



Application Notes on

EM57P300 V.S EM57300

Document Number : **AP-EM57-0010C**

Date of Issue : **24 October 2002**

Issue Version : **1.0**

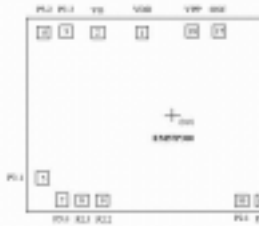
Supported Chips : **EM57P300 & EM57100, EM57200, EM57300**

Applicable Software :

1.0 Electrical Characteristics:

Item	57P300	57300/200/100 H	meno
Operating Voltage	2.1 ~ 6 V	1.8 ~ 6 V	
Operating current	280 uA	240 uA	
Reset voltage level	2.0 V	1.6 V	
R osc	510K Ω	1M Ω	
F osc	1MHz	1MHz	
I/P pull low impedance	10.5uA ($\cong$ 429K Ω)	8.8uA ($\cong$ 511K Ω)	@4.5Vcc, Vi=Vcc
	4.4uA ($\cong$ 682K Ω)	3.7uA ($\cong$ 811K Ω)	@3Vcc, Vi=Vcc
I/P pull low impedance	29uA ($\cong$ 17K Ω)	23.2uA ($\cong$ 22K Ω)	@4.5Vcc, Vi=0.5V
	19.5uA ($\cong$ 26K Ω)	14.5uA ($\cong$ 32K Ω)	@3Vcc, Vi=0.5V
I/P Trans Voltage V _{iH}	1.1V	1.5V	@4.5Vcc
	0.8V	1.1V	@3Vcc
O/P Sink current	17mA	10mA	@4.5Vcc, Vo=Vcc
	8.2mA	4.7mA	@3Vcc, Vo=Vcc
O/P Drive current	9.6mA	8.2mA	@4.5Vcc, Vo=0V
	4.0mA	3.7mA	@3Vcc, Vo=0V
Vo output current	3.5mA typ.	3 mA typ.	
	3.1~3.9mA	2.8~3.2mA	

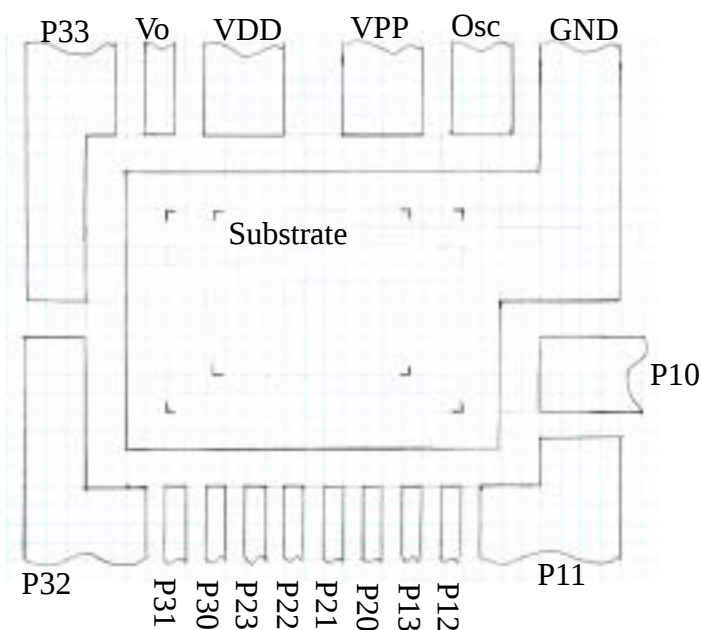
2.0 Pin Assignment:

Item	57P300H	57Q300H	57300/200/100 H	meno
Pad number	17 Pads		17 Pads	
Must Bounding Pads	VDD, VSS, VPP P1.0 ~P1.3 P2.0, P2.1	Used pads Vpp pin Open	Used pads Test pin Open	
Die diagram				
Pad location	口形排列		U 形排列	Pin's sequence is same as
Die size	3000x2100		57100= 1900x1200 57200= 1900x1400 57300= 1900x1700	um*um
Substrate	Vss		Vss	

