Tape-and-Reel Packaging for Surface Mount Devices

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"18" Package

Outline Dimensions

Geometric Layout

Pin Connections
1. Collector
2. Emitter
3. Base
4. Emitter

S

"19" Package

Outline Dimensions

Geometric Layout

Pin Connections
1. Emitter
2. Base
3. Collector

Symbol | Dimension
--- | ---
A | 0.9 ± 0.1
B | 1.25 ± 0.1
C | 0.15 ± 0.05
D | 2.0 ± 0.2
E | 0.4 ± 0.05
E₁ | 0.3 ± 0.05
F | 0.65
F₁ | 0.60
F₂ | 1.3
G | 0 to 0.1
H | 2.1 ± 0.2
J | 0.3
S | 1.7
T | 0.8
U | 0.6
W | 1.3

Symbol | Dimension
--- | ---
A | 0.75 ± 0.05
C | 0.15 ± 0.05
D | 1.6 ± 0.1
D₁ | 0.8 ± 0.1
E | 0.3 ± 0.05
E₁ | 0.2 ± 0.05
F | 1.0
F₁ | 0.5
G | 0 to 0.1
H | 1.6 ± 0.1
J | 0.6
S | 0.6
T | 0.6
U | 0.5
W | 1.0
X | 1.3

Tape-and-Reel Packaging for Surface Mount Devices
Package Outline Dimensions and Geometric Pad Layout
### "30" Package

**Outline Dimensions**

**Geometric Layout**

**Pin Connections**
1. Emitter
2. Base
3. Collector

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DIMENSION</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>0.8 to 1.1</td>
</tr>
<tr>
<td>B</td>
<td>1.3</td>
</tr>
<tr>
<td>C</td>
<td>0.15 ± 0.06</td>
</tr>
<tr>
<td>D</td>
<td>2.0 ± 0.2</td>
</tr>
<tr>
<td>D₁</td>
<td>1.25 ± 0.1</td>
</tr>
<tr>
<td>E</td>
<td>0.3 ± 0.002</td>
</tr>
<tr>
<td>E₁</td>
<td>0.65</td>
</tr>
<tr>
<td>F</td>
<td>0.43 ± 0.1</td>
</tr>
<tr>
<td>G</td>
<td>0.6 Min</td>
</tr>
<tr>
<td>H</td>
<td>0.8 Min</td>
</tr>
<tr>
<td>J</td>
<td>0.65</td>
</tr>
<tr>
<td>K</td>
<td>1.3</td>
</tr>
<tr>
<td>X</td>
<td>1.7</td>
</tr>
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</table>

### "33" Package

**Outline Dimensions**

**Geometric Layout**

**Pin Connections**
1. Emitter
2. Base
3. Collector

<table>
<thead>
<tr>
<th>SYMBOL</th>
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<tbody>
<tr>
<td>A</td>
<td>1.1 to 1.4</td>
</tr>
<tr>
<td>B</td>
<td>1.5</td>
</tr>
<tr>
<td>C</td>
<td>0.16 ± 0.06</td>
</tr>
<tr>
<td>D</td>
<td>2.9 ± 0.2</td>
</tr>
<tr>
<td>D₁</td>
<td>0.4 ± 0.05</td>
</tr>
<tr>
<td>E</td>
<td>0.65 ± 0.13</td>
</tr>
<tr>
<td>E₁</td>
<td>0.95</td>
</tr>
<tr>
<td>F</td>
<td>1.9</td>
</tr>
<tr>
<td>G</td>
<td>0.8</td>
</tr>
<tr>
<td>H</td>
<td>0.3</td>
</tr>
<tr>
<td>J</td>
<td>0.8 Min</td>
</tr>
<tr>
<td>K</td>
<td>1.0 Min</td>
</tr>
<tr>
<td>S</td>
<td>0.95</td>
</tr>
<tr>
<td>T</td>
<td>1.9</td>
</tr>
<tr>
<td>X</td>
<td>2.4</td>
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Tape-and-Reel Packaging for Surface Mount Devices

Package Outline Dimensions and Geometric Pad Layout

"34" Package

Outline Dimensions

Geometric Layout

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<tr>
<td>B</td>
<td>1.6 ± 0.2</td>
</tr>
<tr>
<td>C</td>
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</tr>
<tr>
<td>D</td>
<td>4.51 ± 0.1</td>
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"39/39R" Package

