Shared Foundry Offer 2024

United Monolithic Semiconductors

Take advantage of wideband, low noise Medium power UMS PH10 GaAs process

United Monolithic Semiconductors is opening **a shared foundry run on PH10 GaAs process**.
The launch date for the Multi-Project Wafer is **July 19, 2024.**

PH10 PHEMT GaAs process is optimized for the production of low noise, wideband and medium power amplifier MMICs operating up to 110GHz.

Designers using **PH10** can design Low Noise, Variable Gain Amplifiers, Medium Power Amplifiers, mixers and multi-functions TX and RX MMICs for various applications including E-band Communication radios, Automotive radars, Imaging sensors, Optical fibre communication and Instrumentation.

PH10 can combine power and low noise performance on a single chip for compact systems with an entry price of 2 300€/mm².

What are the main characteristics of PH10?

ELEMENT	PARAMETER	VALUE	CONDITIONS
FET	Idss (mA/mm)	280	Vds = 2.0V, Vgs = 0V
	Gm (mS/mm)	750	Vds = 2.0V, Vgs = 0V
	Vbds (V)	6	Ids = Idss / 100
	Vp(V)	-0.45	Vds = 2.0V, Ids = Idss / 100
	Ft (cut off freq.) (GHz)	130	
MIM Cap.	Density (pF/mm²)	330	@ 1 MHz
MIM Cap. - High Density	Density (pF/mm²)	625	@ 1 MHz
TaN Resistor	Sheet Resistance (Ω/□)	30	
TiWSi Resistor	Sheet Resistance (Ω/□)	1000	
GaAs Resistor	Sheet Resistance (Ω/□)	120	
Wafer thickness	µm	70	

Examples of microwave performance achieved by UMS catalogue MMICs designed on PH10 process:

Part Number	Freq (GHz)	Gain (dB)	Noise	P-1dB (dBm)	Case
Low noise amplifier					
CHA2080-98F	71-86	22	3.5	11	Die
CHA1008-99F	80-105	17	5	5	Die
Mixer - RX					
CHM1080-98F	71-85	-9		9	Die
CHR1080-98F	71-86	6	5	-	Die

Part Number	Freq (GHz)	Gain (dB)	Noise	P-1dB (dBm)	Case
Medium power amplifier					
CHA3080-98F	71-76	16	4.3	19	Die
CHA3090-98F	81-86	13	4.5	17	Die

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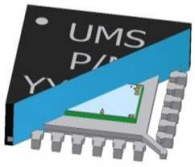
By choosing standard MMIC dimensions which are compatible with QFN high volume packaging capability, your project is on track for future industrial success.



How to participate to this shared foundry run?

So to start designing, please apply on-line for process Design Kit.
Before the deadline, please send your layout to: foundry@ums-rf.com

INFORMATION	**Lowest cost guaranteed** Simply provide your layout **before July 19, 2024**

DELIVERY	20 chips
CONDITIONING	Gel-Pak®

AVAILABLE DIE SIZE (mm)	1	1,4	2,4	3,4	4
MAX RATIO	1:3				

Die size include 70µm dicing street - Launching date flexibility is +/- 2 weeks
Dieframes for layout can be provided on request
Minimum order is 4mm² - Price is valid until July 19, 2024
Order to be placed before July 5, 2024
Important Notes:

- UMS may cancel the run in case of insufficient number of participants.
- For some countries a specific dedicated export license may be required before delivery.

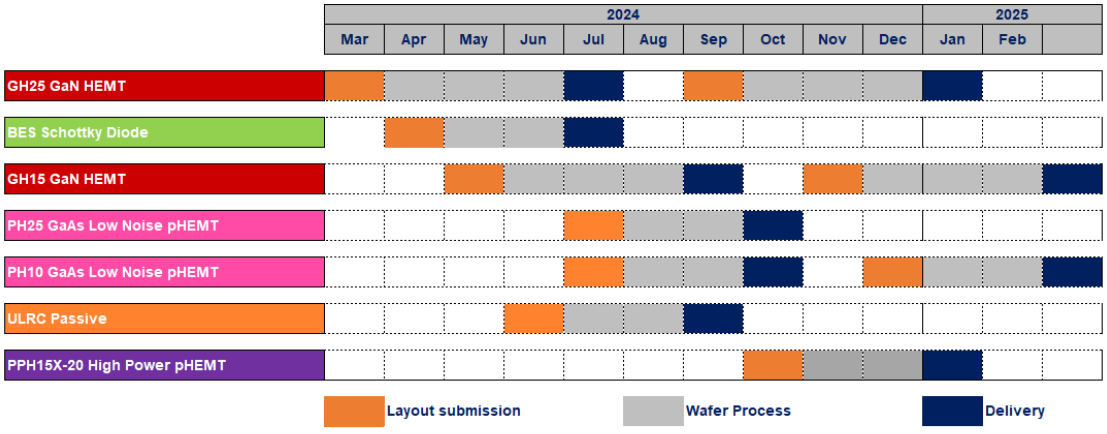
	1	1.4	2.4	3.4	4
1	1	1.4	2.4		
1.4	1.4	2	3.4	4.8	5.6
2.4	2.4	3.4	5.8	8.2	9.6
3.4		4.8	8.2	11.6	13.6
4		5.6	9.6	13.6	16

PH10 available die size (mm) including 70µm dicing street

How many dies will I receive and how much does it cost?

You will receive 20 dies of your circuit in Gel-Pak® box from a **PH10** PCM good wafer. The price is based on your circuit dimensions on the mask tile multiplied by the mm² unit price. For example, if your circuit is 1.4 x 3.4 mm², the price is 1.4 x 3.4 x 2 300€ = 10 948€.

Which processes are regularly offered in shared foundry?



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