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建滔積層板有限公司 KINGBOARD LAMINATES LTD

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TECHNICAL INFORMATION 技術資料

KB-7150

KB-7150 是一種複合基覆銅箔板，可替代FR-4用於單/雙面線路板，具有良好的加工性、金屬化孔的可靠性和耐濕、熱性。

KB-7150 is composite epoxy resin, glass mat & glass fabric based copper clad laminate which could replace FR-4 to meet the requirement in processing single/double side printed circuit board. CEM-3 has good performance in punching, reliability of PTH (plated through hole) and resistance to moisture and heat.

Type 型號	Grade 級別	Construction 組成
KB-7150	ANSI (NEMA) CEM-3	玻璃布、玻璃氈、銅箔 環氧樹脂、無機填料 Glass fabric, Non-woven glass, Copper foil, Epoxy resin, Inorganic filler

Features 特點

- 良好的沖壓加工性
Excellent performance in punching
可簡捷方便地進行沖型和鑽孔，提高生產效率，鑽孔加工其鑽頭的壽命比FR-4高2~5倍。
Drilling and punching can be applied expediently with enhanced processing efficiency. The drill bit is lasting 2~5 times during drilling process comparing to FR-4.
- 良好金屬化孔的可靠性
Excellent reliability of PTH
板的厚度方向的尺寸變化小，金屬化孔的耐熱沖擊性好，板的金屬化孔間的離子遷移性好。
There is good dimensional stability in thickness of board and good resistance of thermal stress of PTH. Ion migration among PTH is little.
- 良好的耐濕、熱性
Excellent heat and moisture resistance
白斑試驗證明，其在130°C飽和水蒸汽中處理7小時，於288°C焊錫中浸焊30秒後不會出現白斑。
PCT test shows that there is no "Measling" occur after treated in water vapour for 7 hours at 130°C, then treated in solder float for 30 seconds at 288°C.

Standard Configuration 標準數據

- Thickness 厚度 : 0.8 mm - 1.6mm
- Copper Cladding 銅箔厚度 : 18 μ m, 35 μ m, 70 μ m
- Regular Size (mm) 常規尺寸 : 914 X 1220, 1020 X 1220, 1041 X 1245, 1067 X 1220
- Other Size 其他尺寸 : As specified by customers

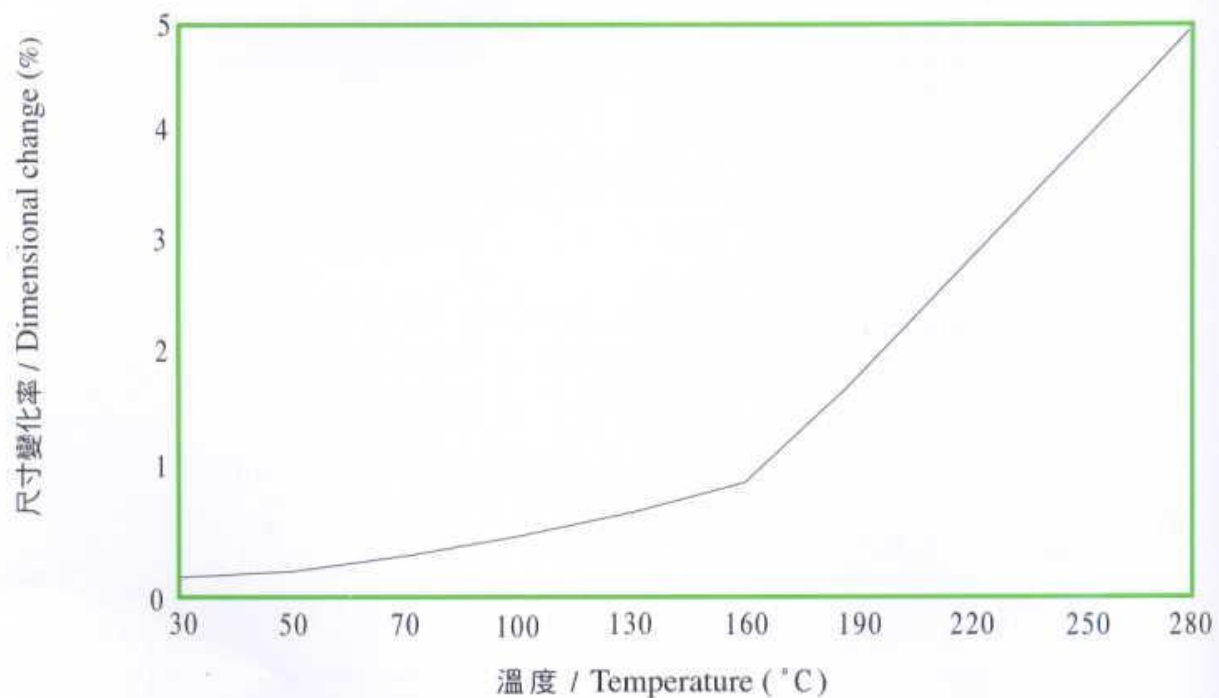
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Performance 表現

厚度方向尺寸變化率與溫度的關係。

Relationship between change in thickness and temperature.



