



# PMEG2015EJ

20 V, 1.5 A very 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 SOD323F (SC-90) small and flat SMD plastic package.

## 2. Features and benefits

- Forward current:  $\leq 1.5$  A
- Reverse voltage:  $\leq 20$  V
- Very low forward voltage
- Small and flat lead SMD plastic packages

## 3. Applications

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

## 4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$I_F$	forward current	$T_{sp} \leq 55$ °C		-	-	1.5	A
$V_R$	reverse voltage			-	-	20	V
$V_F$	forward voltage	$I_F = 1.5$ A; pulsed; $t_p \leq 300$ $\mu$ s; $\delta \leq 0.02$ ; $T_{amb} = 25$ °C		-	560	660	mV

## 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
PMEG2015EJ	SC-90	plastic, surface-mounted package; 2 leads; 1.7 mm x 1.25 mm x 0.7 mm body	<a href="#">SOD323F</a>

## 7. Marking

**Table 4. Marking codes**

Type number	Marking code
PMEG2015EJ	EL

## 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			-	20	V
$I_F$	forward current	$T_{sp} \leq 55^\circ\text{C}$		-	1.5	A
$I_{FRM}$	repetitive peak forward current	$t_p \leq 1 \text{ ms}; \delta \leq 0.25$		-	5.5	A
$I_{FSM}$	non-repetitive peak forward current	$t_p = 8 \text{ ms}; \text{square wave}$		-	9	A
$P_{tot}$	total power dissipation	$T_{amb} \leq 25^\circ\text{C}$	[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 cm<sup>2</sup>.

## 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]	-	-	350	K/W
			[1] [3]	-	-	150	K/W
$R_{th(j-sp)}$	thermal resistance from junction to solder point			-	-	55	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. Nomograms for determining the reverse power losses  $P_R$  and  $I_{F(AV)}$  rating will be available on request.

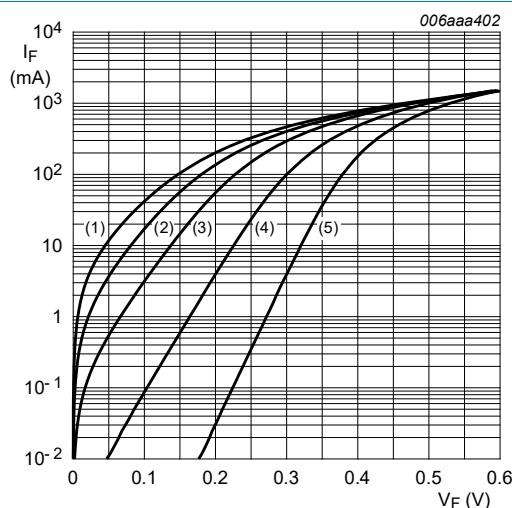
[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

[3] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1 cm<sup>2</sup>.

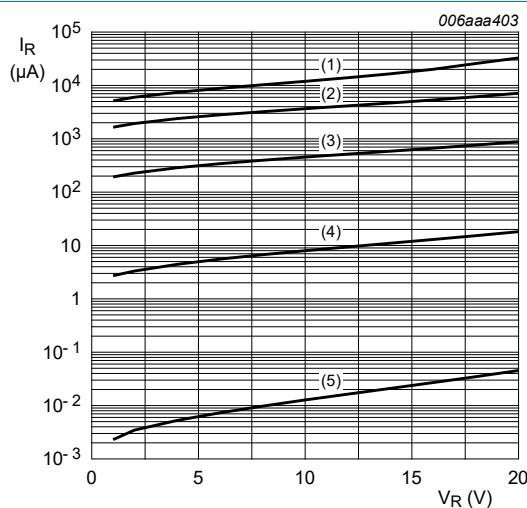
## 10. Characteristics

**Table 7. Characteristics**

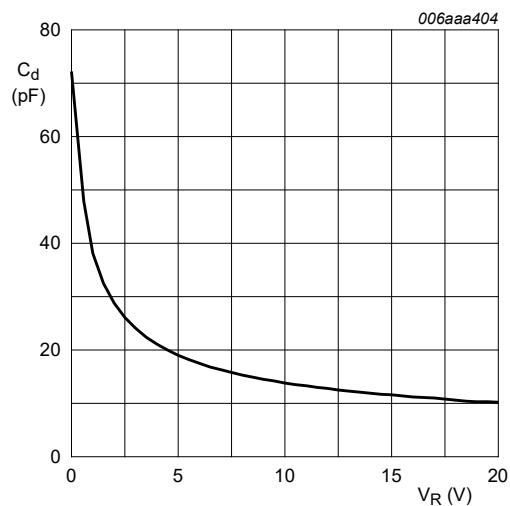
Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$V_F$	forward voltage	$I_F = 10 \text{ mA}; \text{ pulsed}; t_p \leq 300 \mu\text{s}; \delta \leq 0.02; T_{amb} = 25^\circ\text{C}$		-	240	270	mV
		$I_F = 100 \text{ mA}; \text{ pulsed}; t_p \leq 300 \mu\text{s}; \delta \leq 0.02; T_{amb} = 25^\circ\text{C}$		-	300	350	mV
		$I_F = 500 \text{ mA}; \text{ pulsed}; t_p \leq 300 \mu\text{s}; \delta \leq 0.02; T_{amb} = 25^\circ\text{C}$		-	400	460	mV
		$I_F = 1 \text{ A}; \text{ pulsed}; t_p \leq 300 \mu\text{s}; \delta \leq 0.02; T_{amb} = 25^\circ\text{C}$		-	480	550	mV
		$I_F = 1.5 \text{ A}; \text{ pulsed}; t_p \leq 300 \mu\text{s}; \delta \leq 0.02; T_{amb} = 25^\circ\text{C}$		-	560	660	mV
$I_R$	reverse current	$V_R = 5 \text{ V}; T_{amb} = 25^\circ\text{C}$		-	5	10	$\mu\text{A}$
		$V_R = 8 \text{ V}; T_{amb} = 25^\circ\text{C}$		-	7	20	$\mu\text{A}$
		$V_R = 10 \text{ V}; T_{amb} = 25^\circ\text{C}$		-	8	30	$\mu\text{A}$
		$V_R = 15 \text{ V}; T_{amb} = 25^\circ\text{C}$		-	10	50	$\mu\text{A}$
		$V_R = 20 \text{ V}; T_{amb} = 25^\circ\text{C}$		-	15	70	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 1 \text{ V}; f = 1 \text{ MHz}; T_{amb} = 25^\circ\text{C}$		-	40	50	pF