Outline Dimensions

Geometric Layout

Pin Connections
1. Collector
2. Emitter
3. Base
4. Emitter

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<th>DIMENSION</th>
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<tbody>
<tr>
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<td>Millimeters</td>
</tr>
<tr>
<td>A</td>
<td>1.1 ± 0.05</td>
</tr>
<tr>
<td>B</td>
<td>1.5 ± 0.05</td>
</tr>
<tr>
<td>C</td>
<td>0.16 ± 0.06</td>
</tr>
<tr>
<td>D</td>
<td>2.9 ± 0.2</td>
</tr>
<tr>
<td>D1</td>
<td>1.8</td>
</tr>
<tr>
<td>E</td>
<td>0.6 ± 0.1</td>
</tr>
<tr>
<td>E1</td>
<td>0.4 ± 0.1</td>
</tr>
<tr>
<td>F1</td>
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</tr>
<tr>
<td>F2</td>
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<td>F3</td>
<td>1.9</td>
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<tr>
<td>G</td>
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</tr>
<tr>
<td>H</td>
<td>2.8 ± 0.2</td>
</tr>
<tr>
<td>J</td>
<td>0.8</td>
</tr>
<tr>
<td>S</td>
<td>2.4</td>
</tr>
<tr>
<td>T</td>
<td>0.8 Min</td>
</tr>
<tr>
<td>U</td>
<td>1.0 Min</td>
</tr>
<tr>
<td>W</td>
<td>1.9</td>
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</table>

*Note: Dimensions for "F" and "F1" are reversed in 39R package.
"84C" Package

Outline Dimensions

Geometric Layout

Pin Connections
1. Source
2. Drain
3. Source
4. Gate

"T06" Package

Outline Dimensions

Geometric Layout

Pin Connections
1. Input
2. Ground
3. Ground
4. Output
5. Ground
6. Vcc

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DIMENSION</th>
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<tbody>
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</tr>
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<td>A</td>
<td>1.7 Max</td>
</tr>
<tr>
<td>C</td>
<td>0.10</td>
</tr>
<tr>
<td>D</td>
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<tr>
<td>E</td>
<td>0.50</td>
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<tr>
<td>F</td>
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<td>S</td>
<td>1.0</td>
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<tr>
<td>T</td>
<td>1.5</td>
</tr>
<tr>
<td>U</td>
<td>0.9</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>DIMENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Millimeters</td>
</tr>
<tr>
<td>A</td>
<td>0.8</td>
</tr>
<tr>
<td>B</td>
<td>1.5</td>
</tr>
<tr>
<td>C</td>
<td>0.13 ± 0.1</td>
</tr>
<tr>
<td>D</td>
<td>2.9 ± 0.2</td>
</tr>
<tr>
<td>E</td>
<td>0.35 ± 0.1</td>
</tr>
<tr>
<td>F</td>
<td>1.9 ± 0.2</td>
</tr>
<tr>
<td>F1</td>
<td>0.95</td>
</tr>
<tr>
<td>G</td>
<td>0 to 0.1</td>
</tr>
<tr>
<td>H</td>
<td>2.8 ± 0.2</td>
</tr>
<tr>
<td>J</td>
<td>1.1 ± 0.1</td>
</tr>
<tr>
<td>S</td>
<td>0.95</td>
</tr>
<tr>
<td>T</td>
<td>1.0</td>
</tr>
<tr>
<td>U</td>
<td>0.5</td>
</tr>
<tr>
<td>Y</td>
<td>3.1</td>
</tr>
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<td>Package</td>
<td>Geometric Layout</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>&quot;79A&quot; Package</td>
<td><img src="image1" alt="79A Package Diagram" /></td>
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<tr>
<td>&quot;M01&quot; Package</td>
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<tr>
<td>&quot;M02&quot; Package</td>
<td><img src="image3" alt="M02 Package Diagram" /></td>
</tr>
<tr>
<td>&quot;M03&quot; Package</td>
<td><img src="image4" alt="M03 Package Diagram" /></td>
</tr>
<tr>
<td>&quot;M04&quot; Package</td>
<td><img src="image5" alt="M04 Package Diagram" /></td>
</tr>
<tr>
<td>&quot;M05&quot; Package</td>
<td><img src="image6" alt="M05 Package Diagram" /></td>
</tr>
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<td>&quot;M13&quot; Package</td>
<td><img src="image7" alt="M13 Package Diagram" /></td>
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<tr>
<td>&quot;M16&quot; Package</td>
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</tr>
<tr>
<td>&quot;S01&quot; Package</td>
<td><img src="image9" alt="S01 Package Diagram" /></td>
</tr>
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</table>

