

SPECIFICATION FOR APPROVAL

承 認 書

Description : **Micro Dynamic Speaker**

Kingstate Part No. : **KAAG13008-07C**

Customer's Model No. :

Specification No. : **DOD-5622**

Number Of The Edition : **1.1**

CUSTOMER'S APPROVED SIGNATURE

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Approved by	Checked by	Issued by
Jinxuegui 2012-3-5	Coco 2012-3-5	Marry 2012/3/5

A. SCOPE 範疇

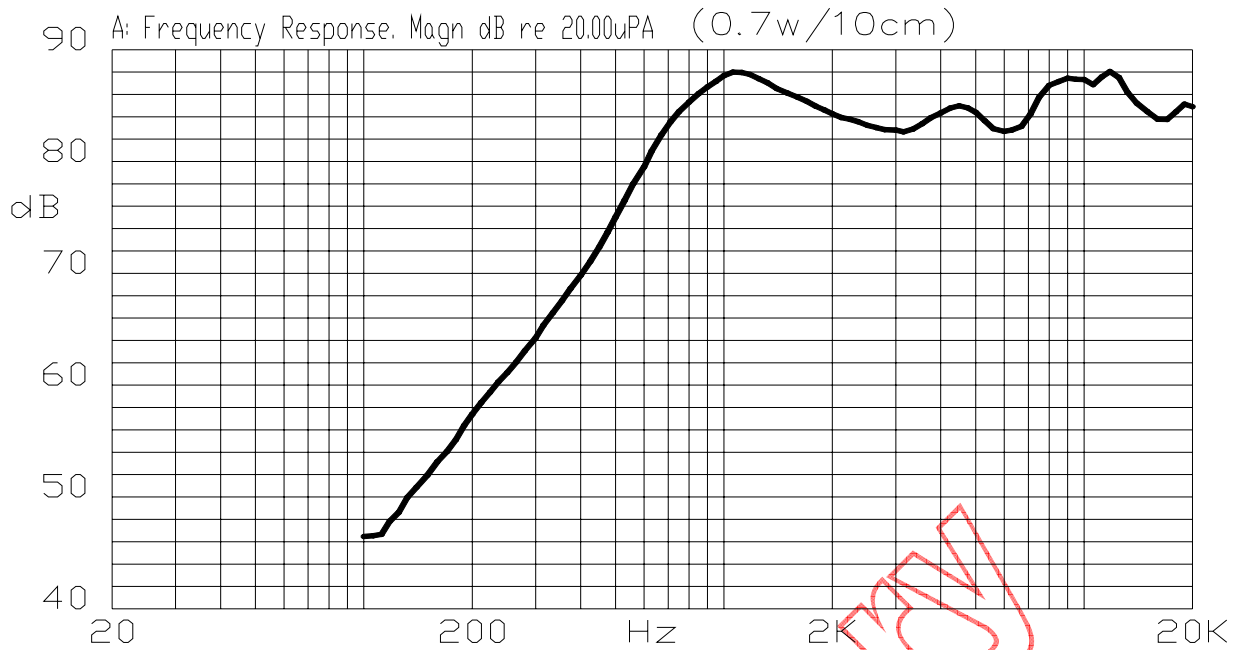
This specification applies speaker, KAAG13008-07C

