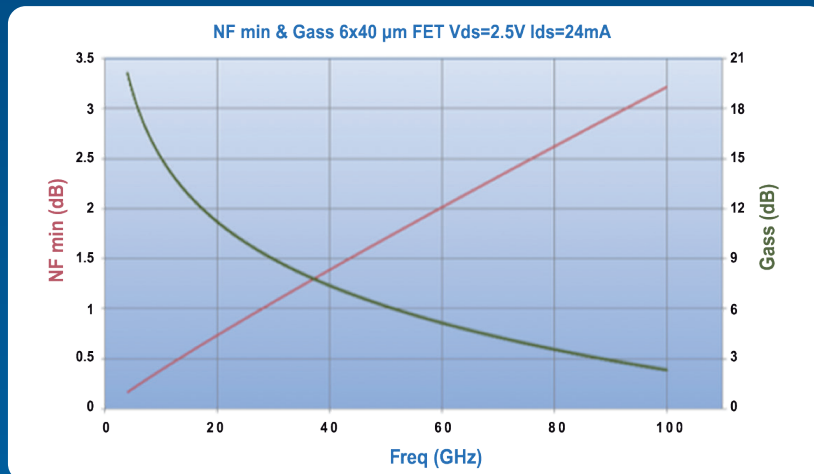
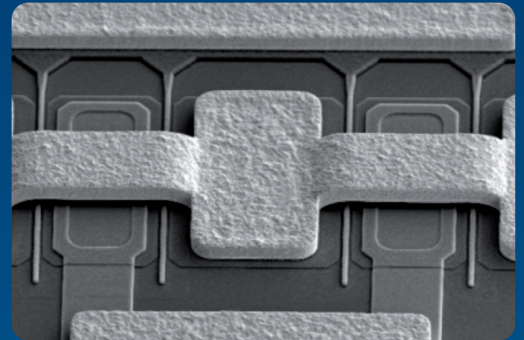


The UMS 0.1 μm GaAs Very High Frequency pHEMT Process

PH10-20 process is optimised for low noise amplification up to 110GHz with a typical F_t of 130GHz, a power density above 300mW/mm at 3V and a typical noise figure of 2.3dB @ 70GHz. It includes two metal interconnect layers, precision TaN resistors, high values TiWSi resistors, MIM capacitors and high-density capacitors, air-bridges, via-holes and gold plated back side. PH10-20 is available with BCB encapsulation and with hot-vias for advanced packaging.



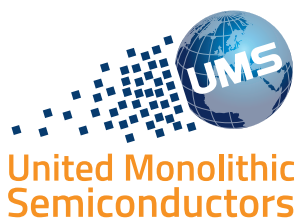
PH10-20 offers a very wide range of applications among them:

- E-Band point-to-point communication
- W-Band radar
- Fiber Optics
- Security sensors
- Space instrumentation
- ...

Process main characteristics

Element	Parameter	Typical Value	Condition
FET	I_{dss} (mA/mm)	280	$V_{ds}=2.0\text{V}$, G_{m_max}
	G_{m_max} (mS/mm)	725	$V_{ds}=2.0\text{V}$, G_{m_max}
	V_{bds} (V)	6	$I_{ds}=I_{dss}/100$
	Noise Figure (dB)	2.3	@ 70GHz
MIM Capacitor	Density (pF/mm ²)	250	@ 1MHz
MIM Capacitor DHD	Density (pF/mm ²)	625	@ 1MHz
Resistor	TaN	30	Ohms/sq
	TiWSi	1000	Ohms/sq
	GaAs	120	Ohms/sq
Substrate	Thickness	70	μm





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: +86 21 6103 1703
thomas.vacher@ums-rf.com

Worldwide distributor:
Richardson RFPD
www.richardsonrfpd.com

