

# SPECIFICATION FOR APPROVAL

## 承 認 書

Description : Electret Condenser Microphone

Kingstate Part No. : KEEG1342SBL-C

Customer's Model No. : \_\_\_\_\_

Specification No. : MKD-7615

Number Of The Edition : 1.3

CUSTOMER'S APPROVED SIGNATURE		

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## A. SCOPE 範疇

This specification applies elect ret condenser microphone, **KEEG1342SBL-C**

此規格書適用於電容式麥克風 **KEEG1342SBL-C**

## B. SPECIFICATION 規格

No.	Item	Symbol	Unit	Specification	Condition
1	Directivity 方向性			Omnidirectional 全指向	
2	Sensitivity 靈敏度	<b>S</b>	dB	-42 ± 3	f=1KHz, 1Pa 0dB=1V/Pa
3	Standard operating voltage 標準操作電壓	<b>Vs</b>	V D.C.	2	
4	Output impedance 輸出阻抗	<b>Zout</b>	KΩ	2.2	f=1KHZ, 1Pa
5	Max operating voltage 最大操作電壓		V D.C.	10	
6	Sensitivity reduction 減電壓靈敏度	$\Delta S-Vs$	dB	-3	f=1KHz, 1Pa Vs=2.0V D.C. to 1.5V D.C.
7	Frequency 頻率	<b>f</b>	Hz	100 ~ 20,000	
8	Max. current consumption 最大耗電流	<b>Idss</b>	mA	0.5	Vs=2.0V D.C. RL=2.2KΩ
9	Signal to noise ration 訊號對雜音比	<b>S/N</b>	dBA	58	f=1KHz, 1Pa A weighted
10	Operation temp. 操作溫度		°C	-20 ~ + 70	
11	Storage temp. 儲存溫度		°C	-20 ~ + 70	
12	Dimension 尺寸		mm	φ 4.0 x 1.3	See appearance drawing 請參照外觀尺寸圖
13	Weight (MAX) 重量		gram	0.09	
14	Material 材質			AL 鋁	
15	Terminal 端子			Terminal	See appearance drawing 請參照外觀尺寸圖
16	Environmental Protection Regulation 環保法規			RoHS	

We use "Pascal(Pa)" indication of sensitivity as per the recommendation of I.E.C.(International Electro technical Commission).The Sensitivity of "Pa" will increase 20dB comparing with "ubar" indication.

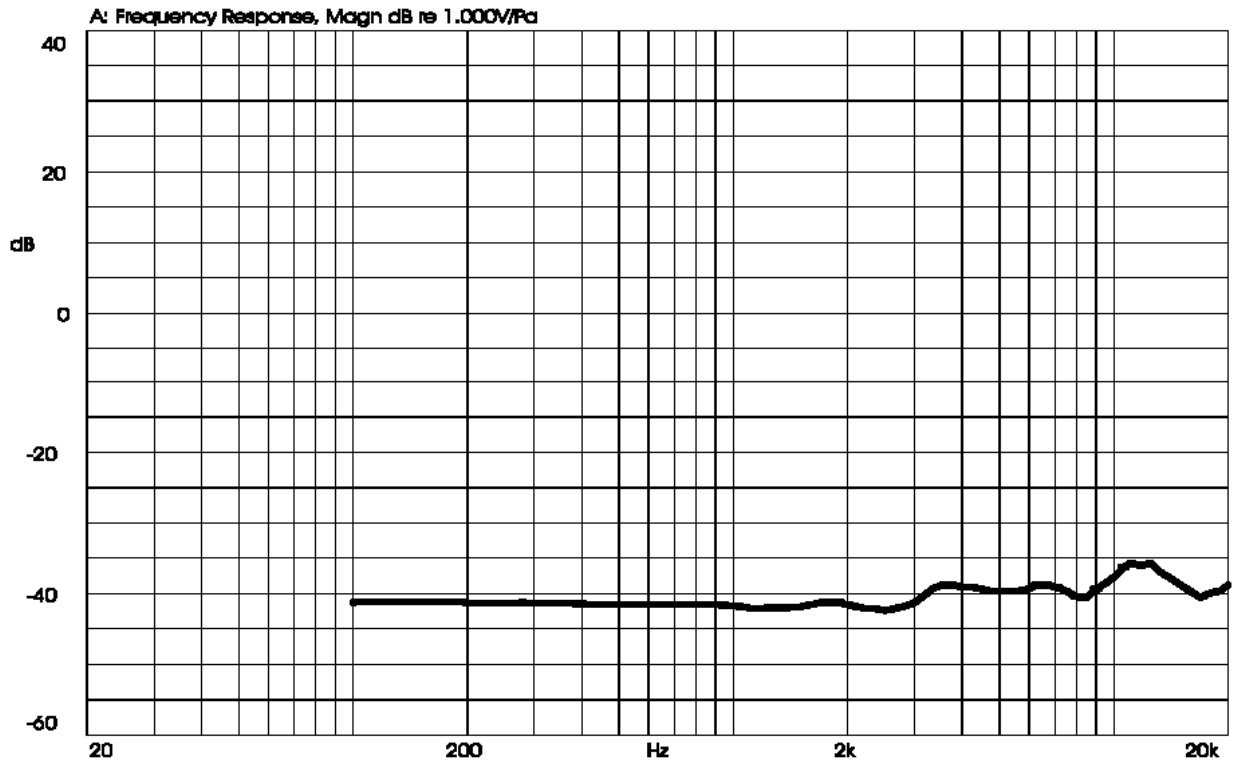
Example: -60dB(0dB=1V/ubar) = -40dB(1V/Pa)

