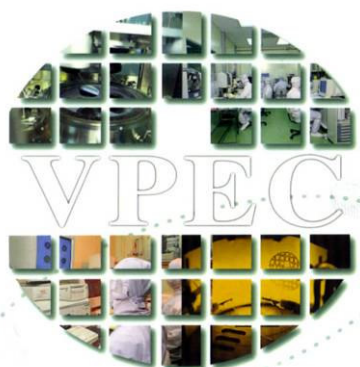




公司簡介

MOCVD 創造世界級之競爭力

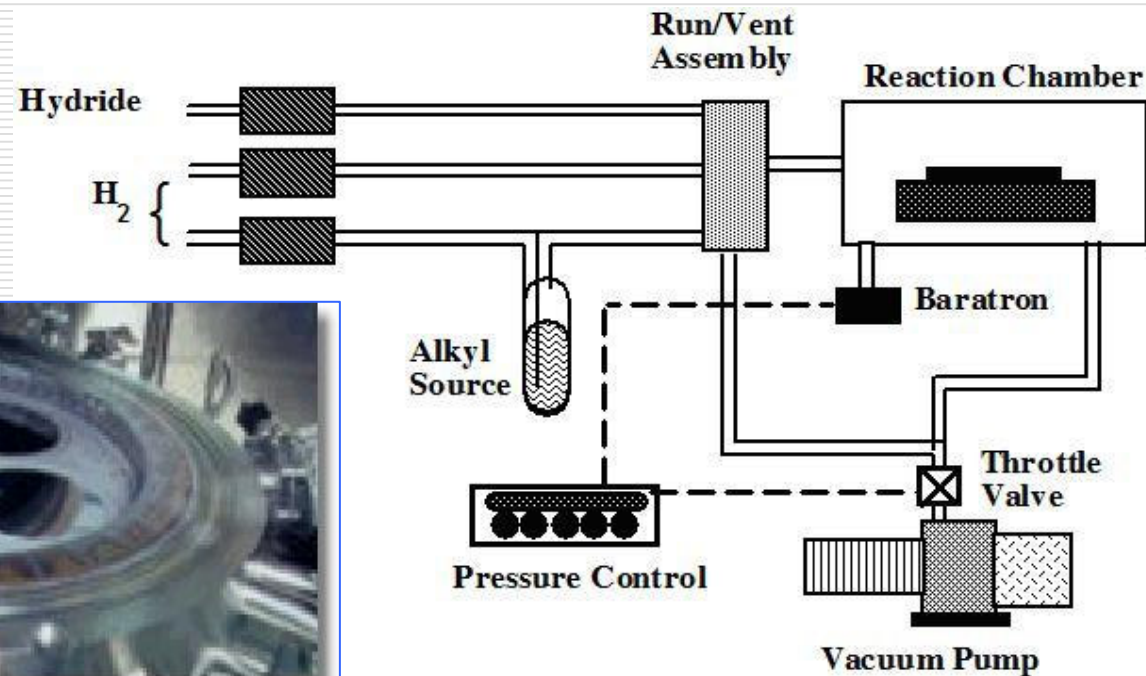




核心技術

MOCVD(有機金屬氣相沉積法)