**Note:**
- Dimensions are approximate and may vary slightly.
- Through Hole: ø0.2 x 33

---

**Geometric Pad Layouts**

Tape-and-Reel Packaging for Surface Mount Devices
# Tape-and-Reel Packaging for Surface Mount Devices

## Geometric Pad Layouts

<table>
<thead>
<tr>
<th>&quot;S06&quot; Package</th>
<th>&quot;S08&quot; Package</th>
<th>&quot;S16&quot; Package</th>
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</thead>
<tbody>
<tr>
<td>Geometric Layout</td>
<td>Geometric Layout</td>
<td>Geometric Layout</td>
</tr>
<tr>
<td><img src="image1" alt="Diagram" /></td>
<td><img src="image2" alt="Diagram" /></td>
<td><img src="image3" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>&quot;S20&quot; Package</th>
<th>&quot;TC&quot; Package</th>
<th>&quot;TD&quot; Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geometric Layout</td>
<td>Geometric Layout</td>
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<tr>
<td><img src="image4" alt="Diagram" /></td>
<td><img src="image5" alt="Diagram" /></td>
<td><img src="image6" alt="Diagram" /></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>&quot;TK&quot; Package</th>
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<tbody>
<tr>
<td>Geometric Layout</td>
</tr>
<tr>
<td><img src="image7" alt="Diagram" /></td>
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## Tape-and-Reel Packaging for Surface Mount Devices

### Tape Dimensions

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<thead>
<tr>
<th>ITEMS</th>
<th>SYMBOLS</th>
<th>18</th>
<th>19</th>
<th>T06</th>
<th>30</th>
<th>33</th>
<th>M03</th>
<th>M04, M05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pocket</td>
<td>A</td>
<td>2.2±0.1</td>
<td>1.9±0.1</td>
<td>3.18±0.1</td>
<td>2.2±0.1</td>
<td>3.35±0.1</td>
<td>1.5</td>
<td>2.15±0.05</td>
</tr>
<tr>
<td>Width</td>
<td>B</td>
<td>2.4±0.1</td>
<td>2.0±0.1</td>
<td>3.4±0.1</td>
<td>2.3±0.1</td>
<td>3.2±0.1</td>
<td>1.5</td>
<td>2.6±0.01</td>
</tr>
<tr>
<td>Depth(^1)</td>
<td>Ko</td>
<td>1.2±0.1</td>
<td>0.9±0.1</td>
<td>1.4±0.1</td>
<td>1.2±0.1</td>
<td>1.4±0.1</td>
<td>0.77</td>
<td>0.85±0.1</td>
</tr>
<tr>
<td>Pitch(^3)</td>
<td>F</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
</tr>
<tr>
<td>Air Hole Diameter</td>
<td>M</td>
<td>ø1.1±0.2</td>
<td>ø0.5±0.05</td>
<td>ø1.0±0.2</td>
<td>ø0.8 ±0.1</td>
<td>ø0.5±0.1</td>
<td>ø1.05±1.0</td>
<td></td>
</tr>
<tr>
<td>Ceramic Section Width</td>
<td>N</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
</tr>
<tr>
<td>Perforation Diameter</td>
<td>J</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
<td>ø1.5±0.05</td>
<td>ø1.55±0.05</td>
</tr>
<tr>
<td>Pitch(^4)</td>
<td>H</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
</tr>
<tr>
<td>Position</td>
<td>E</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
</tr>
<tr>
<td>Distance Between Center Lines Length Dir.</td>
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<td>2.0±0.05</td>
<td>2.0±0.05</td>
<td>2.0±0.05</td>
<td>2.0±0.05</td>
<td>2.0±0.05</td>
<td>2.0±0.05</td>
<td>2.0±0.05</td>
</tr>
<tr>
<td>Carrier Tape Width</td>
<td>C</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
<td>ø1.5±0.05</td>
<td>ø1.55±0.05</td>
</tr>
<tr>
<td>Carrier Tape Thickness</td>
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<td>0.3±0.05</td>
<td>0.3±0.05</td>
<td>0.3±0.05</td>
<td>0.3±0.05</td>
<td>0.3±0.05</td>
<td>0.3±0.05</td>
<td>0.3±0.05</td>
</tr>
<tr>
<td>Air Hole Diameter</td>
<td>M</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
</tr>
<tr>
<td>Ceramic Section Width</td>
<td>N</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
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<td>J</td>
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<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
</tr>
<tr>
<td>Pitch(^4)</td>
<td>H</td>
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<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
<td>4.0±0.1</td>
</tr>
<tr>
<td>Position</td>
<td>E</td>
<td>1.5±0.1</td>
<td>1.75±0.1</td>
<td>1.5±0.1</td>
<td>1.75±0.1</td>
<td>1.5±0.1</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
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<tr>
<td>Distance Between Center Lines Width Dir.</td>
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<td>8.0±0.2</td>
<td>8.0±0.2</td>
<td>8.0±0.2</td>
<td>8.0±0.2</td>
<td>8.0±0.2</td>
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</tr>
<tr>
<td>Carrier Tape Width</td>
<td>C</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
<td>ø1.5±0.05 ()</td>
<td>ø1.55±0.05</td>
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<td>0.3±0.05</td>
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<td>0.3±0.05</td>
<td>0.3±0.05</td>
<td>0.3±0.05</td>
<td>0.3±0.05</td>
</tr>
<tr>
<td>Air Hole Diameter</td>
<td>M</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
<td>ø1.0±0.2</td>
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<tr>
<td>Ceramic Section Width</td>
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<td>5.5±0.3 ()</td>
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<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
<td>5.5±0.3 ()</td>
</tr>
</tbody>
</table>

