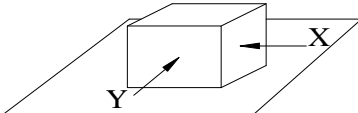
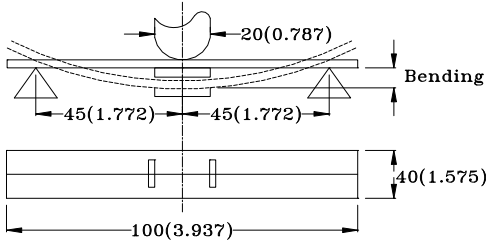


Pb-FREE PRODUCTS 無鉛產品

No	Item [項目]	Test Method & Conditions [試驗方法、條件]	Specification After Test [試驗後規格]																																		
A . Mechanical Characteristics 機械特性																																					
1	Operating Temperature 工作溫度	- 40 °C ~ + 125 °C (Including self - temperature rise) 含自身發熱溫度																																			
2	Storage temperature and Humidity range 儲存溫度濕度	+ 5 ~ +40°C ; 60 to 70% RH	<ul style="list-style-type: none"> · on Tape & Reel · 在捲帶包裝 																																		
3	Solder Heat Resistance 抗焊錫熱特性	<ul style="list-style-type: none"> · Solder : M705-GRN360-K2-V · Peak-temp.hold time : 4 sec · Pre-heat , Solder Temperature & Dip Reflow soldering time as follow : 	<ul style="list-style-type: none"> · No Damage and No Abnormal on Surface · Impedance : Within ±20% of Initial Value · More than 75% of the terminal electrode should be covered and uniformity with solder · 產品表面不能被破壞及不正常的情形 · 阻抗值：初始值的±20%以內 · 端子吃錫需均勻，吃錫面積75%以上 																																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Item</th> <th rowspan="2">mark</th> <th colspan="2">products</th> </tr> <tr> <th>size ≥ 350mm³ or thickness ≥ 2.5mm</th> <th>size < 350mm³ or thickness < 2.5mm</th> </tr> </thead> <tbody> <tr> <td>Temperature rise gradient</td> <td></td> <td colspan="2" style="text-align: center;">3°C/sec (max)</td> </tr> <tr> <td>Heating time</td> <td>Tsoak</td> <td colspan="2" style="text-align: center;">50s ~ 150s</td> </tr> <tr> <td>Heating temperature</td> <td></td> <td colspan="2" style="text-align: center;">120°C ~ 180°C</td> </tr> <tr> <td>Time over 217°C</td> <td>t1</td> <td style="text-align: center;">60 sec</td> <td style="text-align: center;">90 sec</td> </tr> <tr> <td>Time within 5°C of actual peak temperature</td> <td>t3</td> <td style="text-align: center;">10~30 sec</td> <td style="text-align: center;">10~30 sec</td> </tr> <tr> <td>Peak temperature</td> <td>Tpeak</td> <td style="text-align: center;">250 (+0 / -5 °C)</td> <td style="text-align: center;">260 (+0 / -5 °C)</td> </tr> <tr> <td>Time 25°C to peak Temperature</td> <td></td> <td colspan="2" style="text-align: center;">6 minutes max.</td> </tr> </tbody> </table> <p>*The determination, first primarily determines by the size, then determines the altitude.</p>				Item	mark	products		size ≥ 350mm ³ or thickness ≥ 2.5mm	size < 350mm ³ or thickness < 2.5mm	Temperature rise gradient		3°C/sec (max)		Heating time	Tsoak	50s ~ 150s		Heating temperature		120°C ~ 180°C		Time over 217°C	t1	60 sec	90 sec	Time within 5°C of actual peak temperature	t3	10~30 sec	10~30 sec	Peak temperature	Tpeak	250 (+0 / -5 °C)	260 (+0 / -5 °C)	Time 25°C to peak Temperature		6 minutes max.	
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Reflow soldering temperature profile																																					
<p>The graph illustrates the reflow soldering temperature profile. The vertical axis represents Temperature in degrees Celsius, and the horizontal axis represents Time in seconds. The profile starts at a constant 25°C, then rises linearly to a plateau. The duration of this plateau is labeled as Tsoak. Following the plateau, the temperature rises linearly to a peak labeled Tpeak. The time taken to reach the peak from 25°C is labeled as 'Time 25°C to peak'. Two additional time intervals are marked: t1, the time from the start of the final rise to the peak, and t3, the time during which the temperature is within 5°C of the peak.</p>																																					