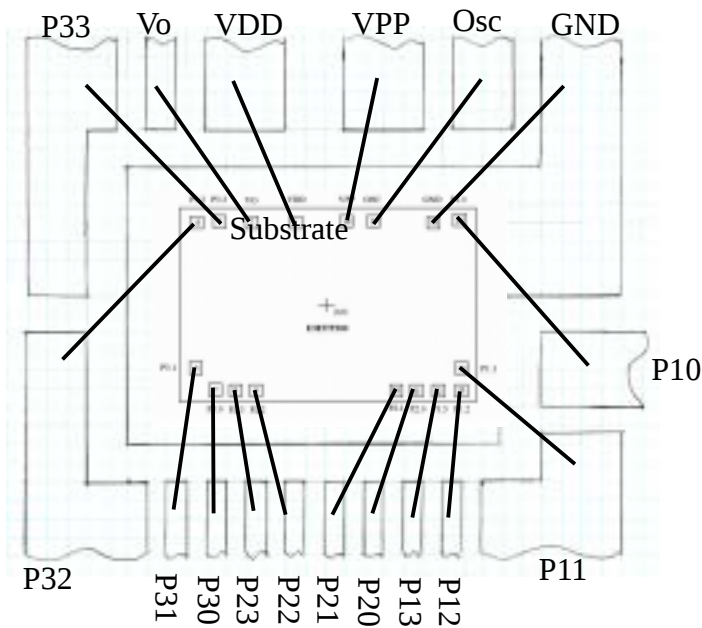
PCB layout notes:

1. 由於 EM57P300H 的 Die size 較大, 因此應採用 EM57P300H 的 Die size 為 layout 依據. 才能放的下 EM57300
2. 由於 EM57P300H 為四邊有 Pad, 因此應採用四邊打線方式佈線, 不可採用三邊打線方式佈線.
3. 為執行燒錄動作, 因此 EM57P300H 的 Vpp, 必須打線出來, 其他相關燒錄 Pad 亦需打線出來以便燒錄.
4. 若採用 EM57Q300H, 因程式已燒錄完成, 因此 EM57Q300H 的 Vpp Pad 不須打線.

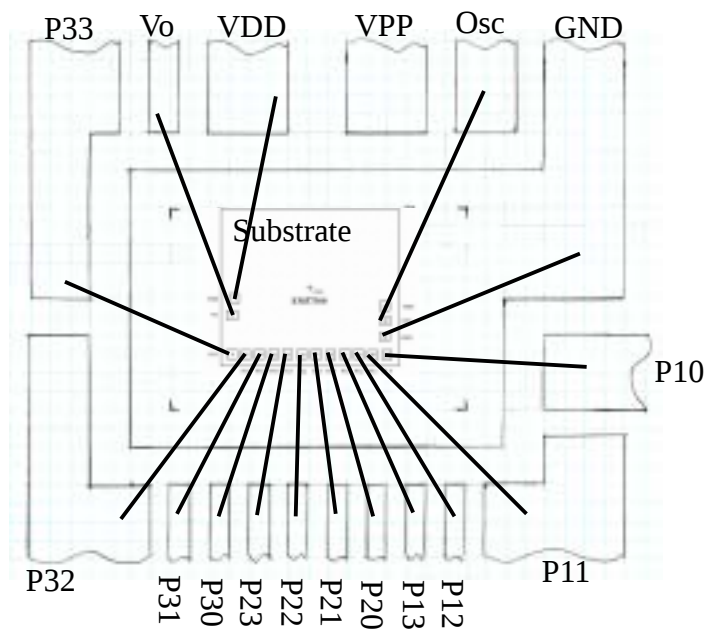
PCB layout examples:



1. Bounding for EM57P300H / EM57Q300H :



2. Bounding for EM57300H / EM57200H / EM57100H :





3.0 Program interface :

Speech WTR	EM57P300
#3 VDD	VDD
#2 D out	P2.1
#1 D in	P2.0
#9 D clk	P1.3
#8 OEB	P1.2
#7PGMB	P1.1
#10 A clk	P1.0
#5 GND	VSS
#5 GND	OSC
#4 VPP	VPP
#6 NC	
	* Vo P3.0 ~P3.3 P2.2, P2.3

These Pin must keep open at programming .

NOTE

The EM57P300 can Not connect to other component except Speech-WTR with any pins at programming!