此規格書適用於喇叭, KAAG13008-07C

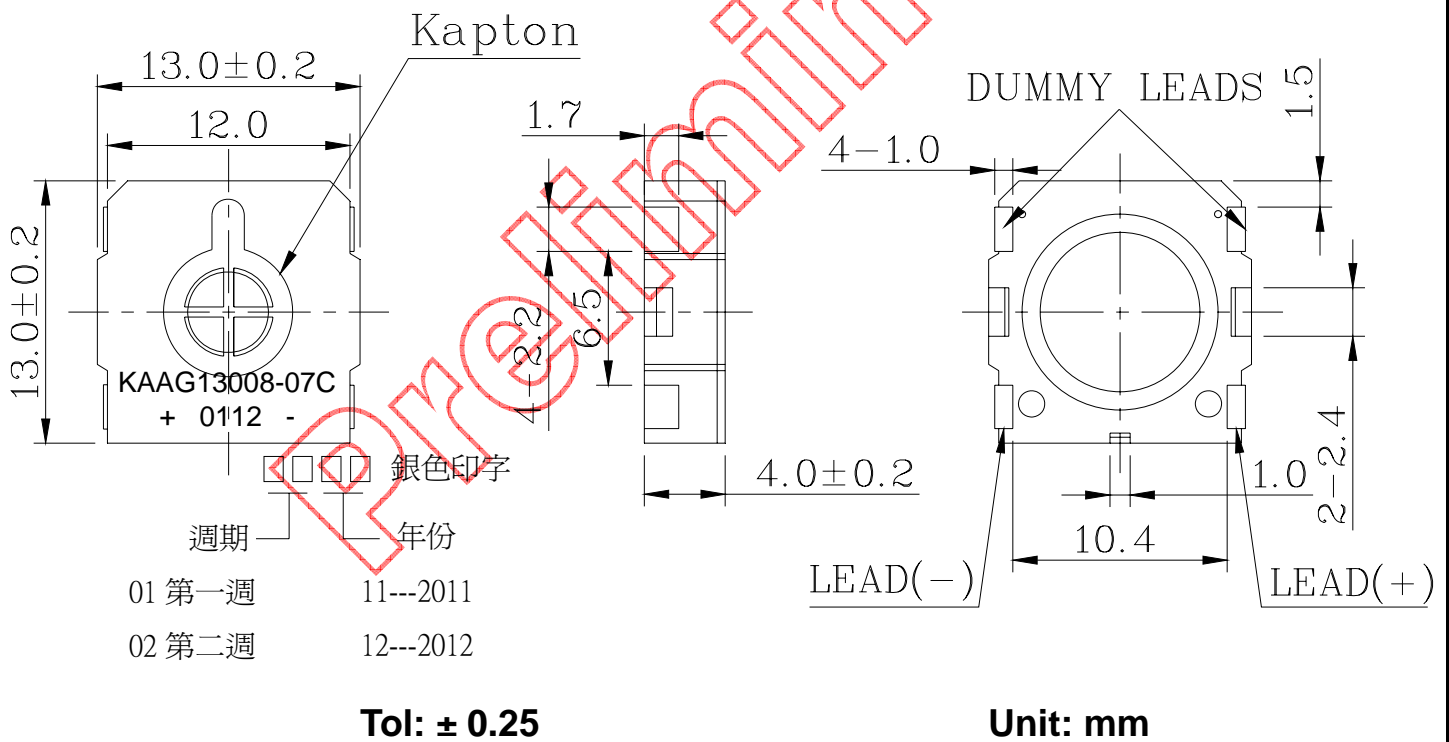
B. SPECIFICATION 規格

No.	Item	Symbol	Unit	Specification	Condition
1	Dimension 尺寸		mm	13X13X4.0	
2	Power Rating 功率		W	Rated. 0.7 / MAX. 1.0	Maximum Power:IEC-60268-5 Filter 60s On/120s Off 10 Cycles (Room TEMP.)
3	Impedance 阻抗	Ω	ohm	$8 \pm 15\%$	At 1.5kHz 1.0V
4	Resonance Frequency 低音諧振	Fo	Hz	$850 \pm 20\%$	At 1.0V
5	Output S.P.L. 音壓位準		dB	$87 \pm 3\text{dB}(0.7\text{w}/10\text{cm})$ $70 \pm 3\text{dB}(1\text{w}/1\text{m})$	At 1.0k,1.6k,2.0k,3.2kHz (Average figures) (Specification value from the units without adding non woven)
6	Frequency Rang 有效頻寬		Hz	Fo---20K	Output S.P.L. $\pm 10\text{dB}$
7	Distortion 失真		%	5% Max.	At 2.0kHz input Rated Power
8	Voice Coil 音圈		mm		
9	Magnet 磁石		mm	$\phi 6.0 \times 1.0$	SM2CO
10	Flux Density 磁通密度		Gauss		
11	Operating temp. 操作溫度		$^{\circ}\text{C}$	-40 ~ +85	
12	Buzze & Rattle 異常音				Not be audible at 2.37V sine wave between Fo ~ 20KHz 輸入 2.37V 正弦波從 Fo 到 20KHz 之間無異常音
13	Weight 重量		g	1.1	
14	Material 材質			LCP(BLACK) PIN Plating Au 2-3u	
15	Environmental Protection Regulation 環保法規			RoHS	

