

0.15 μ m GaN HEMT process

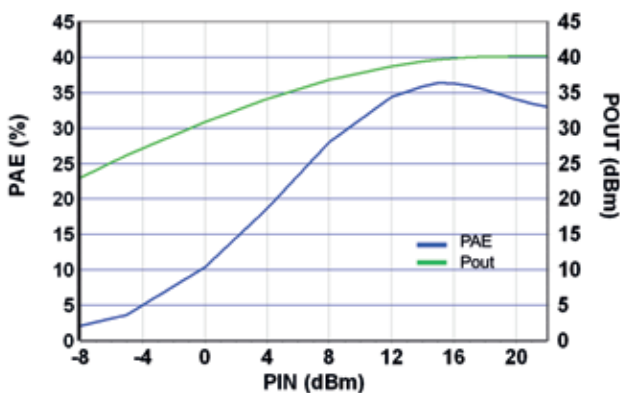


GH15 GaN process is optimized for applications up to 40GHz for high power, high PAE and high linearity.

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.

Ka-band 3-Stage HPA

Vd = 20V / Idq = 630mA / CW mode / F = 30GHz



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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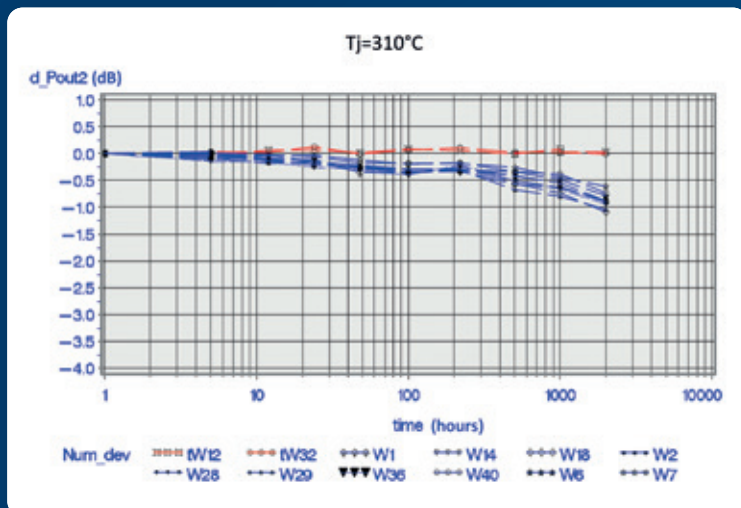


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Proven reliability



Applications targeted with GH15:

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

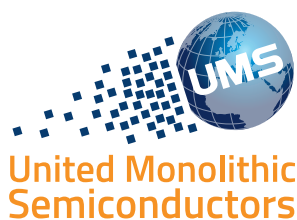
Process Design Kits (PDK) will include non-linear electro-thermal models, noise model, diodes & switches models, passive models, all with associated library elements.

Process main features

Element	Typical Value
V _t	-3,2 V
Power Density	4.2W/mm
I _{ds+}	1.45 A/mm
G _m	405 mS/mm
V _{dsDC}	Up to 25V
NF/G _{ass}	1.5dB / 11dB @ 15GHz
F _{max}	> 100 GHz
MIM density	175 pF/mm ² (and 355 pF/mm ² for GH15-11)
Metallic resistors	30 and 1000 Ohms/sq
Max freq use	40GHz

GH15 is available in two technology versions:

- GH15-10, Space evaluated
- GH15-11, providing additional options, such as High Density MIM 355pF/mm² and BCB mechanical protection for compatibility with plastic molded packaging.



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