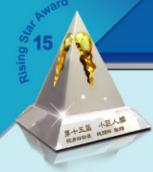
# 廣化科技股份有限公司



# 3S Silicon Tech., Inc.



# 發揮多樣化技術的整合力

封裝製程領域的領航者

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## ● 主要產品

半導體封裝設備及解決方案提供者(solution provider),產品主要用於功率 器件(Discrete Power Device)之黏晶及固晶,運用領域涵蓋Diode、 Power Mosfet、High Power LED及HCPV Cell。



廣化在高功率器件的固晶機方面已是利基型市場的領導者。全球重要的橋式整流器件(Bridge Rectifier)封裝業者,有90%以上採用廣化設備來完成高品質高產量的自動化產線。在高聚光型太陽能接收器封裝方面,廣化提供可達low void之真空迴焊爐(Vacuum reflow oven)。在LED的應用上,廣化開發出高功率發光二極體助焊劑共晶固晶機(High Power LED Flux Eutectic die bonder)及低溫固晶機(Low Temp Eutectic Die Bonder)。在製程的運轉成本相同之下,這二種固晶機相較於銀膠上芯製程(Silver-paste die bonding),已被證實可以提供更優越的可靠度。

2004年 Soft-Solder Die Bonder研發成功。

2005年 Clip Die Bonder (含Die bonder, clip attach,及reflow oven)研發成功

2008年 自行研發成功低成本之點膠機(Dispenser)取代日貨。

2009年 研發成功新一代 μ SMA設備。

2010年 研發完成橋式整流器自動Clip Die Bonder並量產。

2011年 完成HCPV及IGBT封裝用low void 之vacuum reflow oven。

2012年 研發完成LED High Power Flux Eutectic高精度黏晶機及reflow oven。

## ■ 國際競爭力

- 一、多樣化技術的整合能力:
  - (一) 自動光學檢測系統(AOI)、機構電控、軟體、製程知識及服務能力高度整合。
  - (二) 關鍵零組件選用及相關供應鏈整合能力。
- 二、專精的思維及做法:
  - (一) 專研Discrete Power Device領域,成為該領域封裝製程的領導廠商。
  - (二) 延伸專精技術,發展為半導體封裝的泛用性技術,運用到新領域,如 High Power LED及IGBT等。
- 三、客製化能力:依客戶需求,產製客戶所需要的機台。
- 四、良好產學研的技術整合能力:
  - (一)與工研院、明新科大合作發展出全球第一台低溫固晶、高溫應用黏晶 機台。
  - (二)該低溫固晶機的推出,可望打破傳統LED黏晶機市場由歐美廠商壟斷的現象。







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### Business Items

3S Silicon Tech., Inc. is a die bonding solution provider that designs, develops and markets precise die bonder system and solution for discrete power devices.



#### Company Introduction

3S is a niche market leader of die bonder in discrete power devices such as diode, power MOSFET, HCPV receiver and high power LED. 3S's clip die bonders are used by more than 90% of world's major bridge rectifier's packaging companies to produce high-quality products. For HCPV receiver packaging, 3S provides vacuum reflow oven that makes packaging size up to 5m\*5m nearly void free. Moreover, 3S has also successfully developed flux eutectic die bonder and low temperature eutectic Die bonder for high power LED lighting applications. Both manufacturing processes are proven to be more reliable than silver-paste bonding process, while the running costs are almost equal.

- 2004 R&D success of Soft-Solder Die Bonder.
- 2005 R&D success of Clip Die Bonder.
- 2008 Achievement of Low Cost Solder Dispenser.
- 2009 Successfulness of the development on new generation μ SMA equipment.
- 2010 R&D success of Clip Die Bonder for bridge rectifier.
- 2011 Vacuum reflow oven for HCPV and IGBT were developed successfully.
- 2012 Announcement of high precision flux eutectic die bonder & reflow oven.

## Export Competitiveness

- The capability to integrate diverse technologies:
  - (1) The capability to integrate automated optical inspection (AOI) system, mechanical design, electrical control, software, and process know-how. Furthermore, we link them up with our after service to provide excellent user experience.
  - (II) The capability to integrate key components of the system and related supply chains.
- II. Think and dig deeply in the specialized area:
  - Specializing in the niche of discrete power devices made us one of the leading providers in the bonder market of discrete power devices.
  - (II) Make good use of these specialized technologies, applying these specified technologies to new industrial areas such as high power LED, IGBT.
- III. Excellent customization capability.
- IV. Good industry-academy cooperation.
  - ( I ) Low temperature eutectic die bonder was developed under the cooperation of Industrial Technology Research Institute and the Minghsin University of Science & Technology.
  - (II) The release of Low Temperature Eutectic Die Bonder breaks the fact that occidental companies dominate the LED die bonder market.