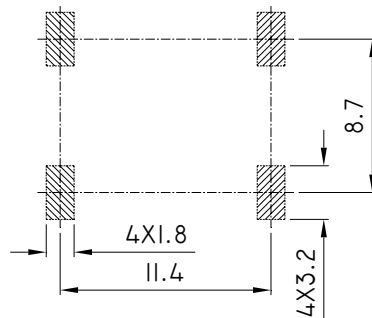
C. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線



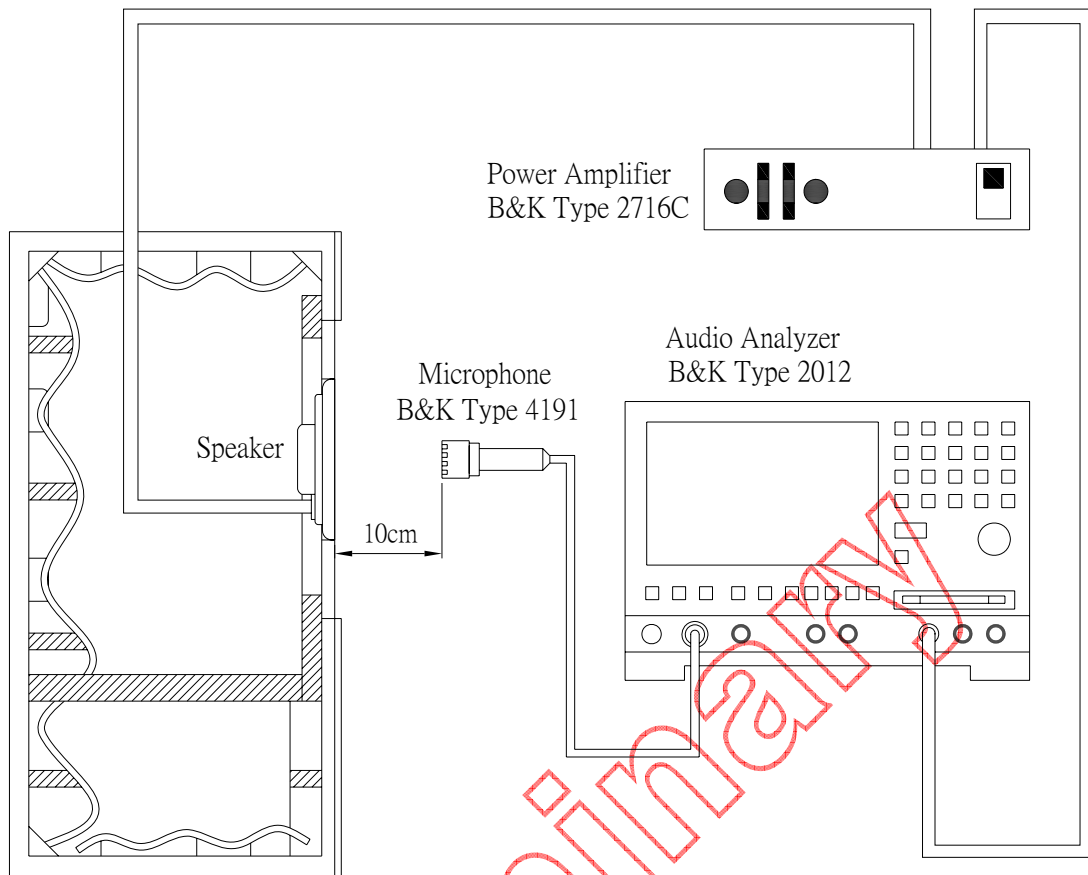
D. APPEARANCE DRAWING 外觀尺寸圖



E. Recommended Land Pattern: 建議基板設計尺寸



F. MEASUREMENT CIRCUIT 測量線路

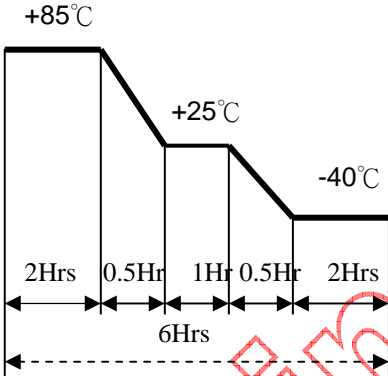


JIS C5531
940mm x 640mm x 1240mm

G. MECHANICAL CHARACTERISTICS 機械特性

No.	Item	Test condition	Evaluation standard
1	Solderability 焊錫附著性 (Connector excepted) 端子類不適用此項	Stripped wires of lead wires are immersed in rosin for 5 seconds and then immersed in solder bath of +270±5°C for 3±0.5 seconds. 裸線部份浸入松香溶液 5 秒後,再浸入+270±5°C 熔融焊錫槽 3±0.5 秒.	90% min. stripped wires shall be wet with solder.(Except the edge of terminal) 浸入裸線部份附著焊錫 90% 以上.(末端斷面不算).
2	Lead Wire Pull Strength 線材拉力	The pull force shall be applied to double lead wire : Horizontal 3.0N(0.306kg) for 30 seconds. Vertical 2.0N(0.204kg) for 30 seconds. 雙線材水平方向施以 3.0N(0.306kg) 的力量, 垂直方向施以 2.0N(0.204kg) 的力量, 各 30 秒.	No damage and cutting off 線材不鬆動, 不脫落.
3	Vibration Test 振動測試	Speaker 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.	No obstacle to be harmful to normal operation; damages, cracks, rusts and distortions. Should not be audible at 2.37V sine wave between Fo ~ 20KHz
