[PRODUCT BRIEF]

CGD INTRODUCES ICeGaN™ P2 SERIES

REDEFINED SYSTEM PERFORMANCE IN INDUSTRIAL APPLICATIONS

▸ SITUATION

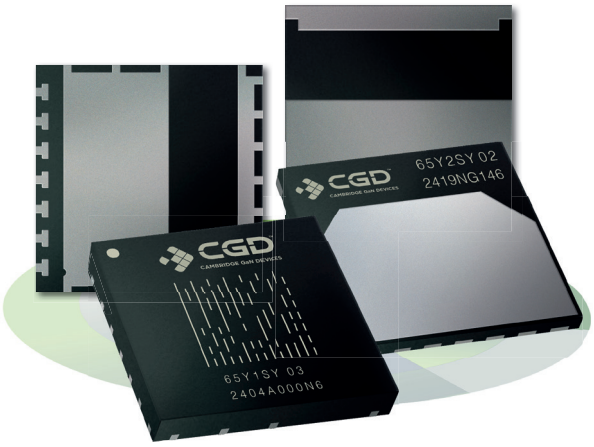
The widespread electrification of industrial activities and the rapid advances in AI in the digital economy are putting our era's environmental and energy challenges to the test.

▸ CHALLENGE

With rising power usage demands and stricter energy standards, there is a critical need for new technologies and topologies that enhance efficiency, improve thermal performance, and increase power density in high-power applications.

▸ SOLUTION

ICeGaN™ is entering industrial applications, facilitating the adoption of new topologies that deliver high-power density with superior efficiency, surpassing what current technologies can achieve.



P2 Features and Benefits

Key features

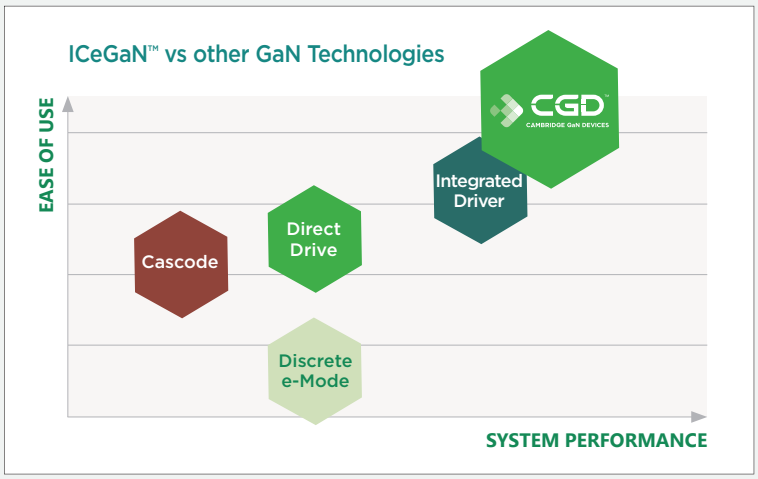
- **ICeGaN™ gate technology** with advanced clamping structure
- **Versatile thermally enhanced** packages featuring bottom-side cooling and dual-side cooling
- **Dual-gate pinout**

Key benefits

- **Improved immunity** to dv/dt -related parasitic turn-on events, ensuring reliable operation
- **Optimised heat dissipation** for high efficiency and superior system performance in high-power applications
- **Straightforward parallelling,** simplifying design process for high-power applications and enhancing scalability

ICeGaN™ Advantage in Industrial Applications

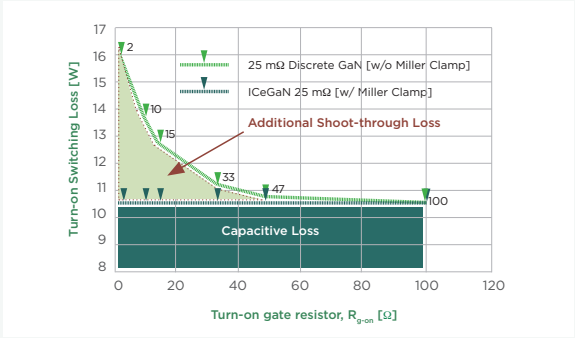
The ICeGaN™ P2 series, featuring e-Mode GaN HEMT with CGD's unique ICeGaN™ gate technology, leads the market in ease of use and system performance for industrial applications. With a 3 V threshold voltage, extended gate operation window, and true 0 V turn off, it can be driven with a broad range of gate drivers designed for MOSFETs and IGBTs, simplifying system integration. These P2 series GaN devices in innovative bottom-side cooled and dual-side cooled 10x10 mm² packages excel in thermal efficiency, enabling higher performance with more varied cooling solutions. Proven gate robustness and reduced losses from the integrated Miller Clamp further differentiate ICeGaN™ technology from competitors.



APPLICATION FOCUS

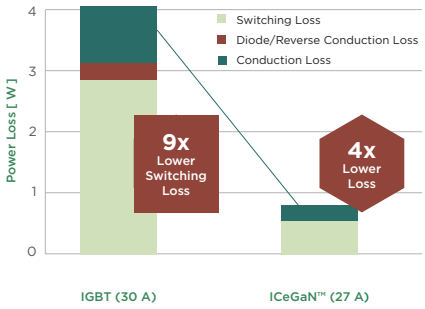
The ICeGaN™ P2 series is engineered specifically for high-power applications, offering significant benefits for applications such as data centres and motor drives. Featuring an integrated Miller Clamp to eliminate shoot-through losses during fast switching and 0 V turn off to minimise reverse conduction losses, ICeGaN™ outperforms discrete eMode GaN and other incumbent technologies. Simplified gate driver design and reduced system cost offering, combined with advanced high-performance packaging, make P2 series an excellent choice for optimising data centre operations and enhancing motor drive efficiency.

ICeGaN™ Benefits in a Half-bridge (Data Centres)



The integrated Miller Clamp eliminates shoot-through events in half-bridge topologies even at high slew rates, allowing for faster switching speeds and reducing losses associated with shoot through.

ICeGaN™ Advantage over IGBTs (Motor Drives)

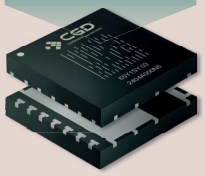


GaN brings almost negligible switching losses, and ICeGaN™, with its Miller Clamp, provides zero reverse conduction losses, thus reducing the overall losses of the motor drives.

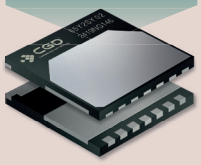
PRODUCT PORTFOLIO

PN	$R_{DS(on)}$ typ (mΩ)	Current Rating (A)	Package	Features	Preferred Gate Driver	Status
CGD65C025SP2	25	60	BHDFN-9-1	ICeGaN™	Any MOSFET and IGBT driver	Contact factory
CGD65D025SP2	25	60	DHDFN-9-1	ICeGaN™ Dual gate		
CGD65C055SP2	55	27	BHDFN-9-1	ICeGaN™		
CGD65D055SP2	55	27	DHDFN-9-1	ICeGaN™ Dual gate		

BHDFN: BOTTOM-SIDE COOLED



DHDFN: DUAL-SIDE COOLED



BH: Bottom heat-spreader **DH:** Dual heat-spreader

See product datasheet

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