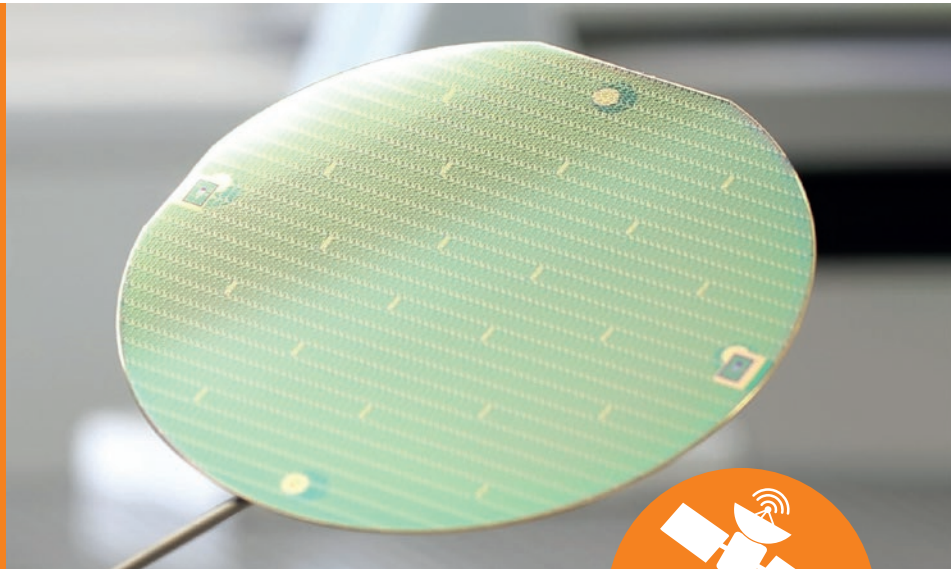


Pushing
GaAs pHEMT
up to the
limit



Your technology solution for linear power applications up to 45GHz

Unique technology performance on the market:

- Very high power density: 800mW/mm@3dBc
- High linearity: IMR3 of 56dBc@10dB backoff
- High PAE
- High gain
- BCB coating available for plastic molded packaging



This power technology includes two metal interconnect layers, precision TaN resistors, high value TiWSi resistors, MIM capacitors (high density and over via), air bridges and backside via holes.

Applications:

Satcom • Radiolinks • Radar • Optical links • Instrumentation

Build your own solution with UMS

www.ums-rf.com

Process main features

Parameter	Typical value	Parameter	Typical value
Power Density	800mW/mm	Gm Max	480mS/mm
Gate length	0.15µm	Noise/Ass. Gain@freq	1.8dB / 6dB @ 40GHz
Ids@gm Max	350mA/mm	MIM Cap.	250pF/mm ² (standard density) 625pF/mm ² (High density)
Ids Sat	575mA/mm	TaN Resistor	30Ω/sq
V _{BDS}	>12V	TiWSi Resistor	1000Ω/sq
Cut off frequency	70GHz	GaAs Resistor	100Ω/sq
V pinch	-0.95V	Substrate thickness	70µm

Examples of UMS state-of-the-art HPAs processed on PPH15X-20 technology:

Part Number	RF Bandwidth (GHz)	Gain (dB)	IP3 (dBm)	P-1dB OUT (dBm)	Sat. Output Power (dBm)	Bias (mA)	Bias (V)	Case
CHA6550-QXG	17- 24	22	41	33.5	34	1300	6	QFN
CHA6652-QXG	21-27.5	20	41	32.5	33	1300	6	QFN
CHA6653-QXG	27-33.5	20	38	32	33	900	6	QFN
CHA5659-QXG	36-43.5	20	38.5	29.5	30	800	6	QFN
CHA6194-QXG	37- 40	20	38	30	31	800	6	QFN

Products also available in bare die.



Contact us:

UMS SAS – EMEA,
Ph: +33 1 69 86 32 00
mktsales@ums-rf.com

UMS USA, Inc. - America,
Ph: +1 781 791 5078
philippe.labasse@ums-rf.com

www.ums-rf.com

UMS - Asia,
Ph: +65 9298 8316
thomas.vacher@ums-rf.com

Worldwide distributor:
Richardson RFPD
www.richardsonrfpd.com

