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SAMCO Releases New RIE-600iP Etching System for SiC Power Devices

On December 1, 2012, SAMCO released its newest plasma etching system – the RIE-600iP. Specifically designed for SiC etching, the RIE-600iP is the latest in a series of plasma etching systems optimized for compound semiconductors. “Next-generation power devices” are expected to contribute to energy conservation and become one of the key technologies in green electronics. SAMCO is confident that the RIE-600iP, and the rise of SiC-based “next-generation power devices”, will contribute to a greener environment.

SiC, a wide band-gap semiconductor with a high dielectric voltage and excellent thermal stability, presents unique processing challenges, such as preservation of sidewall smoothness and etching profile at high etch rates, and high selectivity. The RIE-600iP was developed to meet these challenges; it employs a redesigned Tornado™ ICP coil capable of maintaining stable plasma at high RF powers (1kW) and high vacuum conditions. Furthermore, with a height-adjustable lower electrode and high-capacity vacuum system (1,300 liters/sec), the system allows high-speed SiC etching with excellent uniformity, giving users a wide process window.

With its large process window, the RIE-600iP is perfectly suited to applications such as planar processing for SiC power devices, fine trench etching for SiC MOS structures, SiC through-wafer etching for via hole formation, and SiO₂ mask etching. Furthermore, the system’s features also facilitate high-performance processing of quartz substrates used in the fabrication of waveguides, masks, MEMS sensors, and micro-fluidic devices that are becoming widely used in the medical field.

As a pioneer in the compound semiconductor field, and a key process equipment supplier to the LED and LD industries, SAMCO has set its sights on becoming the leading provider of process equipment for next-generation power devices.



SAMCO RIE-600iP SiC Etching System