Notes:
1. At 0.3mm above bottom
2. Internal Area
3. Accumulated Tolerance -0.3 Max/10 pitch
4. At 0.3mm above bottom
5. Accumulated Tolerance -0.3 Max/10 pitch
6. Thickness: 0.1mm Max
7. Bend = δ -0.3 Max
8. Cover tape and carrier tape total
9. NEC Malaysia UPC2798GR-E1
### Tape Dimensions

<table>
<thead>
<tr>
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<th>ITEMS</th>
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<th>S16</th>
<th>S30</th>
<th>79A</th>
<th>M13</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Size (mm)</td>
<td></td>
<td>SIZE (mm)</td>
<td>SIZE (mm)</td>
<td>SIZE (mm)</td>
<td>SIZE (mm)</td>
<td>SIZE (mm)</td>
</tr>
<tr>
<td>Pocket</td>
<td>Length¹</td>
<td>A</td>
<td>5.45±0.1</td>
<td>5.25</td>
<td>6.7±0.1</td>
<td>8.7</td>
<td>6.0±0.05</td>
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<tr>
<td></td>
<td>Width</td>
<td>B</td>
<td>3.25±0.1</td>
<td>3.25</td>
<td>5.92±0.1</td>
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<tr>
<td></td>
<td>Depth²</td>
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<td>1.2±0.1</td>
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<td>1.2±0.1</td>
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<tr>
<td></td>
<td>Pitch³</td>
<td>F</td>
<td>8.0±0.1</td>
<td>8.0±0.1</td>
<td>8.0±0.1</td>
<td>12±0.1</td>
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<td>Air Hole</td>
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<td>M</td>
<td>ø1.0 Min.</td>
<td>ø1.5 Min.</td>
<td>ø1.5±0.05</td>
<td>ø1.5 Min</td>
<td>ø1.5±0.05</td>
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<td>Ceramic Section</td>
<td>Width</td>
<td>N</td>
<td></td>
<td></td>
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<tr>
<td>Perforation</td>
<td>Diameter</td>
<td>J</td>
<td>ø1.5+0.1</td>
<td>ø1.5+0.1</td>
<td>ø1.5±0.1</td>
<td>ø1.5+0.1</td>
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<tr>
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<td>Position</td>
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<td>1.75±0.1</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
<td>1.75±0.1</td>
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<tr>
<td>Center Lines</td>
<td>Length Dir.</td>
<td>G</td>
<td>2.0±0.05</td>
<td>2.0±0.05</td>
<td>2.0±0.05</td>
<td>2.0±0.01</td>
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<tr>
<td></td>
<td>Width Dir.</td>
<td>D</td>
<td>5.5±0.1</td>
<td>5.5±0.1</td>
<td>7.5±0.1</td>
<td>5.5±0.05</td>
<td>3.5±0.05</td>
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<td>Cover Tape</td>
<td>Width⁴</td>
<td>W</td>
<td></td>
<td></td>
<td></td>
<td>8.7±0.4</td>
<td>5.5±0.2</td>
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<tr>
<td>Carrier Tape</td>
<td>Width⁵</td>
<td>C</td>
<td>8.0±0.3</td>
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<td>16±0.3</td>
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<tr>
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<td>Thickness</td>
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<td>0.3</td>
<td>0.3±0.05</td>
<td>0.3</td>
<td>0.3±0.05</td>
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<td>Device</td>
<td>Tilt</td>
<td>K</td>
<td></td>
<td></td>
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<td>30˚ Max</td>
<td></td>
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<tr>
<td>Overall</td>
<td>Thickness²</td>
<td>K</td>
<td></td>
<td></td>
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<td>1.6</td>
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</tr>
</tbody>
</table>

