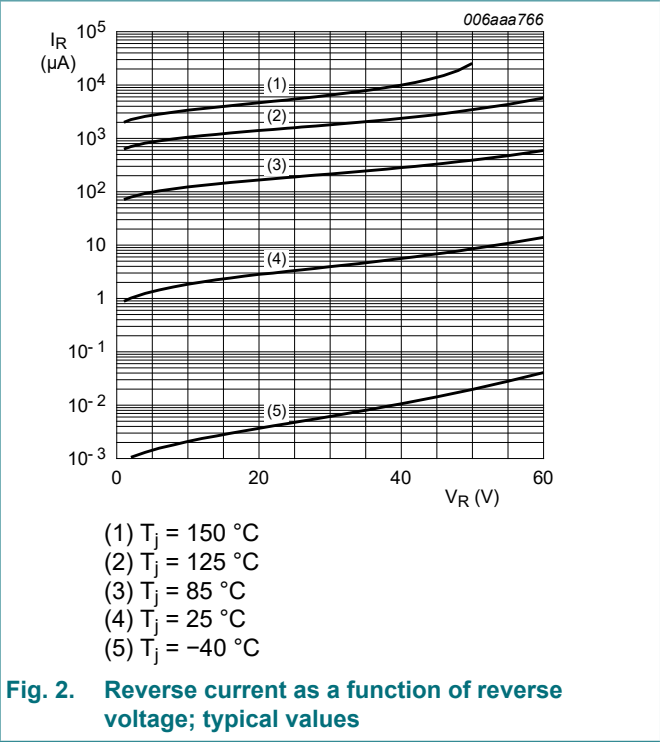
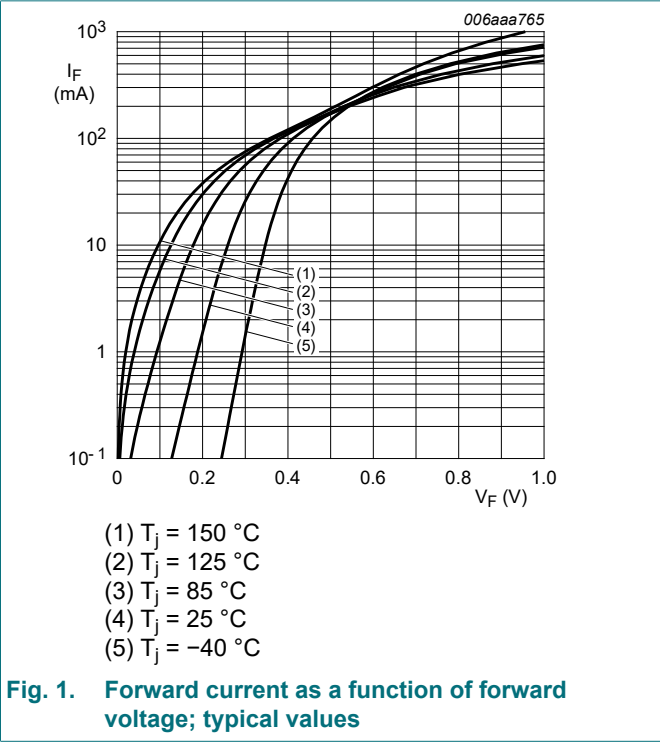
10. Characteristics

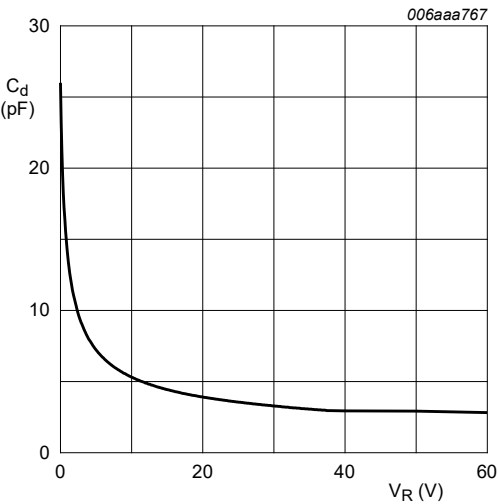
Table 7. Characteristics

T_{amb} = 25 °C unless otherwise specified

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
V _F	forward voltage	I _F = 0.1 mA	[1]	-	130	170	mV
		I _F = 1 mA	[1]	-	190	230	mV
		I _F = 10 mA	[1]	-	260	300	mV
		I _F = 100 mA	[1]	-	420	470	mV
		I _F = 200 mA	[1]	-	540	600	mV
I _R	reverse current	V _R = 10 V		-	2	10	μA
		V _R = 60 V		-	20	100	μA
		V _R = 10 V; T _{amb} = 100 °C		-	310	-	μA
C _d	diode capacitance	V _R = 1 V; f = 1 MHz		-	14	20	pF