4	Drop Test 落下測試	Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm 將揚聲器置於盒中, 自 75 公分高度落在 40mm 木板上共 10 次.	測試後無任何障礙防礙正常操作. 且在輸入 2.37V 正弦波從 Fo 到 20KHz 之間無異常音.

H. ENVIRONMENTAL TEST 環境試驗

No.	Item	Test conditions	Evaluation standard
1	High temp. Test 高溫測試	After being placed in a chamber at +85°C for 96 hours 置於+85°C環境中 96 小時	Being placed for 6 hours at +25°C, speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc. Should not be audible at 2.37V sine wave between Fo ~ 20KHz. Fo should meet initial one. S.P.L. deviation of unit should be within ±3dB 經測試後，靜置於+25°C (室溫)環境中 6 小時後，測試後無任何障礙防礙正常操作。且在輸入 2.37V 正弦波從 Fo 到 20KHz 之間無異常音。Fo 與原規格值相同，輸出音壓變化量在±3dB 內。
2	Low temp. Test 低溫測試	After being placed in a chamber at -40°C for 96 hours. 置於-40°C環境中 96 小時	
3	Humidity test 相對濕度測試	After being placed in a chamber at +40°C and 95±5%RH relative humidity for 96 hours. 置於+40°C，相對濕度 95±5%環境中 96 小時	
4	Temp. cycle test 溫度循環測試	The part shall be subjected to 5 cycles. One cycle shall be consist of: 單體承受溫度循環測試 5 次，其循環內容如圖示： 	