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



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



$f = 1$  MHz;  $T_{amb} = 25$  °C

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

## 11. Package outline

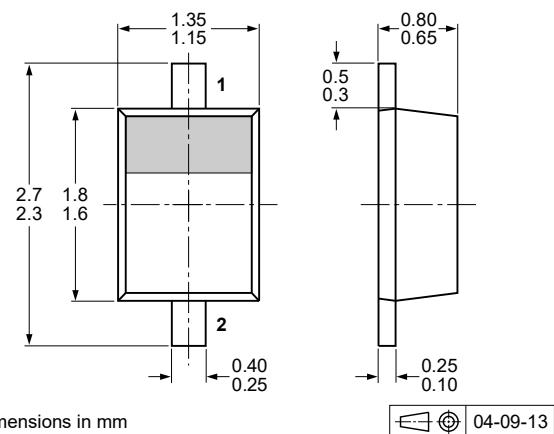


Fig. 4. Package outline SC-90 (SOD323F)

## 12. Soldering

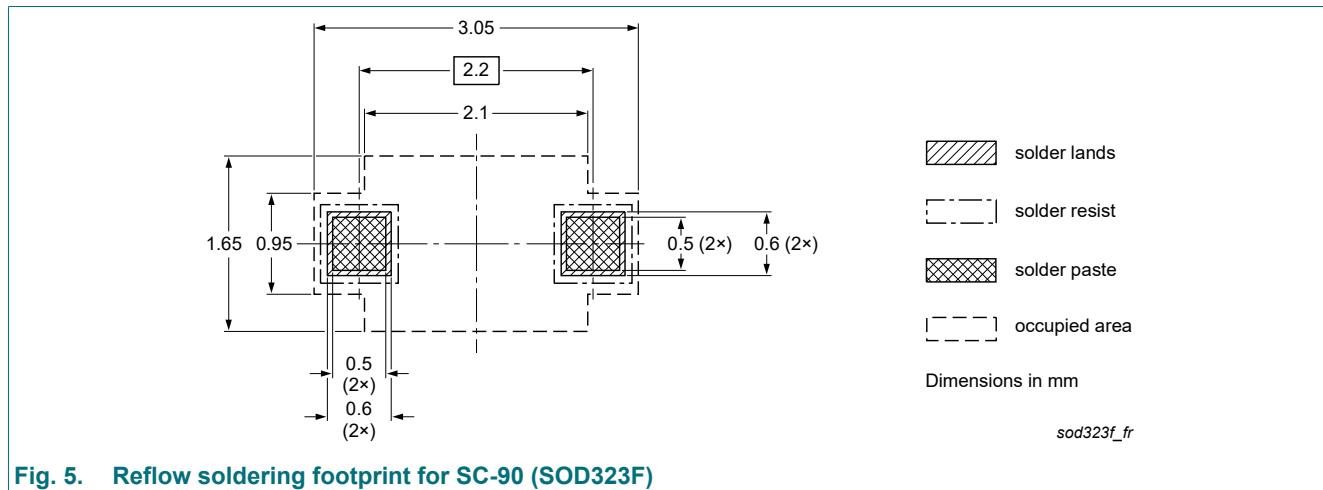


Fig. 5. Reflow soldering footprint for SC-90 (SOD323F)

## 13. Revision history

**Table 8. Revision history**

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
PMEG2015EJ v.5	20250930	Product data sheet	-	PMEG2015EJ v.4
Modifications:	<ul style="list-style-type: none"><li>Product(s) changed to non-automotive qualification. Please refer to <a href="http://nexperia.com">nexperia.com</a> for automotive (-Q) product alternative(s).</li></ul>			
PMEG2015EJ v.4	20231017	Product data sheet	-	PMEG2015EH_EJ_3
PMEG2015EH_EJ_3	20100115	Product data sheet	-	PMEG2015EH_EJ_2
PMEG2015EH_EJ_2	20050407	Product data sheet	-	PMEG2015EJ_1
PMEG2015EJ_1	20050302	Product 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".
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