1. Introduction

Grounding products should ensure electrical performance without breaking under mechanical or environmental stress throughout the life time of the product. Doubleshield Pad ensures reliable grounding performance in electronic applications. The Pads are delivered in tape-and-reel packaging for automated placement and soldering reflow using standard SMT equipment.

Features and benefits

The flexible and easily compressible Pad can to take up tolerances and close the gap between a PCB and another component in addition to providing a reliable grounding contact.

SMT compatible
Excellent mechanical properties
Large conformable contact area

Applications

The Doubleshield Pad is used as a grounding contact on printed circuit boards commonly used in the electronics industry.

2. Product description

The Doubleshield Pad has hollow profile with a core of soft silicone and a shell of electrically conductive silicone rubber filled with Ni/C particles.

The product is laminated with a solderable metal strip in Nickel alloy 201.
3. **Product dimensions**

The Doubleshield Pad is delivered in three different versions but different cross sections and length can be developed to fit any demand.

<table>
<thead>
<tr>
<th>Material</th>
<th>SEM1098621</th>
<th>SEM1007821</th>
<th>SEM1083821</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td>Schlegel 8686</td>
<td>Schlegel 8686</td>
<td>Schlegel 8686</td>
</tr>
<tr>
<td>β</td>
<td>Schlegel 1445</td>
<td>Schlegel 1540</td>
<td>Schlegel 1445</td>
</tr>
<tr>
<td>γ</td>
<td>Nickel Alloy 201</td>
<td>Nickel Alloy 201</td>
<td>Nickel Alloy 201</td>
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</tbody>
</table>

**Dimension (mm)**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td>2.55</td>
<td>2.55</td>
<td>1.80</td>
</tr>
<tr>
<td>β</td>
<td>2.40</td>
<td>2.40</td>
<td>1.60</td>
</tr>
<tr>
<td>γ</td>
<td>3.60</td>
<td>3.60</td>
<td>3.60</td>
</tr>
</tbody>
</table>

**PCB Footprint Recommendation* (mm)**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td>2.70</td>
<td>2.70</td>
<td>1.85</td>
</tr>
<tr>
<td>β</td>
<td>3.85</td>
<td>3.85</td>
<td>3.85</td>
</tr>
</tbody>
</table>

*Recommended footprint dimensions are based on successful production tests made by Schlegel, we always recommend users to consider their internal production properties.

4. **Product properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Standard</th>
<th>Unit</th>
<th>SEM1098621</th>
<th>SEM1007821</th>
<th>SEM1083821</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended compression stop</td>
<td></td>
<td>mm</td>
<td>1.9</td>
<td>1.9</td>
<td>1.2</td>
</tr>
<tr>
<td>Force to compress to RCS*</td>
<td></td>
<td>N</td>
<td>2.2</td>
<td>3.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Electrical resistance at RCS*</td>
<td>Schlegel S9</td>
<td>Ohm</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>Compression set, @ 22h/125 °C</td>
<td>ISO 815</td>
<td>%</td>
<td>15</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

*RCS – Recommended compression stop

The recommended operating temperature is between -55°C and +125 °C. To assure a safe and repeatable compression Schlegel recommend the use of mechanical compression stops allowing a compression degree of 20 - 25%. Minimum 10% and maximum 50% compression is recommended.

The Schlegel Doubleshield Pad fulfil the requirements set by the Directive 2011/65/EU and its amendments (RoHS).
5. **Compression force**

The compression force versus compression degree is shown in the graph below.

![Compression force graph](image)

6. **Electrical resistance**

The electrical resistance versus compression degree is shown in the graph below.

![Electrical resistance graph](image)
7. Packaging

The Doubleshield Pad is packaged and delivered in tape-and-reel.

8. Storage conditions

The product is delivered in sealed plastic bags and the products are as such considered as MSL-1 with an unlimited storage time. This assumes that the storage is indoors to protect the product from rain and direct sunshine and at a temperature between 5 and 30°C and a relative humidity of 20-80%.

9. Disclaimer

The data given in this product information should be taken only as a guide and not a specification. The recommendations and data given are based on our experience to date, however, no liability can be assumed in connection with their usage and processing.
NORTH AMERICA

Schlegel Electronic Materials, Inc.
1600 Lexington Ave
Suite 236A Rochester NY 14606
Tel No: +1 585-643 2000
Fax No: +1 585-427 7216
Email: schlegelemi.na@schlegelemi.com

EUROPE

Schlegel Electronic Materials, bvba
Slijpesteenweg 28
8432 Middelkerke (Leffinge)
Belgium
Tel No: +32 59 560 270
Fax No: +32 59 560 271
Email: schlegelbe@schlegelemi.com

ASIA

Schlegel Electronic Materials Asia Limited
Unit 3, 3/F., Block A, New Trade Plaza,
6 On Ping Street, Shatin, N.T., Hong Kong
Tel No: +852-2686 9872
Fax No: +852-2686 9728
Email: schlegelemi@emeigroup.com

Schlegel (Dongguan) Electronics Limited
No. 8 Qiaoxin Road, Qiaotou, Dongguan,
Guangdong, China
Postal Code: 523525
Tel No: +86-769-8356 5686
Fax No: +86-769-8334 5656
Email: schlegelemi@emeigroup.com

Schlegel (Shanghai) Electronics Limited
4/F., 79 Parts, 111 Meisheng Road,
F.T.Z., Pudong, Shanghai, China
Postal Code: 200131
Tel No: +86-21-5868 3383
Fax No: +86-21-5868 3386
Email: schlegelemi@emeigroup.com

Taiwan Schlegel Electronics Limited
No. 99, Alley 3, Lane 182, Section 2 Wenhua Road,
Banqiao District
Postal Code: 22044
Tel No: +886-2-8258 5148
Fax No: +886-2-8258 5149
Email: schlegelemi@emeigroup.com

www.schlegelemi.com