

To : CUSTOMER

Date: April.18, 2008

CCP-508 (SW)

銅箔積層板 ～ 耐漏電絕緣型
COPPER CLAD LAMINATE ～ ANTI-TRACKING TYPE

長春人造樹脂廠股份有限公司
CHANG CHUN PLASTICS CO., LTD.

CCP-508 (SW)

CCP-508 (SW) 玻纖布環氧樹脂覆銅箔積層板是針對使用高密度自動插件、晶片零件表面粘著技術等之精密印刷電路板而開發。 在高電壓大電流下具有優異的耐電弧發火性，能改善電子產品的安全性。 並且可適用於無鉛Reflow製程。

CCP-508 (SW), anti-tracking characteristic material, is a newly developed woven glass cloth and kraft paper based epoxy resin copper clad laminate. It responds to the requirement of high precision printed circuit board made by high density automatic insertion, surface mounting of chip parts, etc. It is excellent in resisting arc sparking due to high voltage and large current, thereby improving safety of electronic devices. It is also suitable for lead free reflow process.

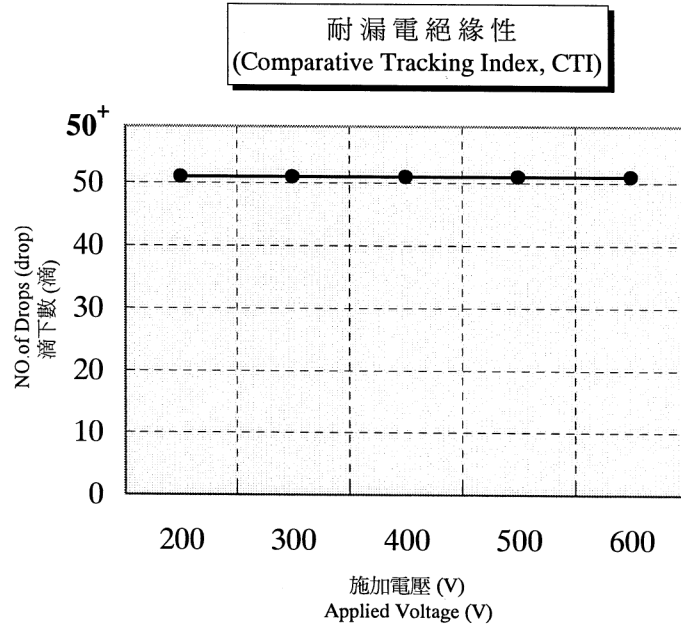
品名 Type	CCP-508 (SW)	
規格 Grade	ANSI (NEMA)	CEM-1
	UL	94V-0
	Raw material of CCP-508 (SW) is CCP-508U and CCP508U's CTI grade is 600V over	
組成 Construction	玻纖布、漂白牛皮紙、環氧樹脂、高純度電解銅箔。 Woven Glass Cloth, Kraft Paper, Epoxy Resin, high purity of Electrolytic Copper Foil.	
特性 Characteristics	*耐漏電絕緣性, 高電壓大電流下耐電弧發火性良好。 具有優良的耐漏電絕緣性與耐高壓發火性，適用於高電壓之用途。 *<u>High tracking performance and excellent in resisting arc sparking due to high voltage and large current.</u> Suitable for high tension service owing to high tracking performance and excellent high-tension sparking resistance. *<u>冲孔性良好</u> 最適當之冲孔溫度為40~80℃。 高密度冲孔加工性優良，能改善冲孔後外觀與尺寸精度。 *<u>Good punchability at ambient temperature</u> Optimum punching temperature is 40~80℃. Suitable for high density punching process, permitting improvement of punched appearance and dimensional precision of PCB. *<u>彎曲度、扭曲度小且穩定、適用無鉛製程</u> 印刷電路板加工及零件裝配過程中，彎曲度、扭曲度小且穩定。 *<u>Warpage and twist are small and stable for Lead free Process</u> During PCB manufacturing and parts mounting process, warpage and twist are small and stable	

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***IEC-112法 耐漏電絕緣性**
CTI值大於600V, 耐漏電絕緣性優良, 適合於高電壓之用途。

***IEC-112 METHOD ANTI-TRACKING PERFORMANCE**

Comparative Tracking Index is Over 600V. Suitable for high-tension service because of its excellent anti-tracking performance.



