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Electronic Components Sourcing Information

Product Reference Information

Part Number: PMEG1020EJ,115
Manufacturer: Nexperia USA Inc.
Package: SC-90, SOD-323F
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/nexperia-usa-inc/pmeg1020ej-115.html>

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Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.



PMEG1020EJ

10 V, 2 A ultra low VF Schottky barrier rectifier

30 September 2025

Product data sheet

1. General description

Planar Schottky barrier rectifier with an integrated guard ring for stress protection, encapsulated in a SOD323F (SC-90) small Surface-Mounted Device (SMD) plastic package.

2. Features and benefits

- Forward current: ≤ 2 A
- Reverse voltage: ≤ 10 V
- Ultra low forward voltage
- Small and flat lead SMD plastic package

3. Applications

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

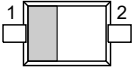
4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_R	reverse voltage		-	-	10	V
I_F	forward current	$T_{sp} \leq 55$ °C	-	-	2	A
I_R	reverse current	$V_R = 5$ V; $T_{amb} = 25$ °C	-	0.7	2	mA

5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode	 SC-90 (SOD323F)	 sym001
2	A	anode		

6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
PMEG1020EJ	SC-90	plastic, surface-mounted package; 2 leads; 1.7 mm x 1.25 mm x 0.7 mm body	SOD323F

7. Marking

Table 4. Marking codes

Type number	Marking code
PMEG1020EJ	CB

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			-	10	V
I _F	forward current	T _{sp} ≤ 55 °C		-	2	A
I _{FRM}	repetitive peak forward current	t _p ≤ 1 ms; δ ≤ 0.25		-	7	A
I _{FSM}	non-repetitive peak forward current	t _p = 8 ms; square wave		-	9	A
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C	[1]	-	360	mW
			[2]	-	830	mW
T _j	junction temperature			-	150	°C
T _{amb}	ambient temperature			-65	150	°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.
- [2] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1 cm².

9. Thermal characteristics

Table 6. Thermal characteristics

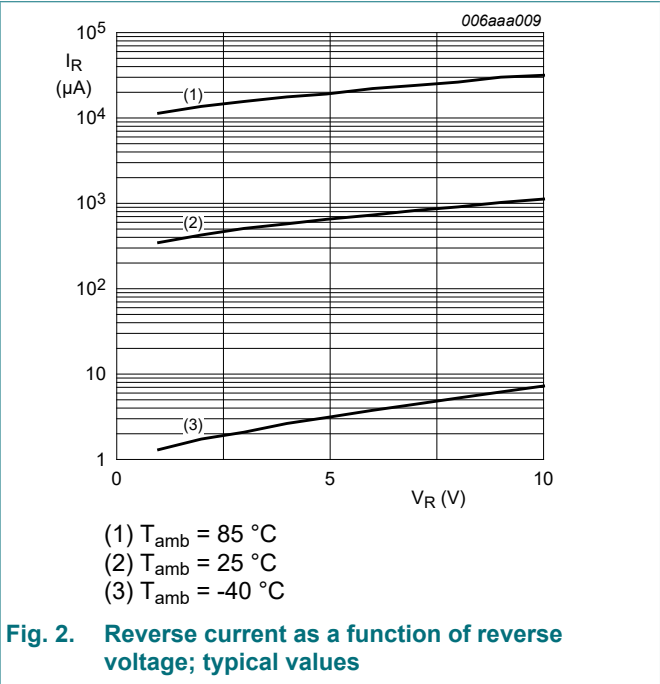
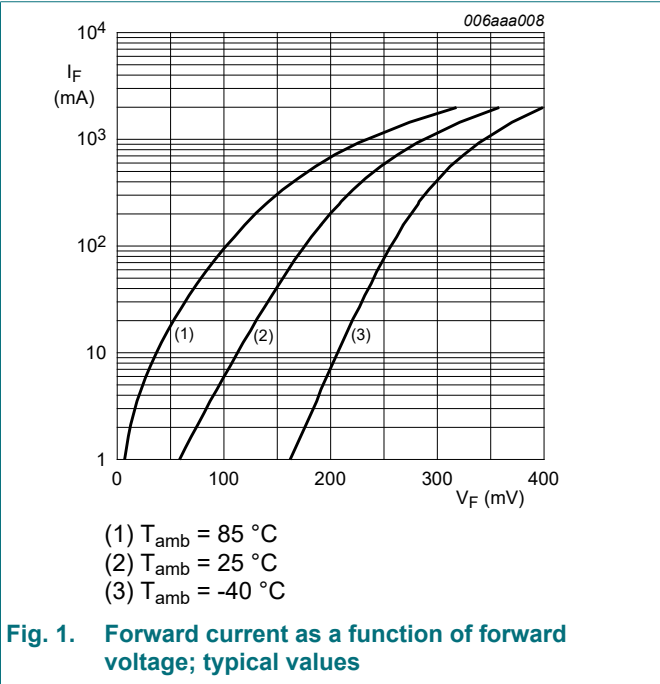
Symbol	Parameter	Conditions		Min	Typ	Max	Unit
R _{th(j-a)}	thermal resistance from junction to ambient		[1] [2]	-	-	350	K/W
			[3] [2]	-	-	150	K/W
R _{th(j-sp)}	thermal resistance from junction to solder point		[4]	-	-	55	K/W

