United Monolithic Semiconductors

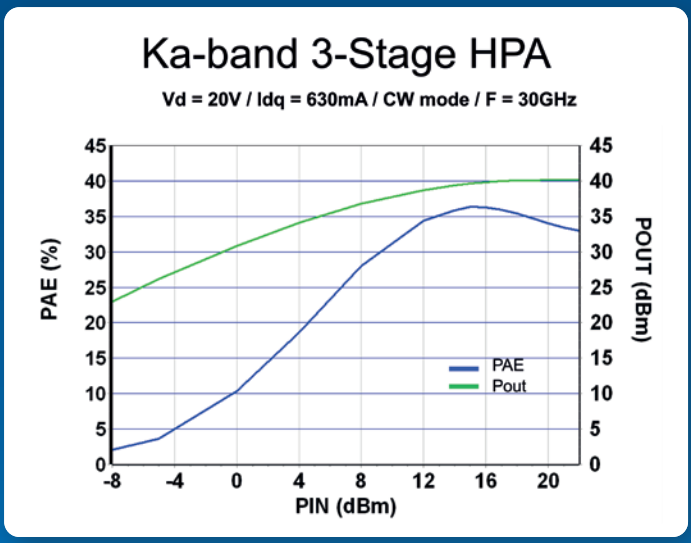
GaN TECHNOLOGY

0.15µm GaN HEMT process

Industrial technologies qualified for Space

GH15 GaN process is optimized up to 40GHz for high power, high PAE and high linearity.

Supported by a thermally dissipative SiC substrate, the power density reaches 4.2W/mm. This MMIC process includes MIM capacitors, inductors, air bridges, metallic resistors, via through the substrate and two metal layers for interconnections.



GH15 is the ideal process to design:

- High power and high PAE amplifiers up to 40GHz
- Robust LNA
- High Power switches

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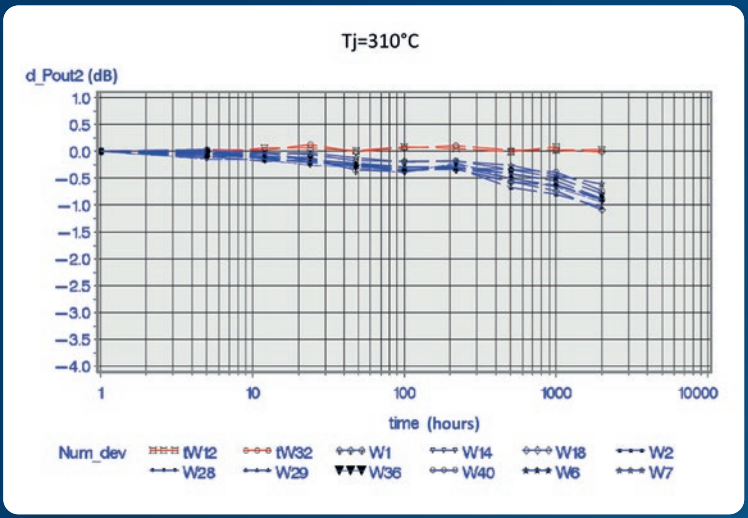
Proven reliability



Applications targeted with GH15:

- Pt to Pt radio
- 5G
- Satcom
- Radar
- Broadband amplification
- Hi-Rel products

Process Design Kits (PDK) will include non-linear electro-thermal models, noise model, diodes & switches models, passive models, all with associated library elements.

Process main features

Element	Typical Value
Vt	-3,2 V
Power Density	4.2W/mm
Ids+	1.45 A/mm
Gm	405 mS/mm
VdsDC	Up to 25V
NF/Gass	1.5dB / 11dB @ 15GHz
Fmax	> 100 GHz
MIM density	175 pF/mm^2
Metallic resistors	30 and 1000 Ohms/sq
Max freq use	40GHz

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