



# 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     | <br>SC-90 (SOD323F) | <br>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 | SOD323F |

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 <sub>R</sub>   | reverse voltage                     |                                    |     | -   | 20  | V    |
| I <sub>F</sub>   | forward current                     | T <sub>sp</sub> ≤ 55 °C            |     | -   | 1.5 | A    |
| I <sub>FRM</sub> | repetitive peak forward current     | t <sub>p</sub> ≤ 1 ms; δ ≤ 0.25    |     | -   | 5.5 | A    |
| I <sub>FSM</sub> | non-repetitive peak forward current | t <sub>p</sub> = 8 ms; square wave |     | -   | 9   | A    |
| P <sub>tot</sub> | total power dissipation             | T <sub>amb</sub> ≤ 25 °C           | [1] | -   | 360 | mW   |
|                  |                                     |                                    | [2] | -   | 830 | mW   |
| T <sub>j</sub>   | junction temperature                |                                    |     | -   | 150 | °C   |
| T <sub>amb</sub> | ambient temperature                 |                                    |     | -65 | 150 | °C   |
| T <sub>stg</sub> | 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

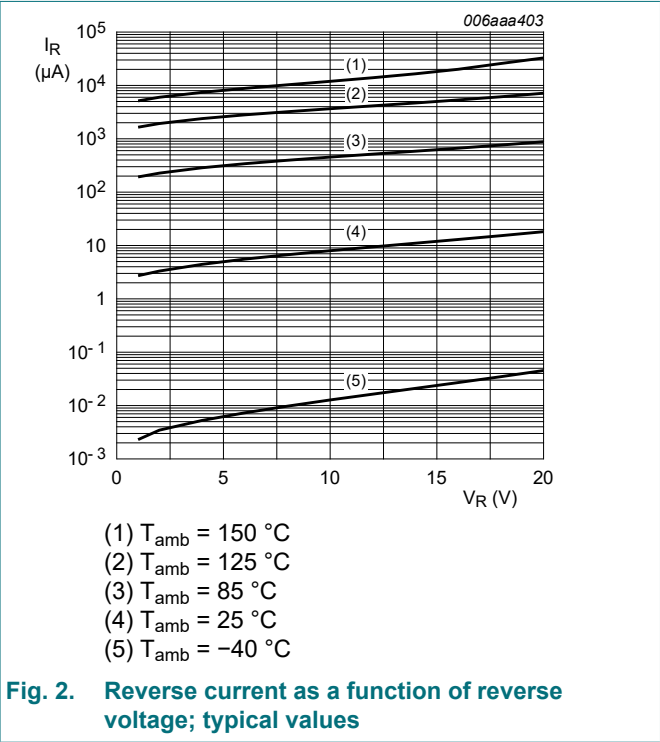
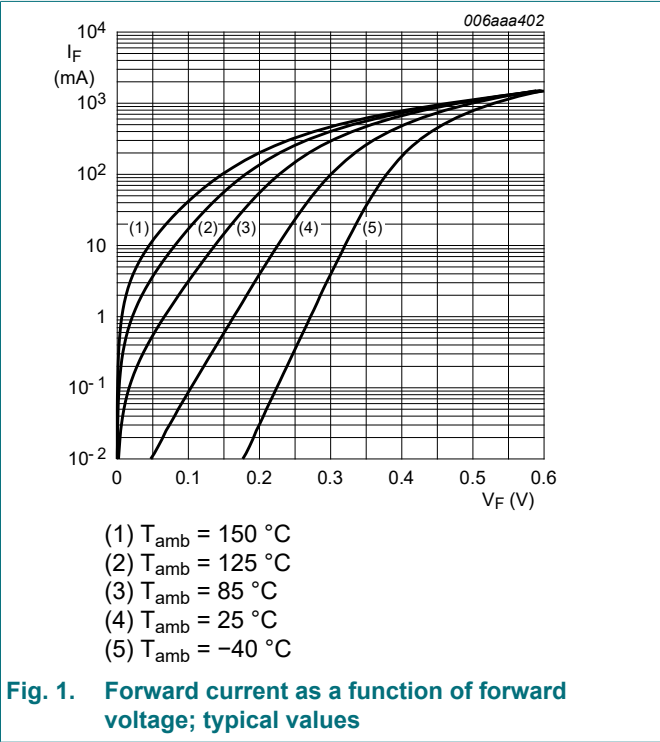
| Symbol                | Parameter  | Conditions  |         | Min | Typ | Max | Unit |
|-----------------------|--|-------------|---------|-----|-----|-----|------|
| R <sub>th(j-a)</sub>  | thermal resistance from junction to ambient      | in free air | [1] [2] | -   | -   | 350 | K/W  |
|                       |  |             | [1] [3] | -   | -   | 150 | K/W  |
| R <sub>th(j-sp)</sub> | thermal resistance from junction to solder point |             |         | -   | -   | 55  | K/W  |