金屬化孔耐熱沖擊性

Heat resistance of PTH

試驗條件：260°C 油中浸 10 秒 → 20°C 流水中沖 10 秒 → 20°C 溶劑中浸 10 秒，
循環直至斷線為止。

Test Condition : dip in oil (260°C) for 10 seconds → wash in flowing water (20°C) for 10 seconds
→ dip in solution (20°C) for 10 seconds, recycle the process until PTH break off.

鍍層厚度 Thickness of plating layer	25 μm	40 μm
循環次數 Number of circle	25	60

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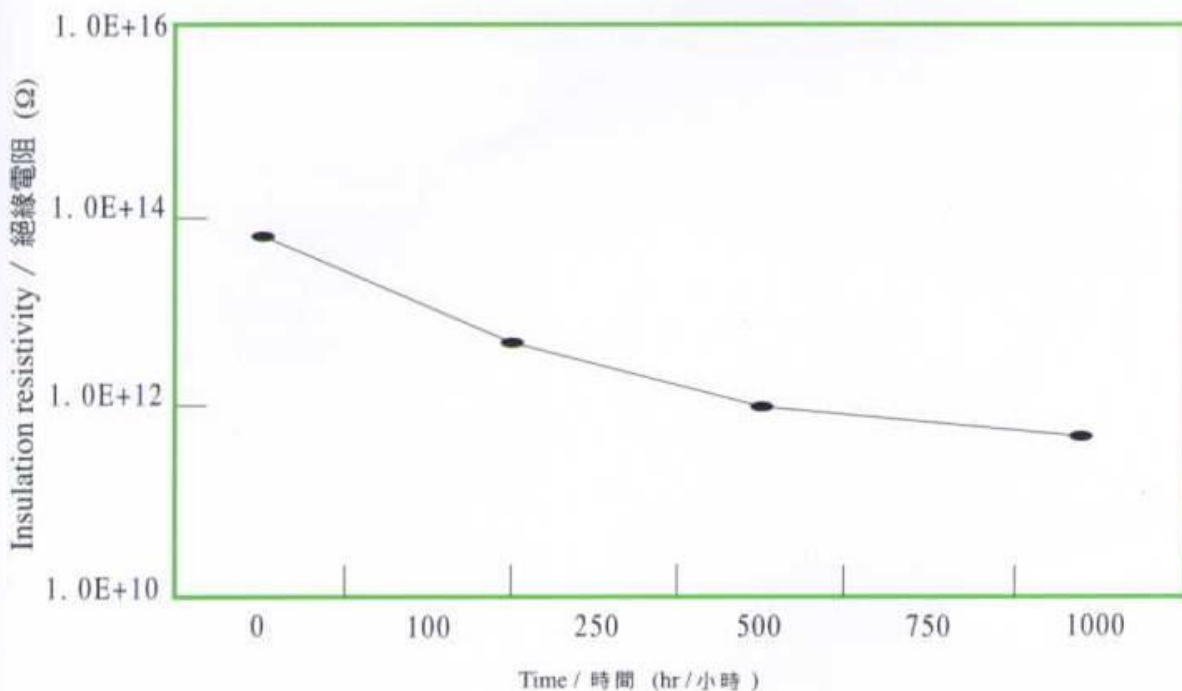
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耐金屬離子遷移性

Resistance of ion-migration

在濕、熱(40°C, RH93%) 條件下，施加直流電壓(500V)處理後測定絕緣電阻。

Test insulation resistivity after applied with DC 500V in condition of 40 °C, RH 93%.



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General Properties 一般特性

Properties 特性	Unit 單位	Test Condition 處理條件	IPC-4101 Testing Method IPC-4101測試方法	IPC-4101 Requirement IPC-4101要求	Typical Value 典型值
Flexural Strength 屈曲強度	Kg/m ²	Lengthwise Crosswise	2.4.4	above 2.32 X 10 ⁷ above 1.90 X 10 ⁷	3.12 X 10 ⁷ 2.64 X 10 ⁷
Peel Strength (1 oz) 抗剝強度 (1安士)	Kg/cm	A	2.4.8	above 1.43	2.0
Flammability 耐燃性	Sec/秒	E24 / 23	2.3.10	Average Burn ≤ 5 Max Burn ≤ 10	2.5 7.0
Thermal Stress 耐焊性	Sec/秒	Float 288°C	2.4.13.1	above 20	above 30
Surface Resistance 表面電阻	MΩ	C96/35/90	2.5.17.1	above 1.0 X 10 ⁴	1.0 X 10 ⁶
Volume Resistivity 體積電阻	MΩ-cm	C96/35/90	2.5.17.1	above 1.0 X 10 ⁶	1.0 X 10 ⁹
Permittivity 介電常數	—	Etched/@1MHZ	2.5.5.3	less than 5.4	4.8
Loss Tangent 介質損耗	—	Etched/@1MHZ	2.5.5.3	less than 0.035	0.02
Moisture Absorption 吸水性	%	D24/23	2.6.2.1	less than 0.5	0.15

Remarks: Typical values for reference only 註：典型值只作參考