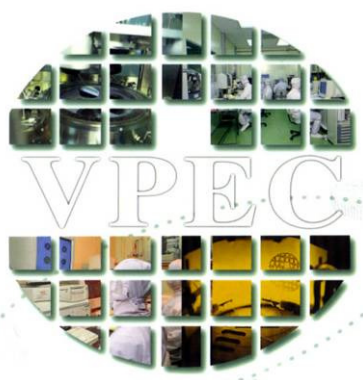




公司簡介

MOCVD 創造世界級之競爭力

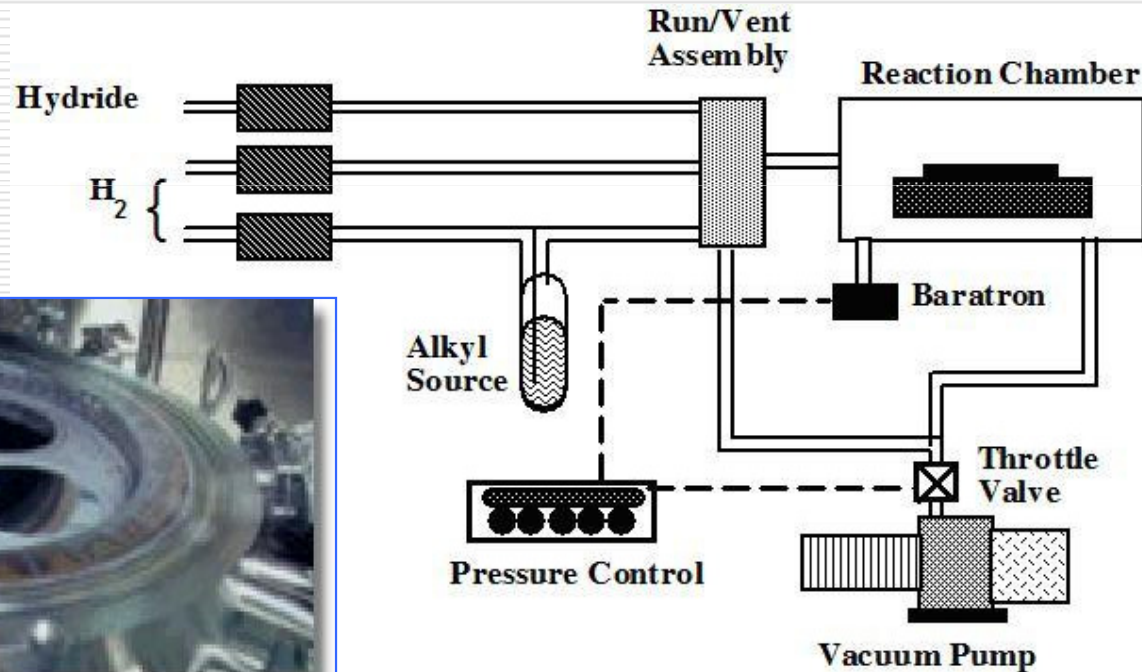




核心技术

MOCVD(有機金屬氣相沉積法)

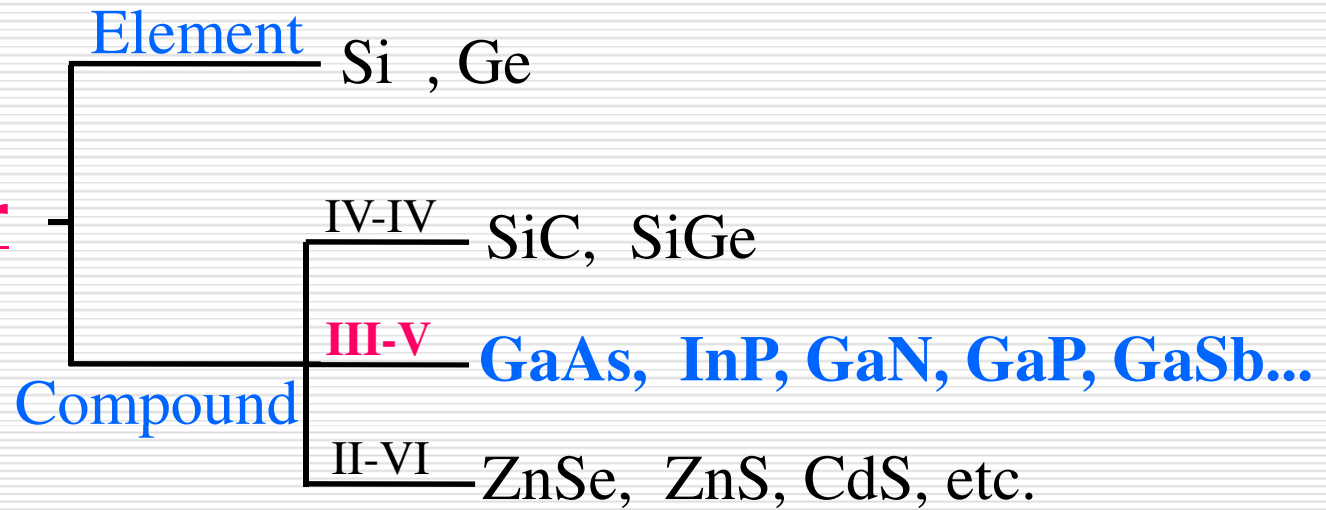
- Metal Organic Chemical Vapor Deposition





半導體分類(依使用材料)

Semiconductor



Period	Column II	III	IV	V	VI
2	Be 鈹 Beryllium	B 硼 Boron	C 碳 Carbon	N 氮 Nitrogen	O 氧 Oxygen
3	Mg 鎂 Magnesium	Al 鋁 Aluminum	Si 矽 Silicon	P 磷 Phosphorus	S 硫 Sulfur
4	Zn 鋅 Zinc	Ga 鎵 Gallium	Ge 鍺 Germanium	As 砷 Arsenic	Se 硒 Selenium
5	Cd 鎘 Cadmium	In 銦 Indium	Sn 錫 Tin	Sb 銻 Antimony	Te 碲 Tellurium
6	Hg 汞 Mercury	Tl 鉍 Thallium	Pb 鉛 Lead		

二元化合物 Binary : GaAs, InP, GaP, GaN, etc.