### Notes:
1. At 0.3mm above bottom
2. Internal Area
3. Accumulated Tolerance +0.1 Max/10 pitch
4. At 0.3mm above bottom
5. Accumulated Tolerance -0.3 Max/10 pitch
6. Thickness: 0.1mm Max
7. Bend = δ - 0.3 Max
8. Cover tape and carrier tape total
Tape-and-Reel Packaging for Surface Mount Devices

Tape Dimensions

"M01", "S06", "T06" Packages

"30" Packages
"33" Packages

"34" Packages
"39" Packages

"S01" and "84C" Packages
"S08", "S16", "S20", & "S30" Packages

"M03" Packages
"M04" & "M05" Packages

"79A" Packages
Reel Dimensions and Tape Leader Specifications

### REEL DIMENSIONS (Units in mm)

<table>
<thead>
<tr>
<th>PACKAGE NUMBER</th>
<th>SYMBOLS</th>
<th>SIZE</th>
<th>SIZE</th>
<th>SIZE</th>
<th>SIZE</th>
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<td>T1, T2</td>
<td>T1B, T2B</td>
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<tr>
<td>Flange</td>
<td>A</td>
<td>ø180 ± 1.5</td>
<td>ø330 ± 2</td>
<td>ø178 ± 2</td>
<td>ø330 ± 2</td>
</tr>
<tr>
<td>Thickness</td>
<td>t</td>
<td>1.5 ± 0.1</td>
<td>2.5 ± 0.1</td>
<td>1.5 ± 0.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Space between flanges</td>
<td>W</td>
<td>14 ± 0.5</td>
<td>13.5 ± 0.1</td>
<td>9 ± 0.1</td>
<td>12.4</td>
</tr>
<tr>
<td>Hub</td>
<td>B</td>
<td>ø60 ± 1</td>
<td>ø100 ± 0.1</td>
<td>ø60 ± 0.1</td>
<td>ø100</td>
</tr>
<tr>
<td>Silt Width</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silt Depth</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silt Location</td>
<td>ø</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle Hole Diameter</td>
<td>C</td>
<td>ø13±0.5</td>
<td>ø13±0.5</td>
<td>ø13±0.5</td>
<td>ø13±0.5</td>
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<tr>
<td>Hub Outer Diameter</td>
<td>Ø</td>
<td>ø60 ± 1</td>
<td>ø100 ± 0.1</td>
<td>ø60 ± 0.1</td>
<td>ø100</td>
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<tr>
<td>Key Silt Width</td>
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<td>2.0±0.5</td>
<td>2.0±0.5</td>
<td>2.0±0.5</td>
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<tr>
<td>Key Silt Depth</td>
<td>U</td>
<td>4.0±0.5</td>
<td>4.0±0.5</td>
<td>4.0±0.5</td>
<td>4.0±0.5</td>
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<tr>
<td>Key Silt Location</td>
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<td>120°±3'</td>
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<tr>
<td>Window Outer Radius</td>
<td>R</td>
<td>ø8</td>
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<tr>
<td>Window Inner Radius</td>
<td>R</td>
<td></td>
<td>ø100 ± 1</td>
<td>ø100 ± 1</td>
<td>ø100</td>
</tr>
<tr>
<td>Window Corner Radius</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Pieces per Reel</td>
<td>γ</td>
<td>1,000</td>
<td>4,000</td>
<td>1,000</td>
<td>2,000</td>
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<tr>
<td>Number of Orientations Available</td>
<td>γ</td>
<td>1</td>
<td>1</td>
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<td>2</td>
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</table>