依 I.E.C.(國際電子協會)建議,以"Pa"為靈敏度標示單位比"ubar" 靈敏度標示單位增加 20dB

例如: -60dB(0dB=1V/ubar) = -40dB(1V/Pa)

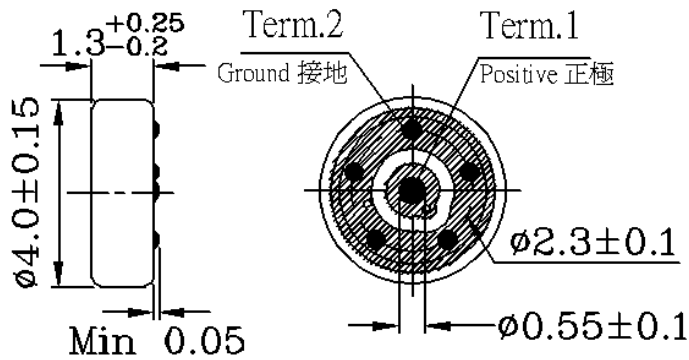
# C. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線

X:1.0000kHz \*Y:-42.00dB ZA:Live Curve SSR Fund.



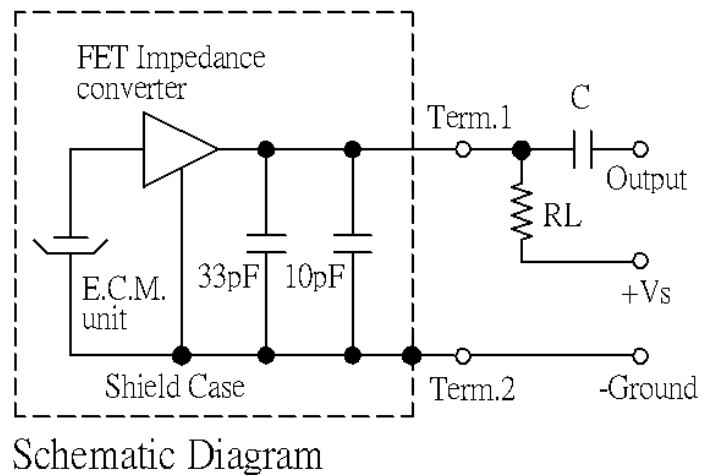
## D. APPEARANCE DRAWING

外觀尺寸圖



## E. MEASUREMENT CIRCUIT

測量線路

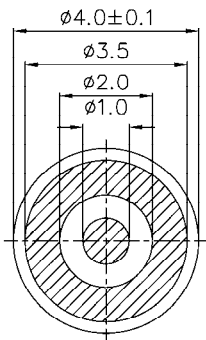


Unit: mm

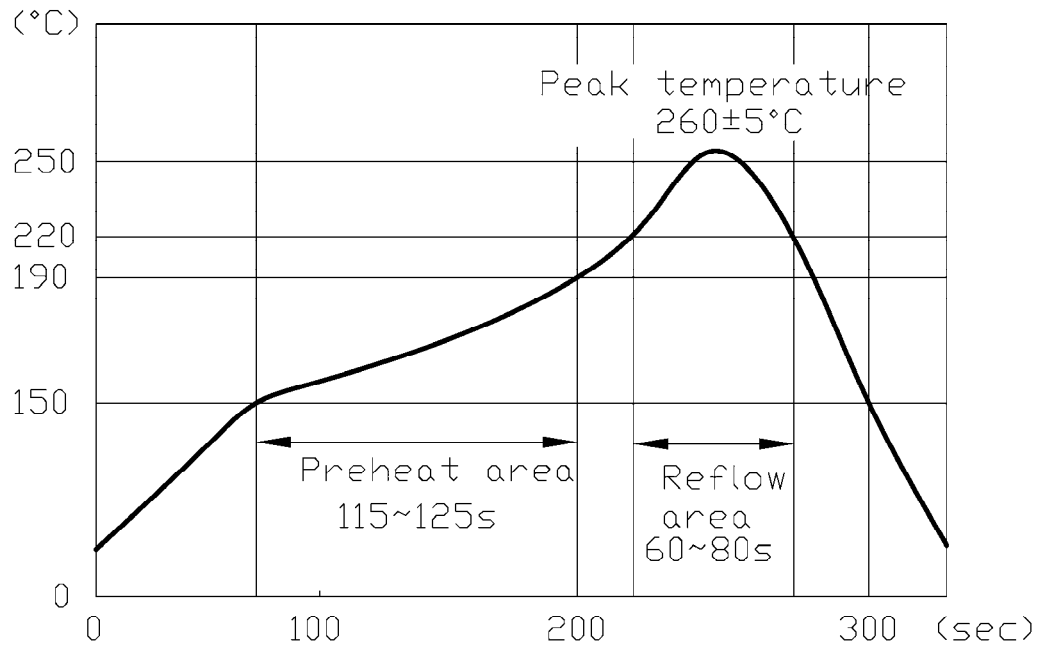
RL=2.2KΩ

## F. RECOMMEND PATTERN AND REFLOW TEMPERATURE PROFILE

建議 PCB 焊盤及迴焊爐溫度曲線



The shadow parts  
were Au Plated  
陰影部分為鍍金面



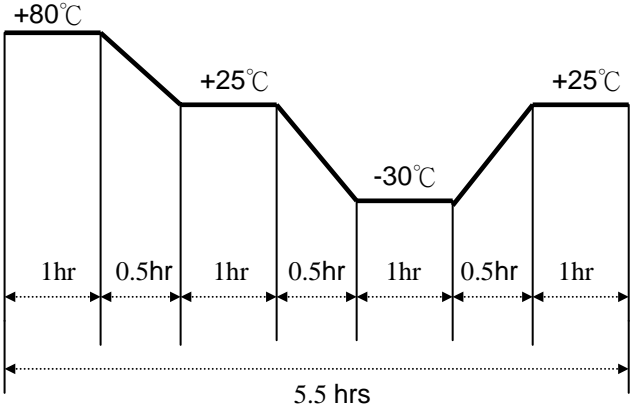
Unit: mm

TOL:±0.2

## G. MECHANICAL CHARACTERISTICS 機械特性

No.	Item	Test condition	Evaluation standard
1	Reflow Test 回流焊測試	The temp. of through reflow is 260°C ±5°C。 麥克風單體過回流焊 260°C ±5°C 兩次。	After any tests, the sensitivity to be within ±3dB 測試其靈敏度須與原測試值的差異不超過±3 dB.
2	Vibration Test 振動測試	The part shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours. 振動週波數 10~55HZ、全振幅 1.5mm 於 X.Y.Z 3 個方向, 各 2 小時。	
3	Drop Test 落下測試	The part unit without packaged must be subjected to each 3 drops at three axes from the height of 1 meter to 20 mm thick wooden board. 未包裝麥克風單體從 1 公尺高處, X.Y.Z.3 個方向, 各 3 回, 落於 20mm 厚木板上。	