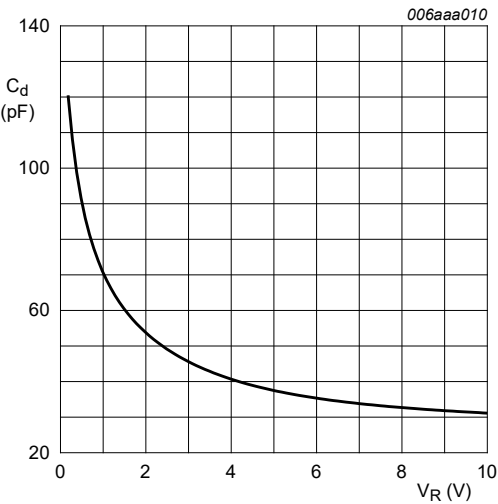
- [1] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.
- [2] For Schottky barrier diodes thermal runaway has to be considered, as in some applications the reverse power losses P_R are a significant part of the total power losses.
- [3] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1 cm².
- [4] Soldering point of cathode tab.

10. Characteristics

Table 7. Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _F	forward voltage	I _F = 0.01 A; pulsed; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	100	130	mV
		I _F = 0.1 A; pulsed; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	170	200	mV
		I _F = 1 A; pulsed; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	280	350	mV
		I _F = 2 A; pulsed; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	350	460	mV
I _R	reverse current	V _R = 5 V; T _{amb} = 25 °C	-	0.7	2	mA
		V _R = 8 V; T _{amb} = 25 °C	-	1	2.5	mA
		V _R = 10 V; T _{amb} = 25 °C	-	1.2	3	mA
C _d	diode capacitance	V _R = 5 V; f = 1 MHz; T _{amb} = 25 °C	-	40	50	pF





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

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

11. Package outline

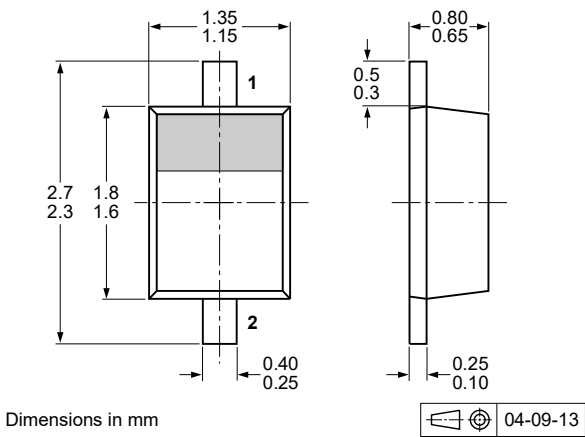
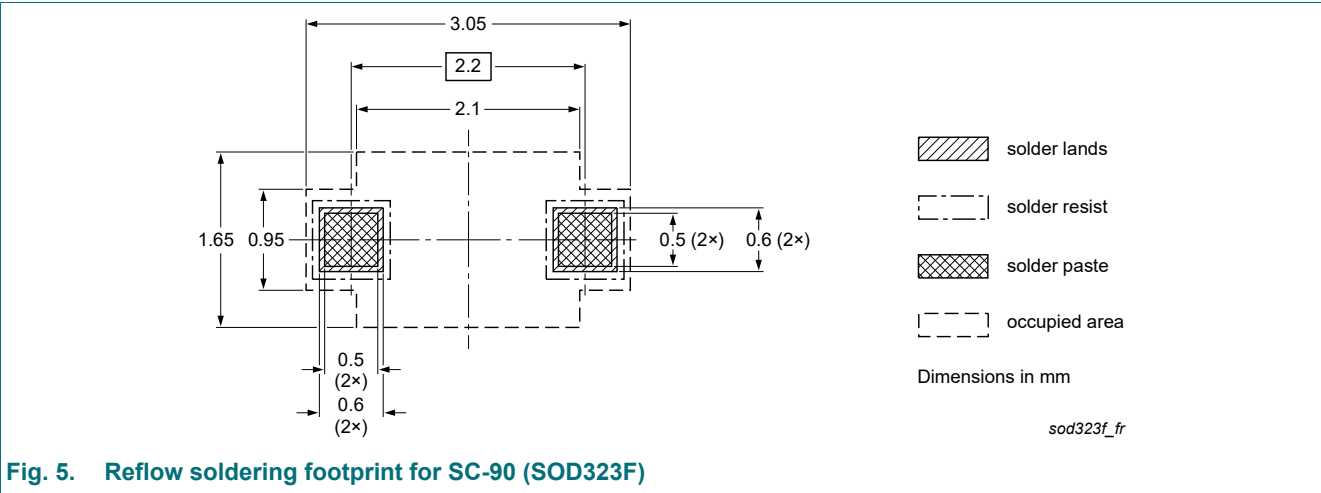


Fig. 4. Package outline SC-90 (SOD323F)

12. Soldering



13. Revision history

Table 8. Revision history

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
PMEG1020EJ v.6	20250930	Product data sheet	-	PMEG1020EJ v.5
Modifications:	Product(s) changed to non-automotive qualification. Please refer to nexperia.com for automotive (-Q) product alternative(s).			
PMEG1020EJ v.5	20221222	Product data sheet	-	PMEG1020EH_EJ_4
PMEG1020EH_EJ_4	20100115	Product data sheet	-	PMEG1020EH_EJ_3
PMEG1020EH_EJ_3	20050414	Product data sheet	-	PMEG1020EH_2
PMEG1020EH_2	20041001	Product data sheet	-	PMEG1020EH_1
PMEG1020EH_1	20050203	Objective data sheet	-	-

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.

- [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 <https://www.nexperia.com>.

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