信越矽利光

KER-3200-T5

光電元件用固晶材料　Die-Bond for Photo Devices

特徵

- 具有熱導性的固晶材料。
- 主成份為 Silicone、對於光 熱 濕氣造成的變色較小。

Features

- Silicone die-bond material with high thermal conductivity.
- Main component is silicone, so die-bond material exhibits little discoloration from heat and light and moisture.

用途

用於 LED 晶片的接著。

Applications

Foe bonding LED elements.

使用方法

使用前先將針筒以離心攪拌器進行 15~30 秒程度離心攪拌。本產品在保存中會有粘度特性的變化，此離心攪拌動作能將在保存中產生的 Filler 間的凝集(Filler 與 Silicone 成份的相互作用)有效的化解，使材料回復到原本的粘度特性。

將 KER-3200-T5 點膠在需要接著的地方，並從上面輕輕壓住晶片後，加熱使其硬化。由於硬化時揮發成份中含有低分子矽氧烷，硬化之後需使用氬(Ar)氣的電漿處理把飛散的低分子矽氧烷加以洗淨。如果此處理不確實，則有可能發生不易打線的問題。。

Instructions for Use

Before using this product, be sure to agitate the product in the syringe for 15~30 seconds using a centrifugal mixer or other device. Agitation will break up filler that may have clumped during storage, stop interaction between the filler and silicone components, and virtually eliminate stringing (tailing) of the die-bond material.
Next, apply the necessary amount of KER-3200-T5 to the bond site, press the chip down lightly, and heat to cure.
Volatile content that evaporates during curing includes low-molecular-weight siloxane. After curing, perform plasma treatment with argon gas and flush away the dispersed low-molecular-weight siloxane. Failure to perform the process may result in defective wire bonding.

一般特性 General properties

項目 Parameter		產品名稱 Grade	KER-3200-T5
硬化前 Before-cure	外觀 Appearance		白色膏狀 White Paste
	粘度 Viscosity at 23℃ (BH-7-10)	Pa・s	40
	粘度 Viscosity at 23℃ (BH-7-20)	Pa・s	26
	搖變係數 thixotropic coefficient (10/20 回轉)		1.54
	標準硬化時間 Standard cure time		100℃ × 1h + 150℃ or 160℃ × 2h
硬化後 After-cure	硬度 Hardness Shore D		77
	密度 Density at 23℃		2.04
	線膨脹係數 Linear expansion coefficient	ppm	150
	熱傳導率 Thermal conductivity	W/m・k	0.6
	熱阻 Thermal resistance *1 (厚度 Bond line thickness μm)	mm^2・K/W	12 (8)
	剪斷接著強度 Tensile shear strength*2 Al / Al	MPa	3.8
	固晶強度 Die shear strength*3 Si / Ag	g	2,100
	體積電組 Volume resistivity	TΩm	20

*1: 加壓 20psi 放置室溫 15 分鐘後以 100℃ 1hr + 150℃ 2hr 硬化
Cure condition: 100℃ 1hr + 150℃ 2hr, after exposed to pressure of 20psi for 15min at RT.
*2: 接著面積 5mm×25mm 厚度 0.08mm 硬化條件 150℃ 2hr
Bond area 5mm×25mm Thickness 0.08mm Cure condition 150℃ 2hr
*3: Si 晶片(1mm 角 厚度 0.35mm)與鍍銀的接著 硬化條件 100℃ 1hr + 150℃ 2hr
Si chip(1mm^2 0.35mm thick) bonded to silver plating Cure condition 100℃ 1hr + 150℃ 2hr

厚度與熱阻 Thermal resistance VS Thickness

保管、操作上的注意事項

- 保存時，請密閉栓塞之後，冷藏(0~10℃)在嚴禁火燭，且具通風條件下的陰暗處(避免陽光直接照射) 。
- 要打開針筒栓塞時，請務必於產品回復到室溫之後進行，如果在低溫的狀態下打開栓塞，材料將會吸濕，而有可能使加熱硬化時形成氣泡。
- 加以塗料話或進行塗裝硬化乾燥等的使用時，也應嚴禁火燭且具通風條件下進行操作。
- 操作時請務必戴妥保護眼鏡，橡皮手套等保護用具，以防止沾上眼睛或皮膚，黏膜。萬一沾上皮膚時，請立即用乾布擦乾淨，請用肥皂徹底洗淨。
- 萬一進入眼睛時，請立即用清水沖洗眼睛 15 分鐘以上並送請醫生檢查。
- 使用恆溫箱加熱硬化時，請使用可換氣型熱風循環恆溫箱，以防止恆溫箱內形成爆炸性氣體環境。
- 酸、鹼或某些有機金屬化合物有可能對本產品的硬化特性或存放穩定性產生不良影響。還可能產生可燃性的氫氣。因此，若有意添加充填劑或顏料時，請事先進行試驗，確認添加物所產生之影響後再使用。
- 本產品該當消防法非危險品。
- 在使用本產品之前，請務必閱讀產品物質安全資料表(MSDS)。MSDS 可向敝公司各營業部門索取。
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包裝 Packaging

5cc Syringe(10g)

Storage and Handing

- Seal container tightly and store refrigerated(0~10℃) in a dark place (out of direct sunlight). Store in a well-ventilated area away from flame.
- Allow the product to return to room temperature before opening the syringe. If opened while cold, the product will absorb moisture and there is a risk of foaming during the heat-cure process.
- Painting, coating, curing and drying should also be done in a ventilated area away from lame.
- To prevent contact with the eyes, skin and mucous membranes during use wear protective gear (safety goggles, rubber gloves, etc.). In case of skin contact, wipe off immediately with a dry cloth and wash thoroughly with soap and water.
- In case of eye contact, flush immediately with clean water for at least 15 minutes and then seek medical attention.
- If heat-curing using a constant-temperature chamber: use an air-replacement convection model to prevent buildup of explosive gases within the chamber.
- Acids, alkalis, and certain organo-metallic compounds may have an adverse effect on curing properties and storage stability, or cause a release of flammable hydrogen gas. If you are planning to add fillers or pigments, be sure to test first to determine the effects of these additives before application.
- Please read Material Safety Data Sheet (MSDS) before use, obtain MSDS from our Sales Department.

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