IEC-112 法 (IEC-112 Method)

- * Test Solution : 0.1 wt% NH_4Cl
- * Drop Size : 20 mm^3/drop
- * Interval of Drops : 1 drop/30sec
- * Electrodes : Two Platinum Electrodes
- * Pitch of Electrodes : 4 mm
- * Short Current : 1.0 A

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*冲孔性

高密度冲孔加工性良好,
冲孔粉屑毛邊大量減少。

*PUNCHABILITY

Good punchability for high density processing. The shape of burr after punching are punched hole is clean.

最適冲孔時基板表面溫度範圍

Optimum Surface Temperature Range for Punching

品名 Type	冲孔時基板表面溫度範圍 (°C) Surface Temperature Range for Punching			
	30	50	70	90
CCP-508(SW)				



Suitable punch temperature for
PCB pattern with IC hole pitch
 ≥ 2.55 mm

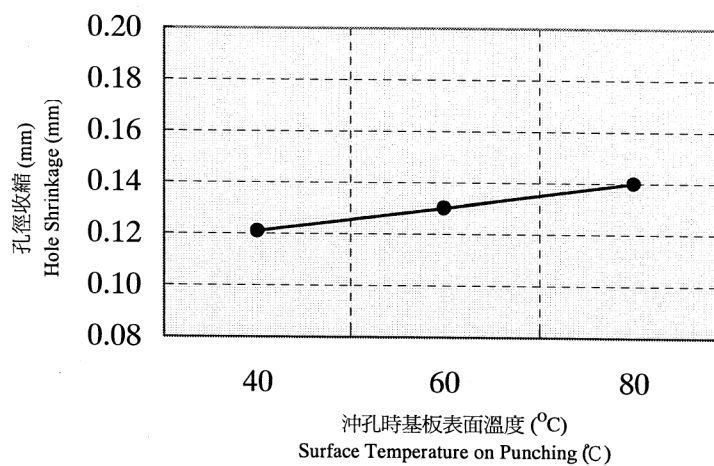


Suitable punch temperature for
PCB pattern with IC hole pitch
< 2.55 mm

*冲孔後孔徑收縮

*PUNCHED HOLE SHRINKAGE

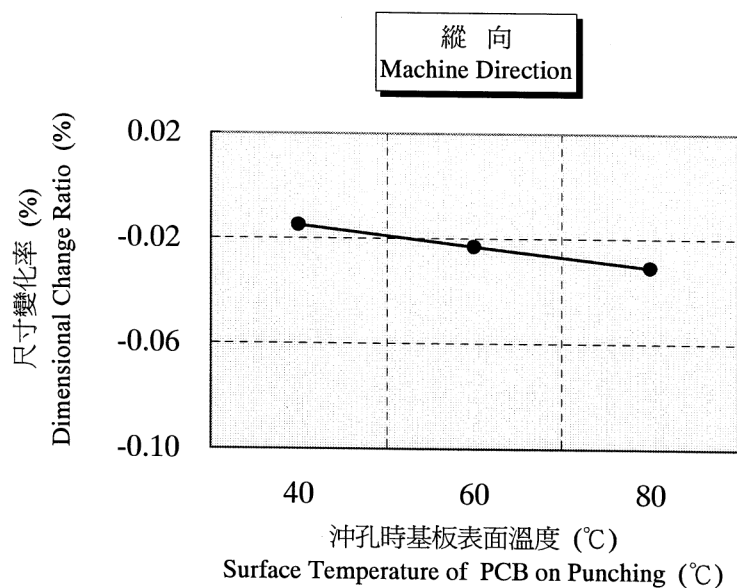
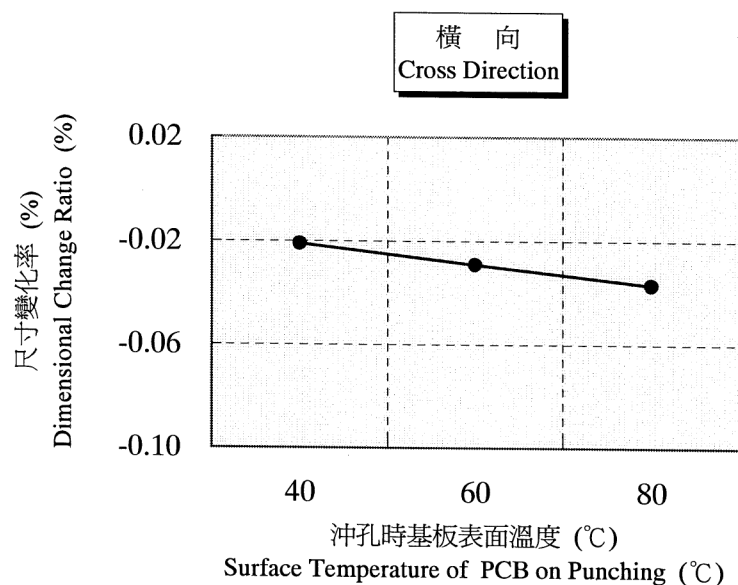
針徑 (Pin Diameter) : $\Phi 1.0$ mm