## H. ENVIRONMENTAL TEST 環境試驗

No.	Item	Test conditions	Evaluation standard
1	High temp. test 高溫測試	After reflow placed in a chamber at +80°C for 72 hours. 過回流焊後, 置於+80°C環境中 72 小時	After any tests, the sensitivity to be within ±3dB of initial sensitivity after 6 hours of conditioning at +25°C 經測試後麥克風, 須靜置於 +25°C (室溫) 環境中 6 小時後. 測試其靈敏度須與原測試值的差異不超過±3dB.
2	Low temp. test 低溫測試	After reflow placed in a chamber at -30°C for 72 hours. 過回流焊後, 置於-30°C環境中 72 小時	
3	Humidity test 相對濕度測試	After reflow placed in a chamber at +40°C and 90±5% relative humidity for 240 hours. 過回流焊後, 置於+40°C, 相對濕度 90±5%環境中 240 小時	
4	Temp. cycle test 溫度循環測試	The part shall be subjected to 10 cycles. One cycle shall be consist of : 過回流焊後, 單體承受溫度循環測試 10 次, 其循環內容如圖示: 	

### TEST CONDITION.

Standard Test Condition	:	a) Temperature : +5 ~ +35°C	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般測試條件	:	a) 溫度 : +5 ~ +35°C	b) 濕度 : 45-85%	c) 氣壓 : 860-1060mbar
Judgment Test Condition	:	a) Temperature : +25 ± 2°C	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
爭議時測試條件	:	a) 溫度 : +25 ± 2°C	b) 濕度 : 60-70%	c) 氣壓 : 860-1060mbar

### 使用上的注意事項

#### 1. Reflow 回流焊

The reflow temp. and time should be in accordance with specification, if any discrepancy, please contact us.

回流焊的溫度和時間. 及焊盤. 焊點等, 請按照承認書上的條件進行使用, 如果與承認書上的條件不一致時, 請與我司聯系.

Please notice: Although on the same condition, there will be some temp. discrepancy, then PCB type, thickness, size, heating zone of reflow varied.

即使相同的設定條件, 產品位置, 部品的組裝, 部品的點數, 所使用的基板的類型, 厚度. 大小, 回流爐的加熱位置不一樣等情況都會出現溫度差異. 請注意!

PCB should not be curve up

請注意基板不要翹起.

## 2. Note after assembly 有關組裝後的注意事項.

Do not clean.

請不要清洗.

Don't press hardly the assembled PCB.

組裝後的基板,請不要用力按及彎曲.

Don't touch another PCB, and place physical force on ECM.

請不要碰撞到其他基板,不要給 ECM 主體施加機械壓力等..

Don't over-vibrate, drop or shock.

請注意不要過度的振動,及落下等沖擊.

## 3. Storage condition 保存條件

Place in the shade or low temp and humidity place ( Temp: 15~35°C; Humidity: below 75% )

將其放置在避光,溫濕度低的場所(溫度 15~35°C,濕度 75%RH 以下)保管.