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No	Item [項目]	Test Method & Conditions [試驗方法、條件]	Specification After Test [試驗後規格]
A . Mechanical Characteristics 機械特性			
4	Solderability 焊錫性	<ul style="list-style-type: none"> · Solder : M705-GRN360-K2-V · Solder Temp : 245°C ± 5°C · Dip time : 5 sec · 錫 : M705-GRN360-K2-V · 錫爐溫度 : 245°C ± 5°C · 時間 : 5秒 	<ul style="list-style-type: none"> · More than 90% of the terminal electrode should be covered and uniformity with fresh solder. · 吃錫面積需90%以上且需均勻
5	Terminal Strength 端子強度	<ul style="list-style-type: none"> · After soldering of X , Y withstanding as below conditions. · The terminal should not peel off.(Refer to figure as below) · Define : A=sectional area of terminal $A \leq 8\text{mm}^2$ force $\geq 0.5\text{kg}$, time : 30sec $8\text{mm}^2 < A \leq 20\text{mm}^2$ force $\geq 1\text{kg}$, time : 10sec $20\text{mm}^2 < A$ force $\geq 2\text{kg}$, time : 10sec · 在銲接X.Y 後,所承受條件情況(如下圖) · 端點不可剝離(如下圖) 	<ul style="list-style-type: none"> · Terminal and body must not be damage or separate · 端子及本體不能被破壞或分離
6	Flexure Strength 彎折強度	<ul style="list-style-type: none"> · Put the component solder chip on a test board , and bend the board to 2mm then recovery to original point. Unit : mm (inch)  <ul style="list-style-type: none"> · 將待測品銲接到一測試基板上，測試基板彎曲度到2mm位置，然後回復至原點。 	<ul style="list-style-type: none"> · No damage and no abnormal on chip body surface. · 產品不能有被破壞或不正常情形。

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No	Item [項目]	Test Method & Conditions [試驗方法、條件]	Specification After Test [試驗後規格]
B . Environmental Characteristics 環境試驗			
7	High Temp Resistance Test 高溫負荷測試	<ul style="list-style-type: none"> · Operate Temperature : 125°C ± 3°C · Applied Current : per spec. · Time : 96 Hrs · Measure after exposure in the room temperature for 4 to 24 Hrs. · 動作溫度 : 125°C ± 3°C · 印加電流 : 依產品規格最大值 · 時間 : 96 小時 · 試驗完成後取出置於室溫4 - 24小時後進行測試 	<ul style="list-style-type: none"> · Appearance : no damage · Impedance : Within ±20% of Initial Value · 外觀 : 不能有破損異常現象 · 阻抗值 : 初始值的±20%以內
8	Humidity Test 耐濕試驗	<ul style="list-style-type: none"> · Temperature : 40°C ± 2°C · Humidity : 95 ± 2% R.H. · Applied Current : per spec. · Time : 96 Hrs · Measure after exposure in the room temperature for 4 to 24 Hrs. · 溫度 : 40°C ± 2°C · 濕度 : 95 ± 2% R.H. · 印加電流 : 依產品規格最大值 · 時間 : 96 小時 · 試驗完成後取出置於室溫4 - 24小時後進行試驗 	<ul style="list-style-type: none"> · Appearance : no damage · Impedance : Within ±20% of Initial Value · 外觀 : 不能有破損異常現象 · 阻抗值 : 初始值的±20%以內
9	Temperature Cycling Test 溫度循環試驗	<ul style="list-style-type: none"> · One Cycle : +125°C/30Min -40°C/30Min · Cycle Times : 5 Cycle · Measure after exposure in the room temperature for 4 to 24 Hrs. · 1 週期 : +125°C/30Min -40°C/30Min · 週期 : 5次 · 試驗完成後取出置於室溫4 - 24小時後進行測試 	<ul style="list-style-type: none"> · Appearance : no damage · Impedance : Within ±20% of Initial Value · 外觀 : 不能有破損異常現象 · 阻抗值 : 初始值的±20%以內