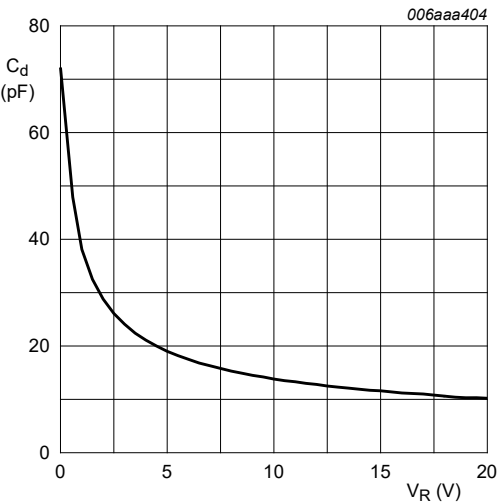
- [1] For Schottky barrier diodes thermal runaway has to be considered, as in some applications, the reverse power losses P<sub>R</sub> are a significant part of the total power losses. Nomograms for determining the reverse power losses P<sub>R</sub> and I<sub>F(AV)</sub> rating will be available on 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 <sub>F</sub> | forward voltage   | I <sub>F</sub> = 10 mA; pulsed; t <sub>p</sub> ≤ 300 μs; δ ≤ 0.02; T <sub>amb</sub> = 25 °C  | -   | 240 | 270 | mV   |
|                |                   | I <sub>F</sub> = 100 mA; pulsed; t <sub>p</sub> ≤ 300 μs; δ ≤ 0.02; T <sub>amb</sub> = 25 °C | -   | 300 | 350 | mV   |
|                |                   | I <sub>F</sub> = 500 mA; pulsed; t <sub>p</sub> ≤ 300 μs; δ ≤ 0.02; T <sub>amb</sub> = 25 °C | -   | 400 | 460 | mV   |
|                |                   | I <sub>F</sub> = 1 A; pulsed; t <sub>p</sub> ≤ 300 μs; δ ≤ 0.02; T <sub>amb</sub> = 25 °C    | -   | 480 | 550 | mV   |
|                |                   | I <sub>F</sub> = 1.5 A; pulsed; t <sub>p</sub> ≤ 300 μs; δ ≤ 0.02; T <sub>amb</sub> = 25 °C  | -   | 560 | 660 | mV   |
| I <sub>R</sub> | reverse current   | V <sub>R</sub> = 5 V; T <sub>amb</sub> = 25 °C   | -   | 5   | 10  | μA   |
|                |                   | V <sub>R</sub> = 8 V; T <sub>amb</sub> = 25 °C   | -   | 7   | 20  | μA   |
|                |                   | V <sub>R</sub> = 10 V; T <sub>amb</sub> = 25 °C  | -   | 8   | 30  | μA   |
|                |                   | V <sub>R</sub> = 15 V; T <sub>amb</sub> = 25 °C  | -   | 10  | 50  | μA   |
|                |                   | V <sub>R</sub> = 20 V; T <sub>amb</sub> = 25 °C  | -   | 15  | 70  | μA   |
| C <sub>d</sub> | diode capacitance | V <sub>R</sub> = 1 V; f = 1 MHz; T <sub>amb</sub> = 25 °C                                    | -   | 40  | 50  | pF   |





f = 1 MHz; T<sub>amb</sub> = 25 °C

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

11. Package outline

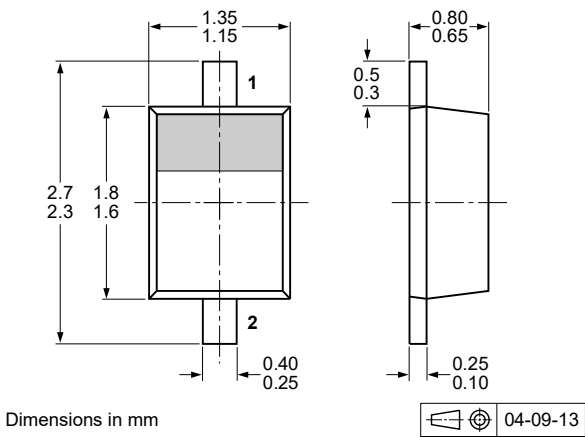
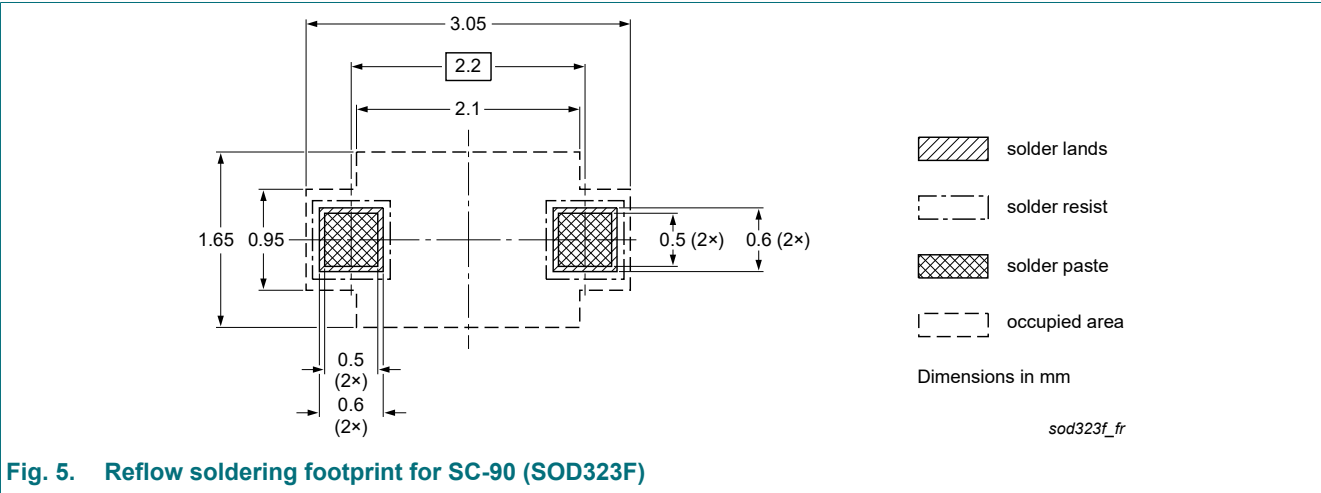


Fig. 4. Package outline SC-90 (SOD323F)

12. Soldering



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 nexperia.com 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".
- [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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