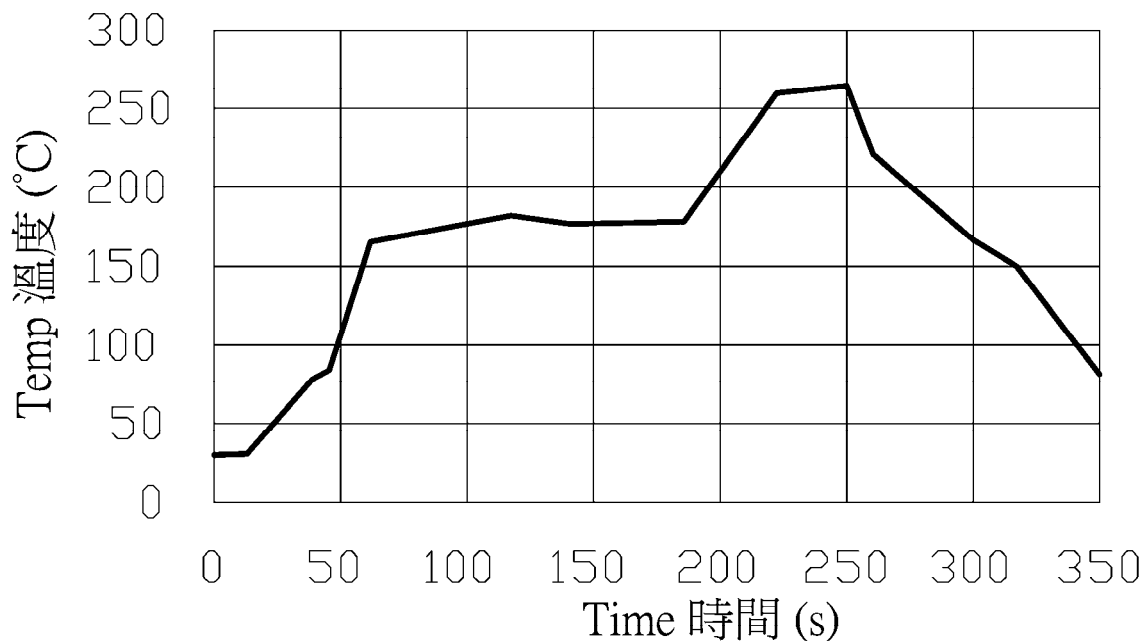
Don't together with corrosive air, sundries, or dust. Don't press against the package.

不要接觸到腐蝕性氣體,雜物,灰塵等.請不要擠壓包裝箱.