**外銷績優中小企業 得獎專輯** The 15<sup>th</sup> Rising Star Award

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### ■ 營運管理

#### 一、客戶導向:

(一)本公司與客戶共同開發設備、提供客戶自動化設備與製程 參數、提供客戶完整之教育訓練及各項使用說明書

- (二) 快速回應的客服系統。
- 二、高性價比:以較低的產品價格,提供最好的產品品質
- 三、制度化管理:訂定各項制度規章,供全體員工遵行,管理有依據
- 四、JIT(Just-in-time)供料系統:

上游供應體系,能以JIT方式,彈性供應各種機台所需之品項繁多之零組件(每一機台所需零組件約2-3千種)。

#### 企業特色

- 一、價值創造與分享:
  - (一)企業存在的使命是替顧客及股東創造價值
  - (二) 構建一分享舞台,讓員工主動為上述使命效力。
- 二、常保創業精神:
  - (一) 敢冒險:在可承受之風險範圍內,勇於創新、敢接受客戶最嚴苛的挑戰
  - (二)維持對環境變化的高度警覺性、靈活求變,不斷去追求更佳的營運模式、產品組合、組織結構及作業流程。
  - (三) 組織精簡,行動快速,力求用對的方法去做對的事
  - (四)開放、自由與高度互動的組織氛圍。

#### 三、人才為本:

- (一) 重視人才的培育及長期發展
- (二) 提供員工合理的待遇及有尊嚴的工作環境。
- (三)兼容並蓄不同個性的人才於一室,讓有個性的天才可以 與一般人才共處、共創事業。
- (四) 讓員工為自己的工作及績效負責 (accountability & empowerment) .
- 四、「正」、「誠」、「信」、「實」的企業文化:
  - (一)正-公平的對待員工、顧客、股東、供應商及其他利害關係人。
  - (二) 誠 誠實、堅守公司治理之倫理與道德
  - (三)信-守信重諾盡力做好每一件事。
  - (四) 實 實實在在做事不投機取巧。

### → 綜合評語

- 一、公司擁有自我品牌3S代表System、Solution、Service,主要外銷中國大陸,主產品(黏晶機)具國際競爭力,市占率世
- 二、外銷比重上升,營收穩定成長,技術等領先趨勢,強調高度客製化能力、及時、完整之服務,致力研發與創新,國際 競爭力與性價比均優
- 三、致力品質管制、人力資源管理及生產作業管理,管理制度健全,研發管理流程清楚,E化程度高,以ERP系統管理、 強調零庫存、顧客滿意,高自動化技術密集之公司
- 四、重視學校之產學合作與重視環保、工安與減碳;公司管理階層有高度企圖心,實施員工認股權計畫,員工福利佳,男 性員工有陪產假。

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## Operation Management

- Customer orientation:
  - ( I ) The products are designed and manufactured in accordance with customer's expectation.
  - (II) Process parameters, training courses for employee are provided.
  - (III) Efficient customer service system.
- High cost performance. The products are great value for money.
- Institutionalized management.
- IV. JIT (Just-in-time) supply chain.

### Enterprise Characteristics

- We create the value and share the value:
  - ( I ) The mission of a business is to create the value for the customers and the shareholders
  - (II) To build a sharing platform to make employees do their best to achieve the mission mentioned above.
- Full of entrepreneurship:
  - ( I ) Dare to take an acceptable risk, Dare to innovate, Dare to face the challenges provided by the customers.
  - (II) Sensitive to the environmental changes. Seeking nonstop for the best operating model, product combinations, organization structure and Work flow.
  - (III) Concise organization structure. Quick action. Using the right methods to do right things.
  - (IV) Open-minded, flexible, interactive organization.
- III. Talented persons are our foundation:
  - (I) Put emphasis on employees' training and their career planning.
  - (II) Provide reasonable offers and dignity working environment.
  - (III) Melting pot of different personality and different talent.
  - (IV) Accountability and empowerment are appreciated.
- IV. Fairness, Honesty, Credibility and Solidness Our enterprise culture:
  - ( I ) Fairness Employees, customers, shareholders, suppliers, and stakeholders are fairly treated.
  - (II) Honesty Encouraging the characteristics of integrity, straightforwardness and truthfulness. We discourage cheating, lying and hypocrisy.
  - (III) Credibility Make every effort to deliver what has promised.
  - (IV) Solidness Staying in reality and being solid, deep and firm in planning and action.





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