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*沖孔過程之尺寸變化

*DIMENSIONAL CHANGE OF PCB



依照模具精度及孔徑大小,使用者應適度調整沖孔溫度

In accordance with the precision of model and size of these holes,
users should adjust their punching temperature appropriately

所表示之特性為實測之參考值(All of the data are for reference)

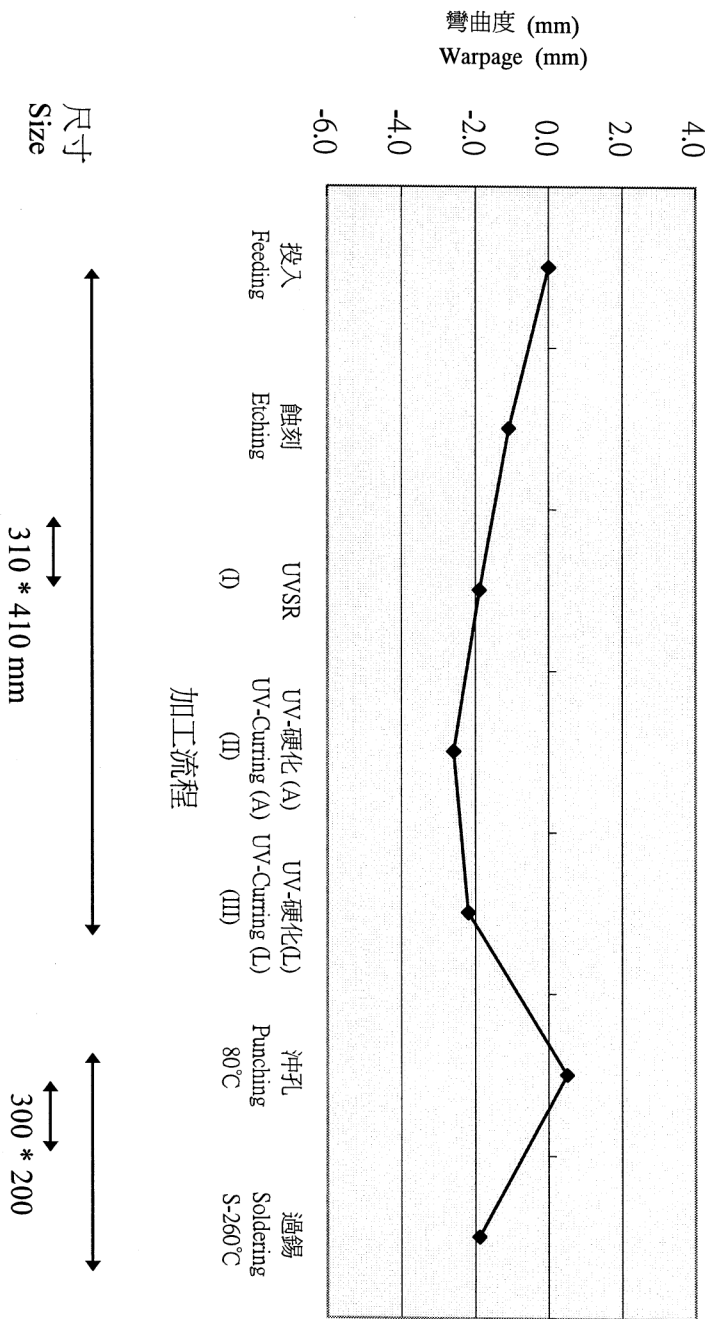
*Inverter及特殊機種使用者須依據實際Pattern,適度調整補償係數

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*印刷电路板加工時
彎曲度
加工過程中，彎曲、扭曲小
且穩定。

*WARPAGE OF
PCB IN
PROCESSING
Warpage and twist are
small and stable during
PCB manufacturing
process.

CCP-508 (SW) 加工板彎



CCP-508 (SW)

*一般性能

*GENERAL
PROPERTIES

檢驗項目		單位	處理條件	CCP-508 (SW)	
Test Item		Unit	Condition	實績值 Typical Values	保證值 Guaranteed Value
焊錫耐熱性 Solder Float	S-260℃	sec	A	60 ↑	≥ 20
	S-288℃	sec	A	46	≥ 10
抗撕強度 Peel Strength		Kgf/cm	A	2.1	≥ 1.4
			S-260℃ / 20sec	2.1	≥ 1.4
耐燃性 Flammability	UL94	----		PASS	V-0
絕緣阻抗 Insulation Resistance		Ω	C-96/20/65	3.4×10 ¹⁴	≥ 5×10 ¹²
			+D-2/100	3.3×10 ¹³	≥ 5×10 ¹⁰