## Characteristic date 特性數據

### Applied reflow terms in Test

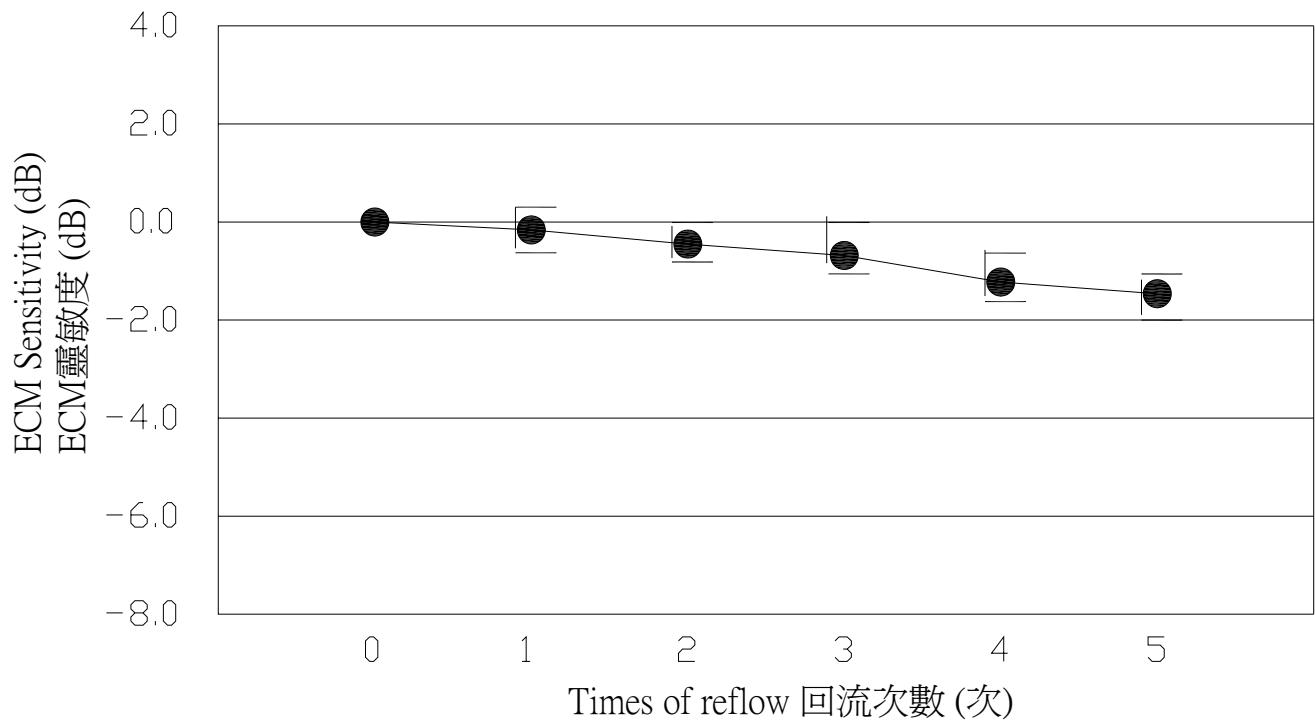
試驗用回流焊溫度專業文書



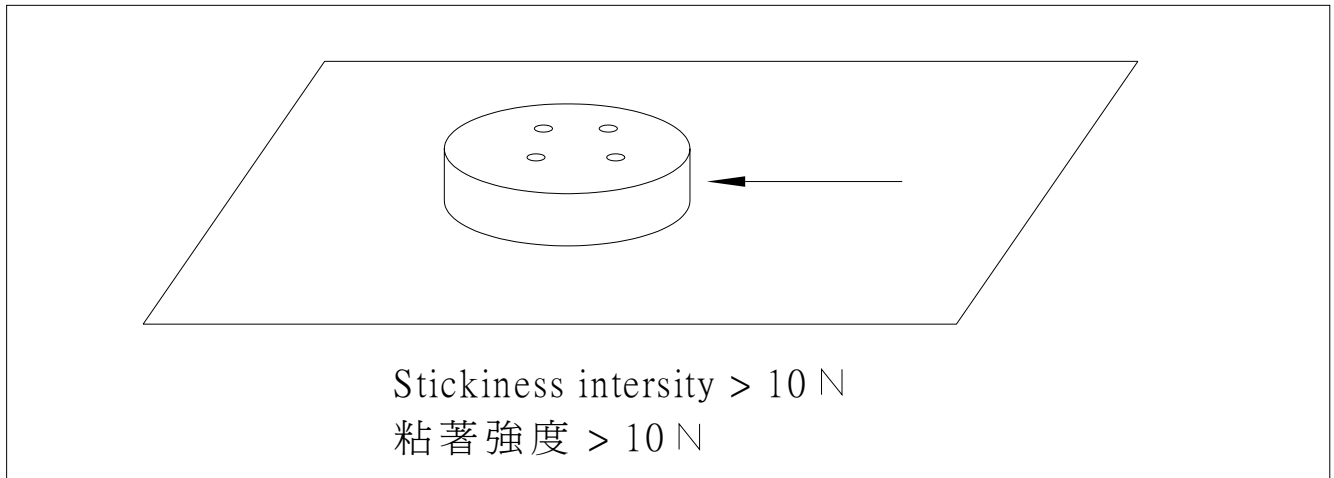
	Temp,duration 溫度,時間條件
Temp grow 1 升溫 1	1~3°C/second 1~3°C/秒
Preheat 預熱	160~190°C 115~125second 160~190°C 115~125秒
Temp grow 2 升溫 2	1~5°C/second 1~5°C/秒
Heating 加熱	220°C above 60~70second 220°C 以上 60~70秒
Temp peak 最高溫度	255~265°C 10~30second 255~265°C 10~30秒
Cool 冷卻	1~4°C/second 1~4°C/秒
Total 合計時間	5 minute above 5分以上

