

SIKAMA SOLUTIONS

FALCON 5C

THE CUSTOMER

VisiC Technologies, US | Phoenix, Arizona

"Industry leader in providing Gallium Nitride (GaN) power semiconductor solutions for electric vehicles"



THE CHALLENGE

VisiC Technologies, a leader in automotive GaN semiconductor products, was looking for an affordable atmosphere-controlled oven for their prototype lab in Phoenix, Arizona. As different die attach processes are being considered for power module development, the challenge was to find a solution that would support a variety of materials, including conventional solders, transient liquid phase sintering (TLPS), and some silver sintering alloys. In addition, an enclosed belt oven was needed that can regulate the oxygen content level down to sub 100 ppm, while providing stable temperature control between 150C and 400C in each zone.

To be compatible with the Phoenix Lab, and stay within the available budget, the required equipment is needed to have a fairly small footprint and use available power. Additionally, nitrogen supply requirements and monitoring needed to be at "benchtop" scale.

THE SOLUTION

VisiC Technologies approached Sikama requesting a versatile bench top belt oven with atmosphere control, at least 4 zones, fully programmable, and capable of integrating seamlessly into the current space and available electrical power. The solution was the Falcon 5C oven, which met all the requirements.



THE BENEFIT

Implementation of the Falcon 5C has allowed VisiC Technologies to significantly accelerate module prototyping, and therefore has enabled the R&D Packaging team to evaluate multiple design and assembly options for new GaN power modules. Memo Romero, VP of Packaging explains "We have been able to produce engineering samples in a matter of weeks, while concurrently validating actual materials and process parameters that we expect to implement in production."

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