曲折強度 Flexural Strength	橫向 CD	Kgf/mm ²	A	32.1	≥ 25
	縱向 MD			38.7	≥ 30
耐漏電絕緣性 CTI		Volt	IEC-112 Method	PASS	≥ 600
體積阻抗率 Volume Resistivity		Ω-cm	C-96/20/65	3.5×10 ¹⁵	≥ 1×10 ¹⁴
			+C-96/40/90	3.2×10 ¹⁴	≥ 1×10 ¹³
表面阻抗 Surface Resistance	蝕刻面 Etched-Side	Ω	C-96/20/65	2.8×10 ¹⁵	≥ 1×10 ¹²
			+C-96/40/90	2.3×10 ¹⁴	≥ 1×10 ¹¹
	基板面 Unclad-Side	Ω	C-96/20/65	2.5×10 ¹³	≥ 1×10 ¹²
			+C-96/40/90	4.8×10 ¹²	≥ 1×10 ¹¹
介質常數 (1 MHZ) Dielectric Constant		----	C-96/20/65	4.84	≤ 5.0
			+D-48/50	4.93	≤ 5.5
散失因子 (1 MHZ) Dissipation Factor		----	C-96/20/65	0.031	≤ 0.035
			+D-24/23	0.034	≤ 0.045
吸水率 Water Absorption		%	E-24/50	0.16	≤ 0.30
			+D-24/23		
玻璃轉移溫度 Glass Transition Temperature (Tg)		℃	TMA 法	119	NA
膨脹係數 CTE	橫向 CD	ppm/℃	Ambience to 100℃	19.1	NA
	縱向 MD			13.2	NA
耐熱性 Heat Resistance		----	E-1hr/140℃	No Blistering	No Blistering
			E-30min/190℃		
耐藥品性 Chemical Resistance		Trichloroethylene / 3 min		No Apparent Change	No Apparent Change
		FeCl3 (37%) / 40℃ / 3min			
		NaOH (3%) / 40℃ / 3min			

*所表示之特性為實測之參考值 (All of the data are for reference)