MICROELECTRONICS — SPACE PARK FOUNDRY

A leader in production, prototyping, research and development of microelectronics

Northrop Grumman's Microelectronics Center is comprised of two U.S.-based government-Trusted foundries and advanced packaging facilities. We design and deliver millions of critical microelectronics annually to support next-generation defense and commercial systems. From design to fabrication, our mission-tailored microelectronics solutions deliver unparalleled performance for any application.

DOMINATING THE ELECTROMAGNETIC SPECTRUM FROM RF TO THz WITH COMPOUND SEMICONDUCTORS

Space Park has a full suite of space qualified compound semiconductor technologies used in national asset space programs and commercial applications.

- Gallium Nitride (GaN) HEMT: High power and high survivability low noise applications through 100GHz
- Gallium Arsenide (GaAs) HEMT: Linear power and low noise applications though 100GHz
- Indium Phosphide (InP) HBT: High speed digital and mixed signals applications through 300 GHz
- Indium Phosphide (InP) HEMT: Low noise and high Frequency applications up to 1THz
- Wafer Level Packaging for chip scale hermetic packages and 3D Heterogeneous Integration (3DHI)
- Diverse Accessible Heterogenous Integration (DAHI)

THE GAN DIFFERENCE; POWER PERFORMANCE THROUGH MMW FOR DUAL USE APPLICATIONS

Space Park's qualified production GaN processes provides linear power through W-band. The technology is engineered to provide reliable performance with high gain and bandwidth for your most discriminating RF and mmW applications.

AWARDED COOLEST THING MADE IN CA
for THz chip

20,000 SQUARE FEET
of cleanroom manufacturing space

GUINNESS WORLD RECORD
for fastest microchip transistor

CONTRIBUTES TO 7M
annual chip deliveries

NG TECHNOLOGY IS IN 90%
of U.S. national security space satellites

OVER 50%
of production volume is commercial

NORTHROP GRUMMAN

ngc.com/**micro**

APPLICATIONS

- GaN20: Power applications through Ka-band
- GaN15: Power and low noise applications through V-band
- GaN09: Power and low noise applications through W-band
- GaN05 (in development): applications up to 200GHz

ADVANTAGES

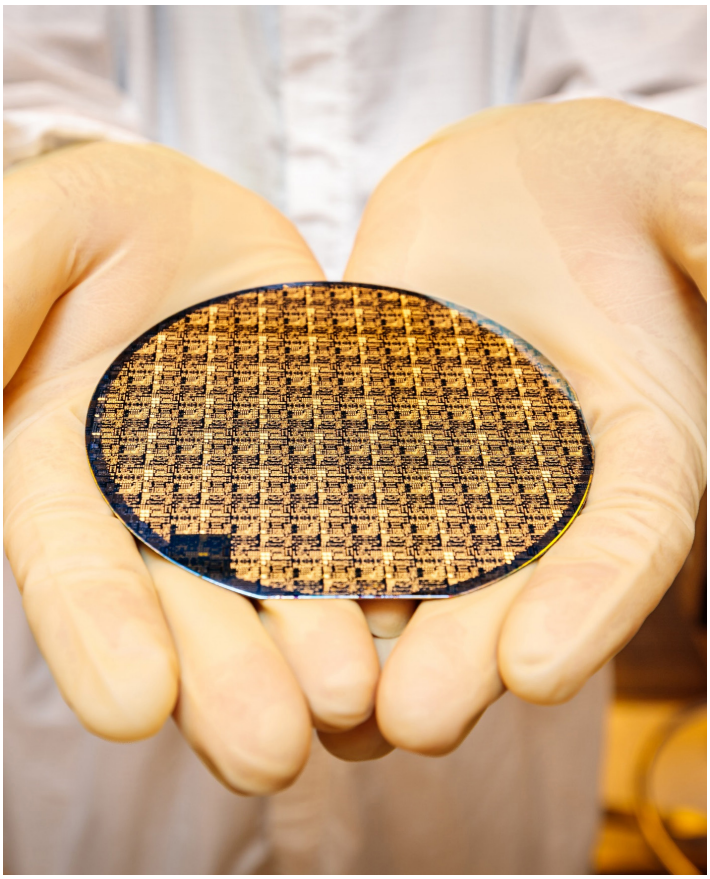
- Efficiency
- Size and weight
- High thermal conductivity

OUR LEADING TECHNOLOGY

Space Park Foundry focuses on products that are microscopic, modular, high speed, and low in power consumption and temperature. We are configured for R&D and prototyping, production and packaging.

III — V TECHNOLOGIES

- GaAs
- GaN
- InP
- Chip-scale packaging (2.5 and 3D HI)
- Products (Link to website)
- Power amplifiers
- Low Noise amplifiers
- Mixers and Multipliers
- Switches
- Services
- 100mm wafer fabrication
- Full suite of process design kits (PDK)
- Dedicated and multi-customer shared mask runs
- On -wafer RF testing to 220 GHz



FRONT-END FABRICATION	BACK-END PROCESSES	PROTOTYPE & DEVELOPMENT SUPPORT	ADVANCED PACKAGING PROCESSES	TESTING & CHARACTERIZATION
• Photolithography • Thin films • Etch • Diffusion • Ion Implantation • Molecular Beam Epitaxy • Electron Beam Lithography • Specialized processes for silicon, III-V, and advanced materials	• Thin film and electroplated metals • Bumping • Under bump metalization • Through wafer vias • Passivation • Wafer thinning • Dicing	• Pilot production for transitioning designs to production • Full suite of process design kits (PDK) • Dedicated and multi-customer shared mask runs	• Wafer Level Packaging • 3D heterogeneous chiplet integration • SiC Interposer	• Inline inspection • Electrical test • Yield analysis • Reliability screening

Explore our offerings

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