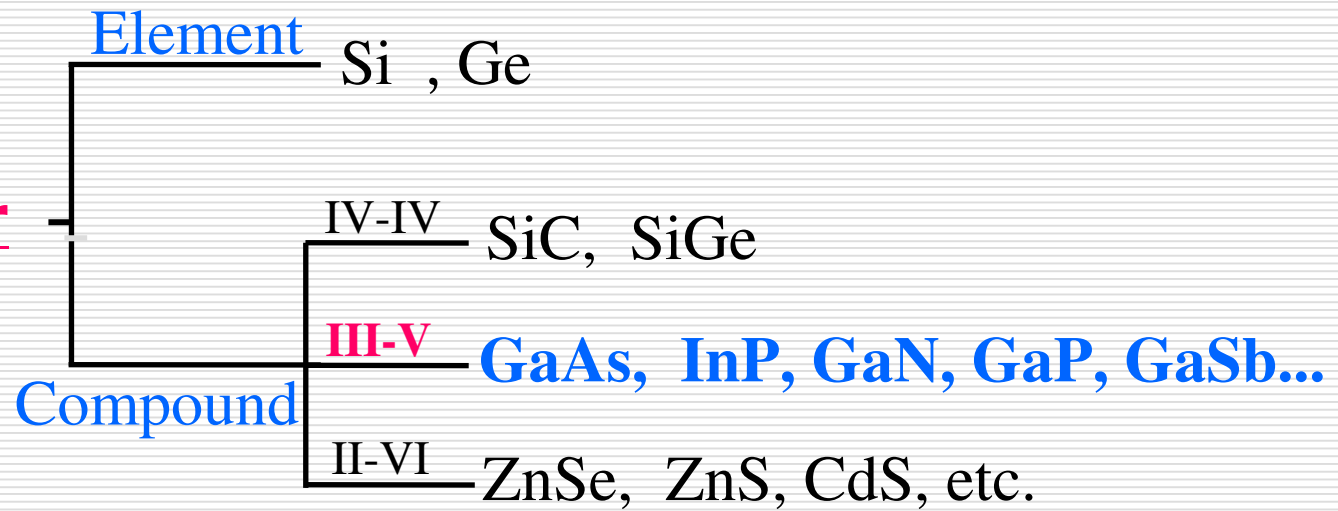
- Metal Organic Chemical Vapor Deposition





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.

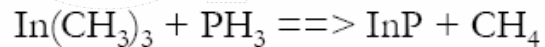
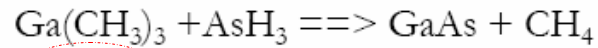
四元化合物 Quaternary : AlGaInP, InGaAsP, etc.

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

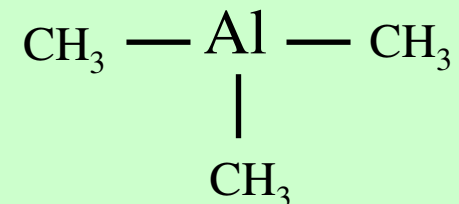
Si₂H₆ : Disilane

H₂Se : Hydrogen Selenide

CBr₄ : Carbon Tetrabromide

TMAI Tri - Methyl - Aluminum (CH_3)₃Al

三 甲 基 鋁





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

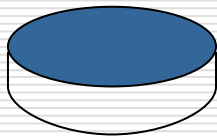
適用於無線通訊、光纖通訊、光顯示(LED)& 太陽能產業



產業供應鏈

Freiberg, AXT

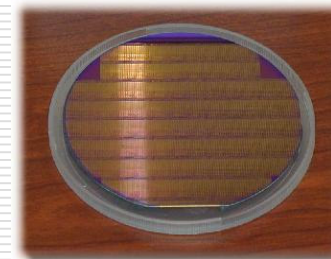
4~6 "GaAs Substrate



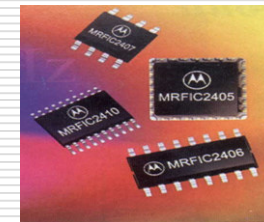
GaAs Epi- Wafer
磊晶片



Microelectronics
IC Process



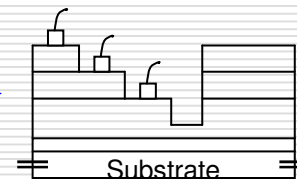
Wireless
Communication



IC Package & Testing



MOCVD Reactor





2013-2016 營運成果

	2016	%	2015	%	2014	%	2013	%
Revenue	2,182,825	100.00%	2,391,899	100.00%	2,073,370	100.00%	2,150,393	100.00%
Gross margin	809,059	37.06%	896,369	37.48%	720,975	34.77%	704,050	32.74%
Operating Profit	588,072	26.94%	670,700	28.04%	524,487	25.30%	520,833	24.22%
Financial Income	(29,431)	-1.35%	20,258	0.85%	40,133	1.94%	31,933	1.48%
Tax	(91,534)	-4.21%	-98,301	-4.11%	-96,209	-4.64%	-92,054	-4.28%
Net income	467,107	21.40%	592,657	24.78%	468,411	22.59%	460,712	21.42%
EPS	2.12		2.4		1.9		1.87	