I. RELIABILITY TEST 信賴性試驗

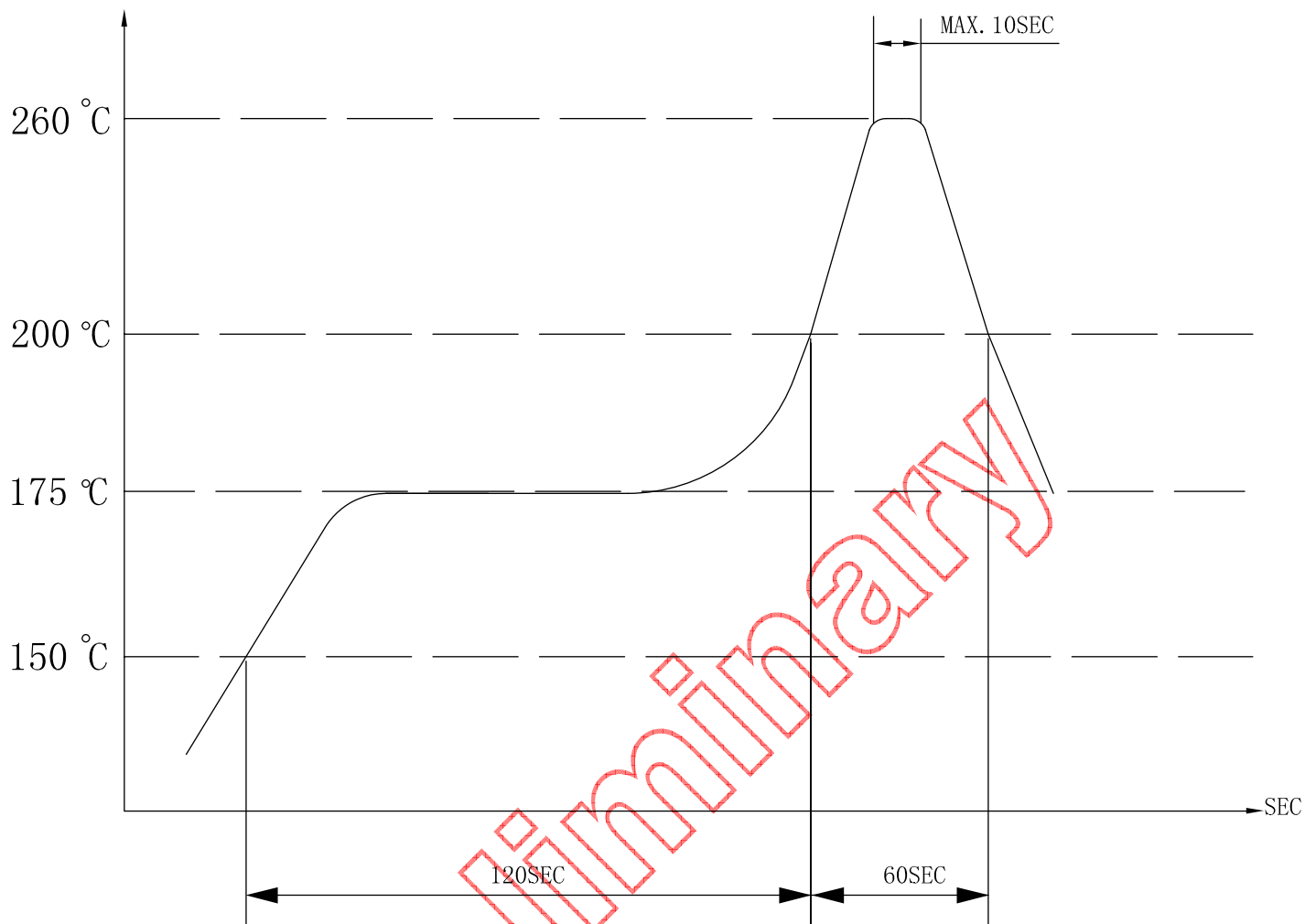
No.	Item	Test conditions	Evaluation standard
1	Load test 連續負荷	0.7W white noise is applied for 24 hours, at room temp. 在室溫下，輸入功率 0.7W，白雜音連續操作 24 小時。	Being placed for 1 hours at +25°C, speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc. Should not be audible at 2.37V sine wave between Fo ~ 20KHz. Fo should meet initial one. S.P.L. deviation of unit should be within ±3dB 經測試後，靜置於+25°C (室溫)環境中 1 小時後，測試後無任何障礙防礙正常操作。且在輸入 2.37V 正弦波從 Fo 到 20KHz 之間無異常音。Fo 與原規格值相同，輸出音壓變化量在±3dB 內。

TEST CONDITION.