## Reflow will have impact on ECM sensitivity

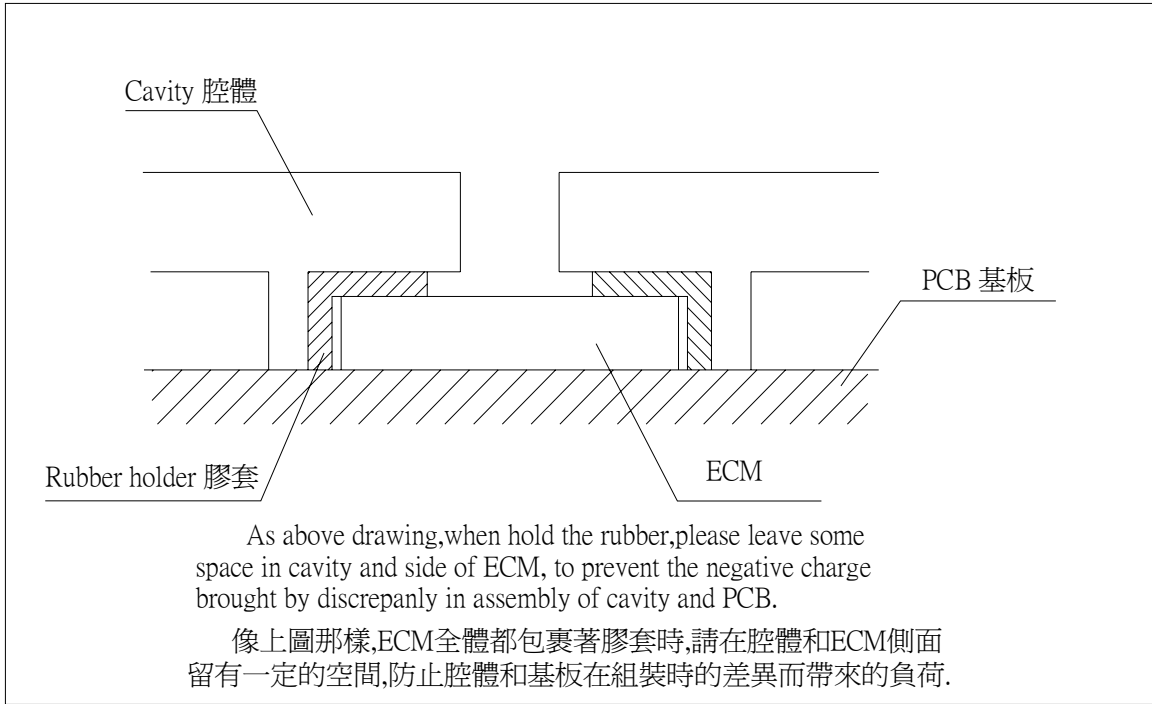
回流焊影響 ECM 靈敏度的變化



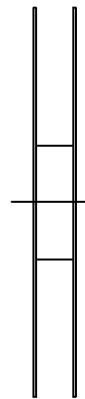
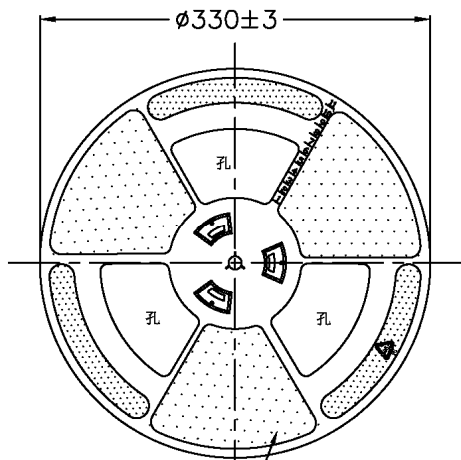
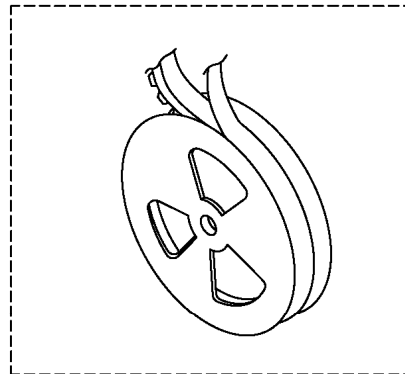
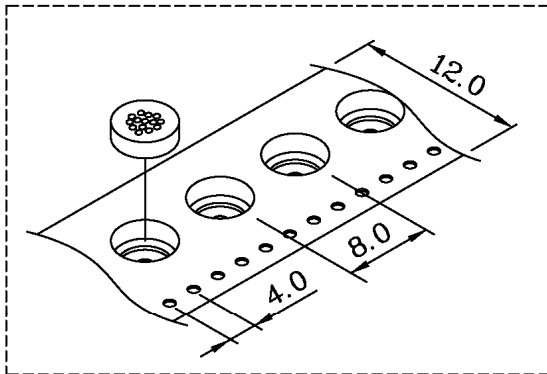
### (3) Stickiness intensity (load at sideways) 粘著強度(側方向負重)



(4) Packing method 組裝方法



H. PACKING STANDARD 包裝規格



1 Reel : 3800PCS

Unit: mm

TOL:  $\pm 0.3$