Wolfspeed offers the industry’s broadest range of Silicon Carbide and GaN on Silicon Carbide materials, including semi-insulating substrates and nitride epitaxy options up to the newly available diameter of 150mm. Backed by more than 30 years of Silicon Carbide development and manufacturing experience, Wolfspeed materials deliver world-leading bandwidth, efficiency and frequency of operation for telecom, aerospace and defense applications.

When you partner with Wolfspeed, you get the best and most innovative materials.

**FULLY INTEGRATED SUBSTRATE AND EPITAXY SUPPLIER**

<table>
<thead>
<tr>
<th>Polytype</th>
<th>Supported Diameters</th>
<th>Nitride Epitaxy</th>
</tr>
</thead>
<tbody>
<tr>
<td>4H</td>
<td>100 mm</td>
<td>GaN, AlN</td>
</tr>
<tr>
<td></td>
<td>150 mm</td>
<td>AlGaN, AlInN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SiN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HEMT structures</td>
</tr>
</tbody>
</table>

PROVEN EXPERTISE IN SILICON & GaN MATERIALS FOR RF APPLICATIONS

Our materials are ISO-TS 16949 certified.

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Learn how Wolfspeed can revolutionize your designs at wolfspeed.com/materials or contact us at materials_sales@wolfspeed.com or +1.844.200.9653
**HIGH PURITY SEMI-INSULATING SILICON CARBIDE SUBSTRATE PRODUCT DESCRIPTIONS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>W4TRFOR-0200</td>
<td>4H-SiC, HPSI, Research Grade, 100mm, On-Axis, ≥1E6 Ω-cm, Standard MPD, 500um Thick w/ 32.5mm Flat, Double-Sided Polish Si Face CMP Epi Ready, Bare Substrate</td>
</tr>
<tr>
<td>W4TPFOR-0200</td>
<td>4H-SiC, HPSI, Production Grade, 100mm, On-Axis, ≥1E6 Ω-cm, Standard MPD, 500um Thick w/ 32.5mm Flat, Double-Sided Polish Si Face CMP Epi Ready, Bare Substrate</td>
</tr>
<tr>
<td>W4TRG0R-N-0200</td>
<td>4H-SiC, HPSI, Research Grade, 150mm, On-Axis, ≥1E6 Ω-cm, Standard MPD, 500um Thick w/ Notch, Double-Sided Polish Si Face CMP Epi Ready, Bare Substrate</td>
</tr>
<tr>
<td>W4TPG0R-N-0200</td>
<td>4H-SiC, HPSI, Production Grade, 150mm, On-Axis, ≥1E6Ω-cm, Standard MPD, 500um Thick w/ Notch, Double-Sided Polish Si Face CMP Epi Ready, Bare Substrate</td>
</tr>
</tbody>
</table>

**NITRIDE EPITAXY TYPICAL LAYER OPTIONS**

- **Cap layer options**
  - SiN (5 to 100 nm) or GaN (2 to 5 nm)

- **Nitride barrier (0.001 to 1 μm)**
  - Al_xGa_(1-x)N; 0≤x≤0.3 or Al_yIn_(1-y)N; 0≤y≤0.2

- **AlN back-barrier option (0.0005 to 1 μm)**

- **GaN buffer and channel (1 to 3 μm)**
  - Undoped GaN channel
  - Insulating GaN Buffer

Each structure is built to customer provided specifications. Custom structures outside of typical layer options and quaternary compositions available upon special request.

**HOW TO ORDER**

```
W 4 T X X 0 R - X - 0 2 X X
```

- **W** = Standard
- **T** = HPSI
- **R** = ≥1E6Ω-cm
- **N** = 500μm Thickness w/ notch
- **G** = GaN Epitaxy
- **P** = Production
- **O** = Standard MPD
- **F** = 100mm (4")
- **G** = 150mm (6")
- **R** = Research
- **E** = GaN Epitaxy
- **O** = On-Axis
- **4** = 4H-SiC
- **0** = None
- **0** = None
- **E** = HEMT > 25%
- **I** = Other HEMT

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