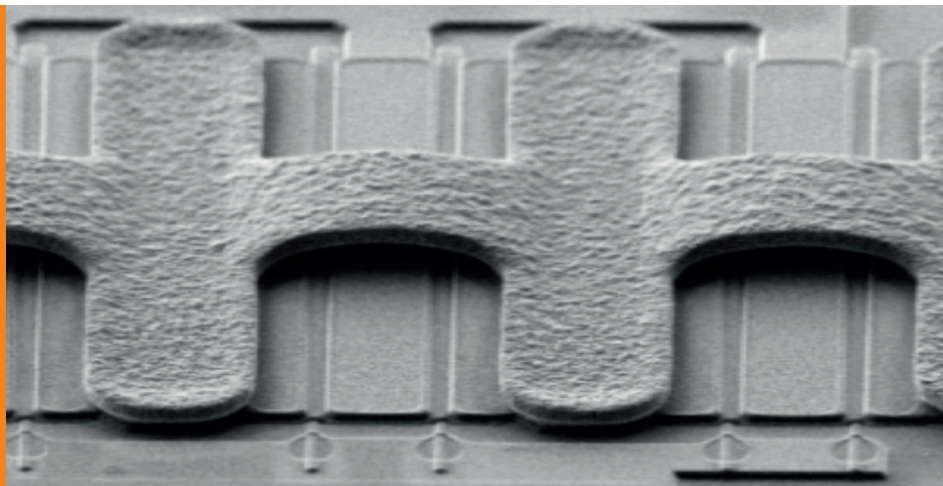


0.10 μ m GH10-10 HEMTs Process



Based on 100nm Gate length, GH10-10 is optimized to address high frequency applications up to V-band as well as deliver improved linearity and power efficiency at Q-bands and below.

■ Main Process Features

Parameter	Typical value
I_{dss} (mA/mm) $V_{ds}=7V, V_{gs}=3V$	1550
$G_{M_{max}}$ (mS/mm) $V_{ds}=7V, V_{gs}=[-5V, 1V]$	540
$V_{BD}(V)$	>70V
MIM density	175 & 355 pF/mm ²

■ Noise Performance

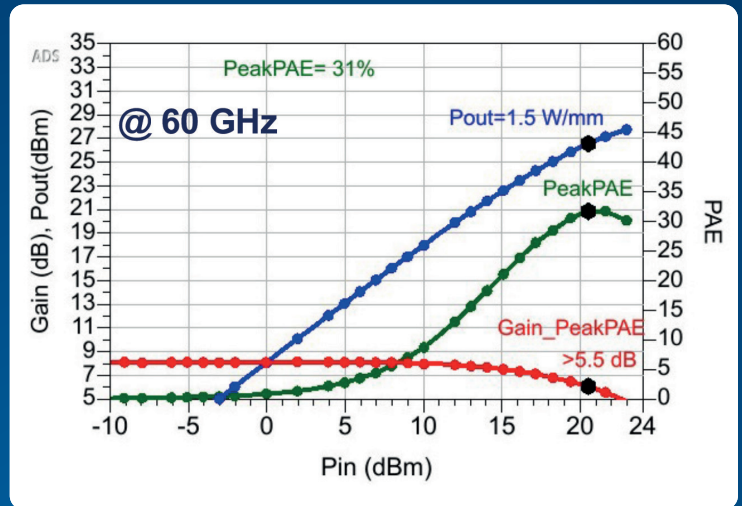
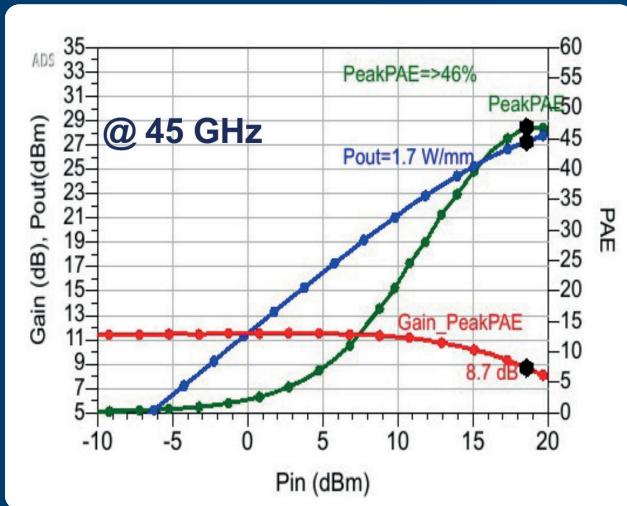
Frequency	NFmin	Gain
20 GHz	1.3 dB	12 dB
30 GHz	1.8 dB	9 dB
40 GHz	2.4 dB	8 dB

■ Main GH10-10 achievements at Q-band

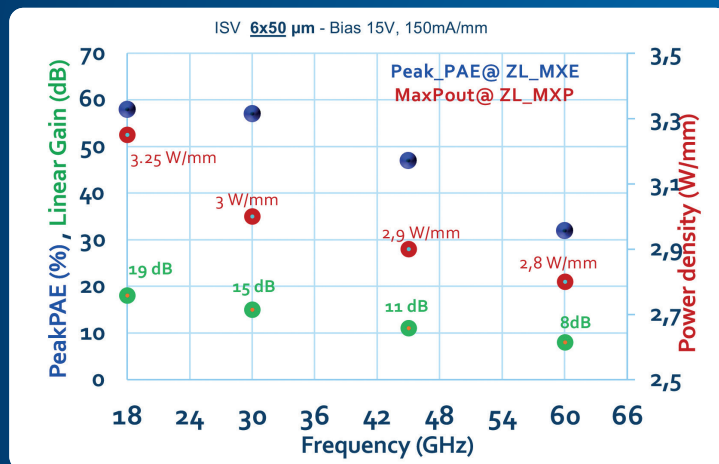
@(15V, 150mA/mm)	ZLoad	@18GHz	@30GHz	@45GHz	@60GHz
Saturated power density (W/mm)	Opt Pout	3.25	3	2.9	2.8
Linear gain (dB)		18	14	11	8
PAE _{max} (%)	Opt PAE	57	56	47	32
Associated power gain (dB)		14	11	8	5.5



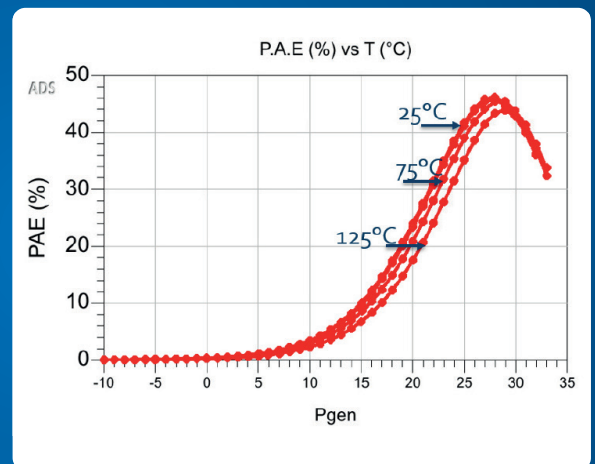
■ Main GH10 achievement over Q-band



■ Promising Results vs Frequency



■ Thermal Behaviour



Very Low impact of the temperature up to 125°C

■ Process Design Kit (PDK)

Includes non-linear electro-thermal, noise, switch and passive models – all with associated library elements

■ BCB Option

Available for mechanical protection for plastic molded packaging

> Successfully qualified!