Note:
- * 17.5 ± 1 for NEC Malaysia, UPC2798GR-E1

---

Tape-and-Reel Packaging for Surface Mount Devices
## Reel Dimensions and Tape Leader Specifications

### Reel Dimensions (Units in mm)

<table>
<thead>
<tr>
<th>Package Number</th>
<th>18, 19, 30, 33, 39</th>
<th>34</th>
<th>M03, M04, M05</th>
<th>79A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items</strong></td>
<td><strong>Symbols</strong></td>
<td><strong>Size</strong></td>
<td><strong>Size</strong></td>
<td><strong>Size</strong></td>
</tr>
<tr>
<td>Flange Diameter</td>
<td>A</td>
<td>ø178 ± 2</td>
<td>ø178 ± 2</td>
<td>ø180 ± 3</td>
</tr>
<tr>
<td>Hub Outer Diameter</td>
<td>B</td>
<td>ø60 ± 1</td>
<td>ø60 ± 1</td>
<td>ø60 ± 1</td>
</tr>
<tr>
<td>Stil Location</td>
<td>ø1</td>
<td>90°</td>
<td>90°</td>
<td>90°</td>
</tr>
<tr>
<td>Spindle Hole Diameter</td>
<td>C</td>
<td>ø13±0.5</td>
<td>ø13±0.5</td>
<td>ø13±0.5</td>
</tr>
<tr>
<td>Outer Radius Location</td>
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<td>120°</td>
<td>120°</td>
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<td>Number of Pieces per Reel</td>
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<td>1,000</td>
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<tr>
<td>Number of Orientations Available</td>
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### Tape Leader Specifications

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<tr>
<th>Items</th>
<th>Package</th>
<th>18, 19, 30, 33, 39</th>
<th>33, 39</th>
<th>30, 34, 84C, 901, 906</th>
<th>806</th>
<th>M04, M05</th>
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<tr>
<td><strong>Leader</strong></td>
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<td>S20</td>
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<td>Cover Tape w/o Carrier Tape</td>
<td></td>
<td>200 mm Max</td>
<td></td>
<td>200 mm Min</td>
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<td></td>
</tr>
<tr>
<td>Carrier Tape</td>
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<td>10 empty pockets Min</td>
<td>80±40 mm</td>
<td>20-50 empty pockets</td>
<td>10 empty pockets Min</td>
<td>80±40 mm</td>
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<tr>
<td><strong>Trailer</strong></td>
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<td></td>
</tr>
<tr>
<td>Cover Tape w/o Carrier Tape</td>
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<td>N/A</td>
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<td>N/A</td>
<td></td>
<td>Length equal to onewrap around hub</td>
</tr>
<tr>
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<td>10 empty pockets Min</td>
<td>530±30 mm</td>
<td>17-20 empty pockets</td>
<td>17-20 empty pockets</td>
<td>500 mm Max empty pockets</td>
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</table>
"18" Package
4 Pin Super Mini-Mold

"19", "30" and "33" Package
19 = 3 Pin Ultra Super Mini-Mold
30 = 3 Pin Super Mini-Mold
33 = 3 Pin Mini-Mold

Please Note: Tape orientation options T1, E1, and E3 are maintained in inventory. Others are available by special order.
Please Note: Tape orientation options T1, E1, and E3 are maintained in inventory. Others are available by special order.