三元化合物 Ternary : InGaAs, InGaP, AlGaAs, etc.

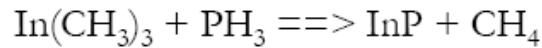
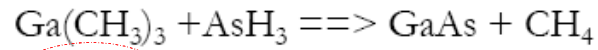
四元化合物 Quaternary : AlGaInP, InGaAsP, etc.

五元化合物 Pentanary : AlGaInAsN, etc.



磊晶過程中之化學反應

化學反應式：

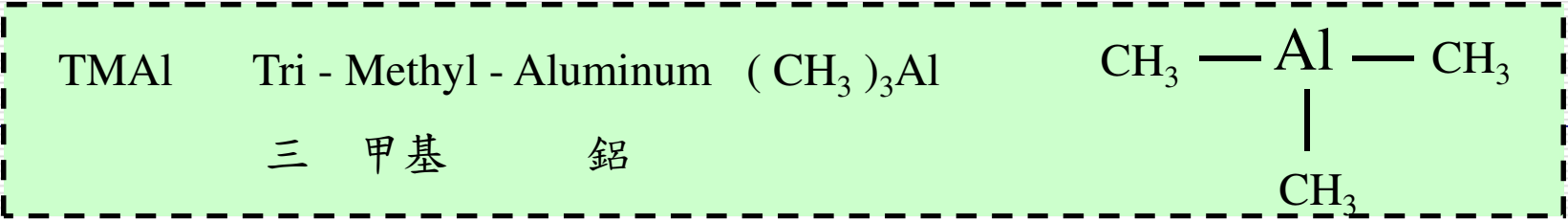


主要原物料：

MO Source + **Hydride** + Carrier Gas : **H2**

- TEAl : Tri-ethyl-Aluminum (C_2H_5)₃Al
- TMGa : Tri-Methyl-Gallium (CH_3)₃ Ga
- TMIn : Tri-Methyl-Indium (CH_3)₃In
- DETe : Di-ethyl-Tellurium (C_2H_5)₂Te
- DEZn : Di-ethyl-Zinc (C_2H_5)₂Zn
- CP₂Mg : Bis (cyclo-penta-dienyl) Magnesium 環戊二烯鎂

- AsH₃ : Arsine
- PH₃ : Phosphine
- SiH₄ : Silane
- Si₂H₆ : Disilane
- H₂Se : Hydrogen Selenide
- CBr₄ : Carbon Tetrabromide





化合物半導體材料特性

1. High Electron Mobility 高電子移動速率
2. High Frequency Response 高頻率響應
3. Wide Band Width 寬幅之頻寬
4. High Linearity 高線性度
5. High Power 高功率
6. Alternative Choice of Material 材料選擇多元性
7. 抗輻射

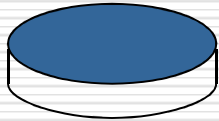
適用於無線通訊、光纖通訊、光顯示(LED)& 太陽能產業



產業供應鏈

Freiberg · AXT

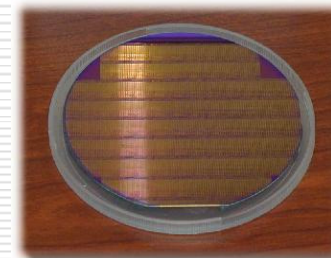
4~6 " GaAs Substrate



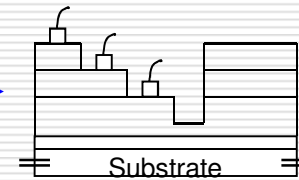
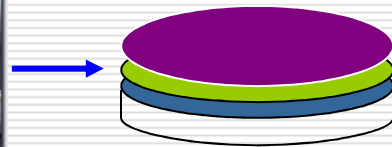
GaAs Epi- Wafer
磊晶片



Microelectronics
IC Process



MOCVD Reactor



Wireless
Communication



IC Package & Testing



2016-2019 Q3 Financial Result

	2019 Q1 ~ Q3	%	2018	%	2017	%	2016	%
Revenue	1,787,611	100.00%	2,062,120	100.00%	2,137,109	100.00%	2,182,825	100.00%
Gross margin	746,369	41.75%	774,359	37.55%	743,467	34.79%	809,059	37.06%
Operating Profit	462,985	25.90%	463,906	22.50%	515,093	24.10%	588,072	26.94%
Financial Income	7,320	0.41%	25,273	1.23%	-35,375	-1.66%	-29,431	-1.35%
Tax	-82,318	-4.60%	-92,009	-4.46%	-85,366	-3.99%	-91,534	-4.19%
Net income	387,987	21.70%	397,170	19.26%	394,352	18.45%	467,107	21.40%
EPS	2.11		2.16		2.15		2.12	