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Kind regards,

Team Nexperia
PMEG3002AEB
Low $V_F$ MEGA Schottky barrier diode
Low $V_F$ MEGA Schottky barrier diode

**FEATURES**

- Forward current: 0.2 A
- Reverse voltage: 30 V
- Very low forward voltage
- Ultra small SMD package.

**APPLICATIONS**

- Ultra high-speed switching
- High efficiency DC/DC conversion
- Voltage clamping
- Inverse-polarity protection
- Low voltage rectification
- Low power consumption applications.

**DESCRIPTION**


**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 60134).

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>MIN.</th>
<th>MAX.</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_R$</td>
<td>continuous reverse voltage</td>
<td></td>
<td>–</td>
<td>30</td>
<td>V</td>
</tr>
<tr>
<td>$I_F$</td>
<td>continuous forward current</td>
<td></td>
<td>–</td>
<td>200</td>
<td>mA</td>
</tr>
<tr>
<td>$I_{FRM}$</td>
<td>repetitive peak forward current</td>
<td>$t_p \leq 1$ s; $\delta \leq 0.5$</td>
<td>–</td>
<td>300</td>
<td>mA</td>
</tr>
<tr>
<td>$I_{FSM}$</td>
<td>non-repetitive peak forward current</td>
<td>$t_o = 8.3$ ms half sinewave; JEDEC method</td>
<td>–</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>$T_{stg}$</td>
<td>storage temperature</td>
<td></td>
<td>–65</td>
<td>150</td>
<td>°C</td>
</tr>
<tr>
<td>$T_j$</td>
<td>junction temperature</td>
<td></td>
<td>–</td>
<td>125</td>
<td>°C</td>
</tr>
<tr>
<td>$T_{amb}$</td>
<td>operating ambient temperature</td>
<td></td>
<td>–65</td>
<td>125</td>
<td>°C</td>
</tr>
</tbody>
</table>

Marking code: B1.
The marking bar indicates the cathode.

Fig.1 Simplified outline (SOD523; SC-79) and symbol.
ELECTRICAL CHARACTERISTICS

$T_{\text{amb}} = 25$ °C; unless otherwise specified.

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>TYP.</th>
<th>MAX.</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_F$</td>
<td>continuous forward voltage</td>
<td>see Fig.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$I_F = 0.1$ mA</td>
<td>130</td>
<td>190</td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$I_F = 1$ mA</td>
<td>190</td>
<td>250</td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$I_F = 10$ mA</td>
<td>255</td>
<td>300</td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$I_F = 100$ mA</td>
<td>355</td>
<td>400</td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$I_F = 200$ mA</td>
<td>420</td>
<td>480</td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td>$I_R$</td>
<td>continuous reverse current</td>
<td>$V_R = 10$ V; see Fig.3; note 1</td>
<td>2.5</td>
<td>10</td>
<td>μA</td>
</tr>
<tr>
<td>$C_d$</td>
<td>diode capacitance</td>
<td>$V_R = 1$ V; $f = 1$ MHz; see Fig.4</td>
<td>20</td>
<td>25</td>
<td>pF</td>
</tr>
</tbody>
</table>

Note
1. Pulsed test: $t_p = 300$ μs; $\delta = 0.02$.

THERMAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$R_{th,j-a}$</td>
<td>thermal resistance from junction to ambient</td>
<td>note 1</td>
<td>450</td>
<td>K/W</td>
</tr>
</tbody>
</table>

Note
1. Refer to SOD523 (SC-79) standard mounting conditions.
Low $V_F$ MEGA Schottky barrier diode

**GRAPHICAL DATA**

Fig. 2  Forward current as a function of forward voltage; typical values.

Fig. 3  Reverse current as a function of reverse voltage; typical values.

Fig. 4  Diode capacitance as a function of reverse voltage; typical values.

$V_F$ (V)

$I_F$ (mA)

$V_R$ (V)

$C_d$ (pF)

$T_{amb} = 125 \, ^\circ C$.  
$T_{amb} = 85 \, ^\circ C$.  
$T_{amb} = 25 \, ^\circ C$.  

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

(1)  
(2)  
(3)
Low $V_F$ MEGA Schottky barrier diode

PMEG3002AEB

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523

DIMENSIONS (mm are the original dimensions)

<table>
<thead>
<tr>
<th>UNIT</th>
<th>A</th>
<th>$b_p$</th>
<th>c</th>
<th>D</th>
<th>E</th>
<th>$H_E$</th>
<th>$v$</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>0.65</td>
<td>0.34</td>
<td>0.17</td>
<td>1.25</td>
<td>0.85</td>
<td>1.65</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>0.58</td>
<td>0.26</td>
<td>0.11</td>
<td>1.15</td>
<td>0.75</td>
<td>1.55</td>
<td></td>
</tr>
</tbody>
</table>

Note

1. The marking bar indicates the cathode.
DATA SHEET STATUS

<table>
<thead>
<tr>
<th>DOCUMENT STATUS(1)</th>
<th>PRODUCT STATUS(2)</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective data sheet</td>
<td>Development</td>
<td>This document contains data from the objective specification for product development.</td>
</tr>
<tr>
<td>Preliminary data sheet</td>
<td>Qualification</td>
<td>This document contains data from the preliminary specification.</td>
</tr>
<tr>
<td>Product data sheet</td>
<td>Production</td>
<td>This document contains the product specification.</td>
</tr>
</tbody>
</table>

Notes

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NXP Semiconductors

Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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