



n-Type Silicon Carbide and Silicon Carbide Epitaxy

KEEPING PACE WITH THE WORLD'S DEMAND FOR SiC POWER

INDUSTRY-LEADING FLEXIBILITY AND SCALE

With more than 30 years of Silicon Carbide development and manufacturing experience, Wolfspeed produces with the industry's broadest range of Silicon Carbide and Gallium Nitride on Silicon Carbide materials. Offering n-type substrates and a variety of Silicon Carbide epitaxy options, Wolfspeed delivers the quality and quantity necessary to support the rapidly expanding demand for high-efficiency SiC power semiconductors.

MATERIALS PORTFOLIO

| Polytype | Surface Orientation | Supported Diameters | SiC Epitaxy |
|----------|---------------------|---------------------|---------------|
| 4H | 4° Off-axis | 150 mm | n-type |
| | | | p-type |
| | | | Thick epitaxy |

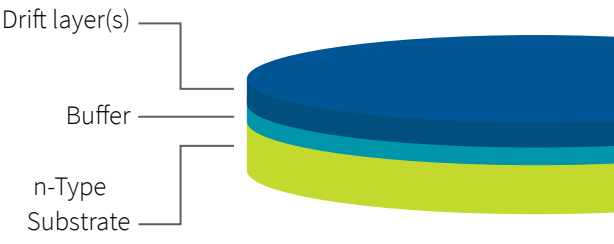
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n-TYPE SILICON CARBIDE SUBSTRATE PRODUCT DESCRIPTIONS

| Part Number | Description |
|-----------------|---|
| W4NRG4C-C1-V200 | 4H-Silicon Carbide, n-type, Research Grade, 150mm, 4° Off-Axis, 0.015-0.028 Ω-cm, Very Low MPD ≤5/cm², 350um Thick w/ 47.5mm Flat, Double-Sided Polish Silicon Face CMP Epi Ready, Bare Substrate |
| W4NPG4C-C1-V200 | 4H-Silicon Carbide, n-type, Production Grade, 150mm, 4° Off-Axis, 0.015-0.028 Ω-cm, Very Low MPD ≤5/cm², 350um Thick w/ 47.5mm Flat, Double-Sided Polish Silicon Face CMP Epi Ready, Bare Substrate |
| W4NRG4C-C1-U200 | 4H-Silicon Carbide, n-type, Research Grade, 150mm, 4° Off-Axis, 0.015-0.028 Ω-cm, Ultra Low MPD ≤1/cm², 350um Thick w/ 47.5mm Flat, Double-Sided Polish Silicon Face CMP Epi Ready, Bare Substrate |
| W4NPG4C-C1-U200 | 4H-Silicon Carbide, n-type, Production Grade, 150mm, 4° Off-Axis, 0.015-0.028 Ω-cm, Ultra Low MPD ≤1/cm², 350um Thick w/ 47.5mm Flat, Double-Sided Polish Silicon Face CMP Epi Ready, Bare Substrate |
| W4NPG4C-C1-B200 | 4H-Silicon Carbide, n-type, Production Grade, 150mm, 4° Off-Axis, 0.015-0.028 Ω-cm, Ultra Low MPD ≤1/cm², Low BPD ≤1500/cm², 350um Thick w/ 47.5mm Flat, Double-Sided Polish Silicon Face CMP Epi Ready, Bare Substrate |

SiC EPITAXY TYPICAL LAYER OPTIONS

| Conductivity | n-type | | p-type |
|--------------------|-----------------|------------------|-----------------|
| Deposition | Si face | C face | Si face |
| Net doping density | 5E14 – 1E19/cm³ | 1E16 – 1E19/cm³ | 5E14 – 1E20/cm³ |
| Thickness | 0.2–200 microns | 0.2–10.0 microns | 0.2–200 microns |



HOW TO ORDER

W

4

N

X

G

4

C

-

X

-

X

X

X

X

W = Standard

N = n-Type

G = 150mm (6")

C = 0.015 - 0.028Ω·cm

4 = 4H-SiC

P = Production
R = Research

4 = 4° Off-Axis

C1 = 350umThickness
This digit only applicable to 150mm wafers.

2 = Double-side Polish, Si-Face CMP
6 = Double-side Polish, C-Face CMP

0 = No Epitaxy
1 = 1 Layer
2 = 2 Layers
3 = 3 Layers
4 = 4 Layers

0 = Standard MPD
V = Very-Low MPD (≤5/cm²)
U = Ultra-Low MPD(≤1/cm²)
B = Low BPD (≤1500/cm²), MPD (≤1/ cm²)

0 = None
S = Standard SiC (<30um)
T = Thick SiC (≥30um)