[1] Pulsed test: t_p ≤ 300 μs; δ ≤ 0.02





$f = 1\text{ MHz}$; $T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$

Fig. 3. Diode capacitance as a function of reverse voltage; typical values

11. Test information

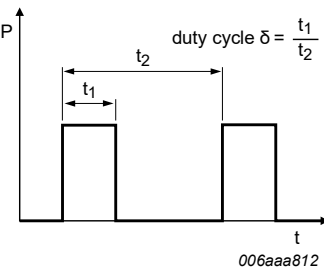


Fig. 4. Duty cycle definition

Quality information

This product has been qualified in accordance with the Automotive Electronics Council (AEC) standard *Q101 - Stress test qualification for discrete semiconductors*, and is suitable for use in automotive applications.

12. Package outline

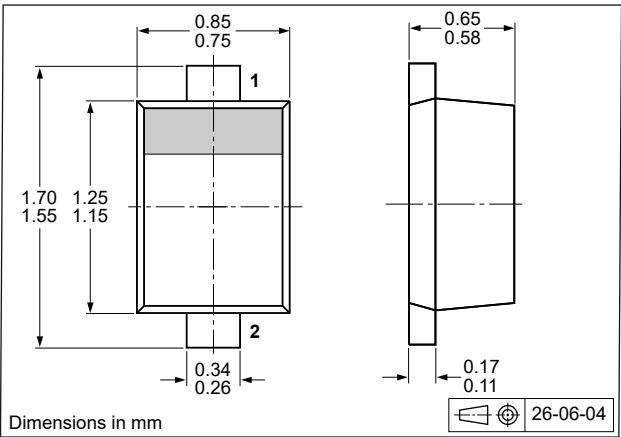


Fig. 5. Package outline SC-79 (SOD523)

13. Soldering

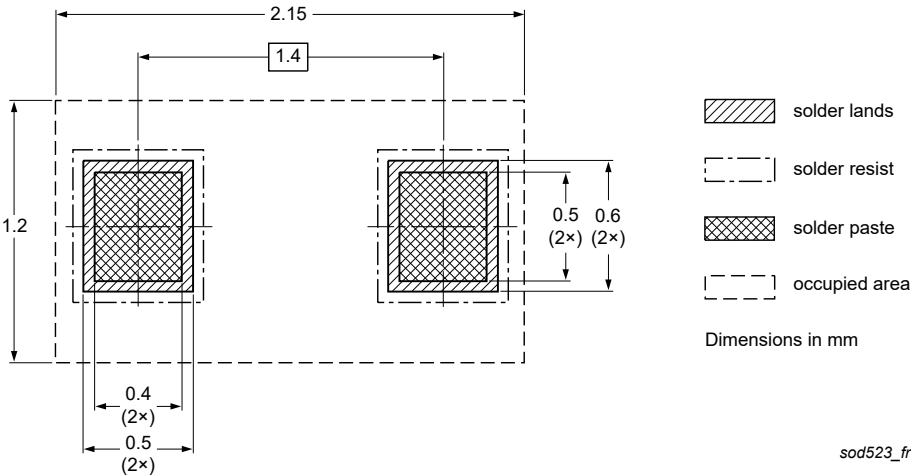


Fig. 6. Reflow soldering footprint for SC-79 (SOD523)

14. Revision history

Table 8. Revision history

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
PMEG6002EB-Q v.2	20260806	Product data sheet	-	PMEG6002EB-Q v.1
Modifications:	• Aligned SOD523 package outline drawing			
PMEG6002EB-Q v.1	20220426	Product data sheet	-	-

15. 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.

- [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".
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Contents

1. General description..... 1

2. Features and benefits..... 1

3. Applications..... 1

4. Quick reference data..... 1

5. Pinning information..... 1

6. Ordering information..... 2

7. Marking..... 2

8. Limiting values..... 2

9. Thermal characteristics..... 2

10. Characteristics..... 3

11. Test information..... 4

12. Package outline..... 5

13. Soldering..... 5

14. Revision history..... 6

15. Legal information..... 7

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