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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via salesaddresses@nexperia.com). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia
PMBD354
Schottky barrier double diode

Product data sheet
Supersedes data of 2002 Aug 06
FEATURES
- Low forward voltage
- Small SMD package
- Low capacitance
- Matched capacitance.

APPLICATIONS
- UHF mixer
- Sampling circuits
- Modulators
- Phase detection.

DESCRIPTION
Planar Schottky barrier double diode in a SOT23 small plastic SMD package.

MARKING

<table>
<thead>
<tr>
<th>TYPE NUMBER</th>
<th>MARKING CODE(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMBD354</td>
<td>*V8</td>
</tr>
</tbody>
</table>

Note
1. * = p : Made in Hong Kong.
   * = t : Made in Malaysia.
   * = W : Made in China.

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

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>PARAMETER</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>4</td>
<td>V</td>
</tr>
<tr>
<td>( I_F )</td>
<td>continuous forward current</td>
<td>–</td>
<td>30</td>
<td>mA</td>
</tr>
<tr>
<td>( T_{stg} )</td>
<td>storage temperature</td>
<td>–65</td>
<td>+150</td>
<td>°C</td>
</tr>
<tr>
<td>( T_J )</td>
<td>junction temperature</td>
<td>–</td>
<td>100</td>
<td>°C</td>
</tr>
</tbody>
</table>
Schottky barrier double diode

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ELECTRICAL CHARACTERISTICS

$T_{\text{amb}} = 25 ^\circ\text{C}$ unless otherwise specified.

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>MAX.</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per diode</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$V_F$</td>
<td>forward voltage</td>
<td>see Fig.2</td>
<td>350</td>
<td>mV</td>
</tr>
<tr>
<td></td>
<td>$I_F = 0.1\ \text{mA}$</td>
<td></td>
<td>450</td>
<td>mV</td>
</tr>
<tr>
<td></td>
<td>$I_F = 1\ \text{mA}$</td>
<td></td>
<td>600</td>
<td>mV</td>
</tr>
<tr>
<td>$I_R$</td>
<td>reverse current</td>
<td>$V_R = 3\ \text{V}$; note 1; see Fig.3</td>
<td>0.25</td>
<td>$\mu\text{A}$</td>
</tr>
<tr>
<td>$C_d$</td>
<td>diode capacitance</td>
<td>$f = 1\ \text{MHz}$; $V_R = 0$; see Fig.4</td>
<td>1</td>
<td>pF</td>
</tr>
<tr>
<td>$\Delta C_d$</td>
<td>capacitance matching</td>
<td>$f = 1\ \text{MHz}$; $V_R = 0$</td>
<td>0.1</td>
<td>pF</td>
</tr>
</tbody>
</table>

Note

1. Pulse test: $t_p = 300\ \mu\text{s}$; $\delta = 0.02$.

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>500</td>
<td>$\text{K/W}$</td>
</tr>
</tbody>
</table>

Note

1. Refer to SOT23 standard mounting conditions.
Schottky barrier double diode

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GRAPHICAL DATA

(1) \( T_{\text{amb}} = 100 \degree C \).
(2) \( T_{\text{amb}} = 60 \degree C \).
(3) \( T_{\text{amb}} = 25 \degree C \).
(4) \( T_{\text{amb}} = -40 \degree C \).

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

(1) \( T_{\text{amb}} = 100 \degree C \).
(2) \( T_{\text{amb}} = 60 \degree C \).
(3) \( T_{\text{amb}} = 25 \degree C \).
(4) \( T_{\text{amb}} = -40 \degree C \).

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

(1) \( T_{\text{amb}} = 100 \degree C \).
(2) \( T_{\text{amb}} = 60 \degree C \).
(3) \( T_{\text{amb}} = 25 \degree C \).
(4) \( T_{\text{amb}} = -40 \degree C \).

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

\( f = 1 \text{ MHz} \); \( T_{\text{amb}} = 25 \degree C \).
Schottky barrier double diode

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23

DIMENSIONS (mm are the original dimensions)

<table>
<thead>
<tr>
<th>UNIT</th>
<th>A</th>
<th>A1 max.</th>
<th>b_p</th>
<th>c</th>
<th>D</th>
<th>E</th>
<th>e</th>
<th>e_1</th>
<th>H_E</th>
<th>L_p</th>
<th>Q</th>
<th>v</th>
<th>w</th>
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<tbody>
<tr>
<td>mm</td>
<td>1.1</td>
<td>0.9</td>
<td>0.1</td>
<td>0.48</td>
<td>0.15</td>
<td>3.0</td>
<td>1.4</td>
<td>1.9</td>
<td>2.5</td>
<td>2.1</td>
<td>0.45</td>
<td>0.55</td>
<td>0.2</td>
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OUTLINE VERSION

<table>
<thead>
<tr>
<th>IEC</th>
<th>JEDEC</th>
<th>EIAJ</th>
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<tr>
<td>TO-236AB</td>
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EUROPEAN PROJECTION

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DATA SHEET STATUS

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<tr>
<td>Objective data sheet</td>
<td>Development</td>
<td>This document contains data from the objective specification for product</td>
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<tr>
<td></td>
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<td>development.</td>
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<tr>
<td>Preliminary data sheet</td>
<td>Qualification</td>
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<tr>
<td>Product data sheet</td>
<td>Production</td>
<td>This document contains the product specification.</td>
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</table>

Notes

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