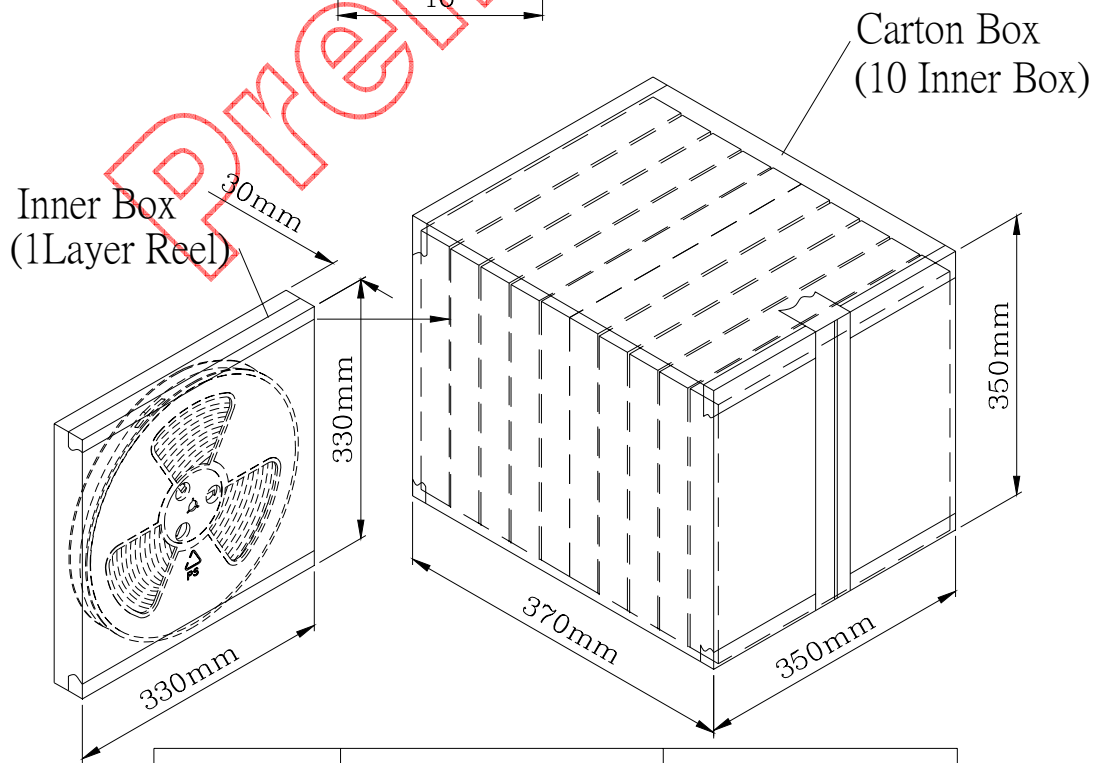
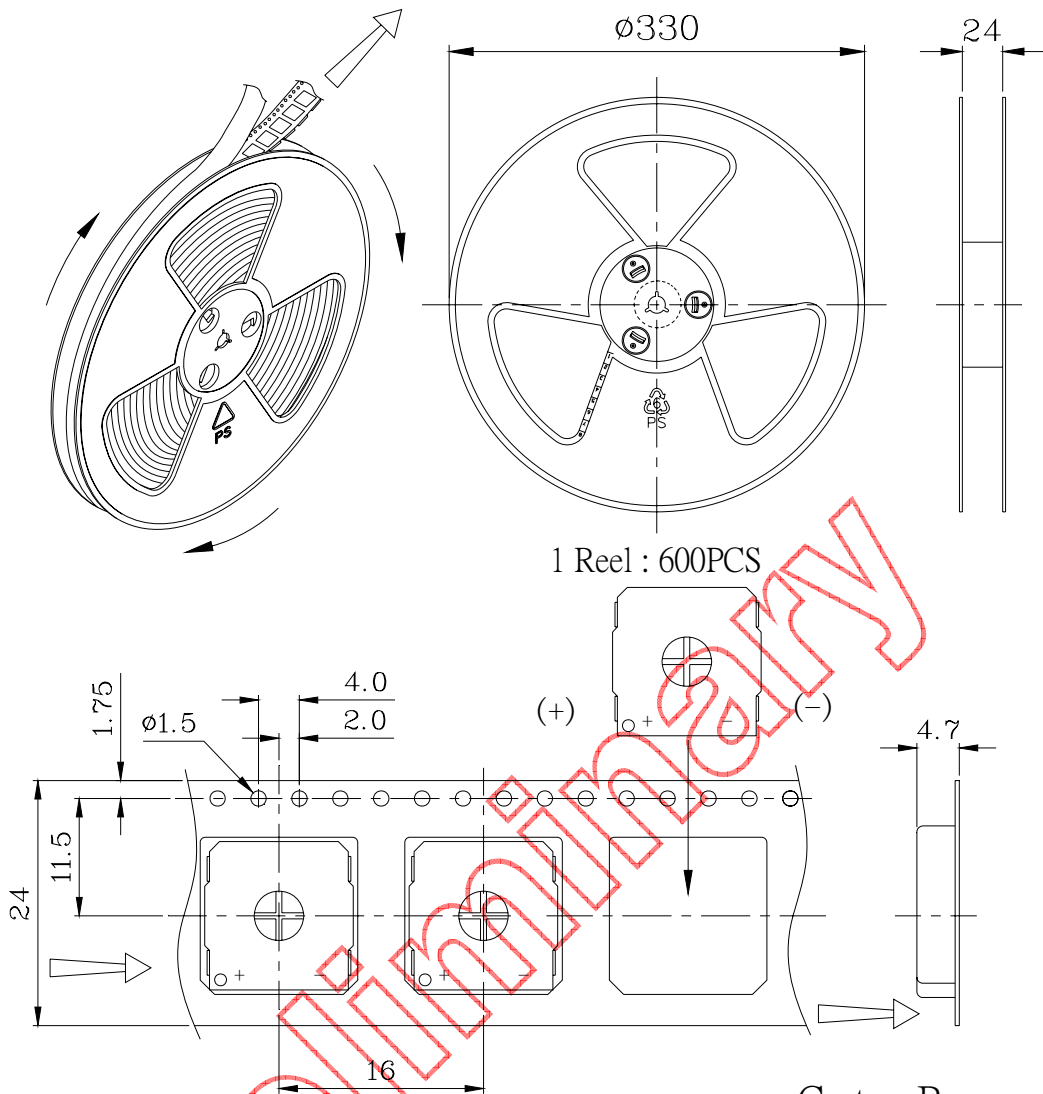
Standard Test Condition :	a) Temperature : +5 ~ +35°C	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般測試條件 :	a) 溫度 : +5 ~ +35°C	b) 濕度 : 45-85%	c) 氣壓 : 860-1060mbar
Judgement Test Condition:	a) Temperature : +25 ± 2°C	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
爭議時測試條件 :	a) 溫度 : +25 ± 2°C	b) 濕度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

J. Recommended Temperature Profile For Reflow Oven 建議回焊爐溫度曲線

TEMPERATURE



K.PACKING STANDARD 包裝規格



Inner Box	330mmx330mmx30mm	1x600PCS=600PCS
Carton Box	350mmx350mmx370mm	10x600PCS=6,000PCS