P2 Series

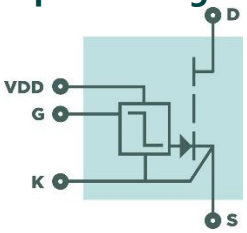
CGD65C025SP2– ICeGaN® Power IC

Preliminary datasheet
November 2024

650 V - 25 mΩ - 60 A

BHDFN 10 x 10 mm

Simplified Diagram



Features and Benefits

- 25 mΩ eMode normally-off power GaN switch with ICeGaN® Gate technology
  - Wide V_{DD} and gate drive voltage (9 – 20 V)
  - High gate threshold voltage and gate robustness
  - Immune to dv/dt induced shoot through with integrated Miller Clamp
  - True 0-V TurnOff for simple gate drive and high efficiency
  - Fast turn-on time for high frequency operation and easy paralleling
- Compatible with Si MOSFET, SiC and IGBT gate drivers
- Thermally enhanced bottom-side cooled SMD package
- Wettable flanks for automated optical inspection
- ESD: >2kV

Applications

- Industrial, datacentre and telecom SMPS
- Industrial motor drives
- PV inverters
- Uninterruptable power supplies
- Energy storage systems

Topologies

- AC/DC and DC/DC converters based on single-ended, half-bridge, full-bridge and three-phase topologies with hard- and soft-switching
- Bridgeless Totem Pole PFC for the highest efficiency
- DC/DC resonant converters
- Buck and Boost converters
- DC/AC inverters

Absolute Maximum Ratings

T_{case} = 25 °C if not listed.

PARAMETER		VALUE	UNIT
Operating Junction Temperature	T_J	-55 to +150	°C
Storage Temperature Range	T_S	-55 to +150	°C
Drain-Source Voltage	V_{DS}	650	V
Gate-to-Source Voltage	V_{GS}	-1 to +20 and $V_{GS} \leq V_{DD}$	V
ICeGaN® Gate Supply Voltage	V_{DD}	0 to +20	V
Continuous Drain Current	I_D	60	A

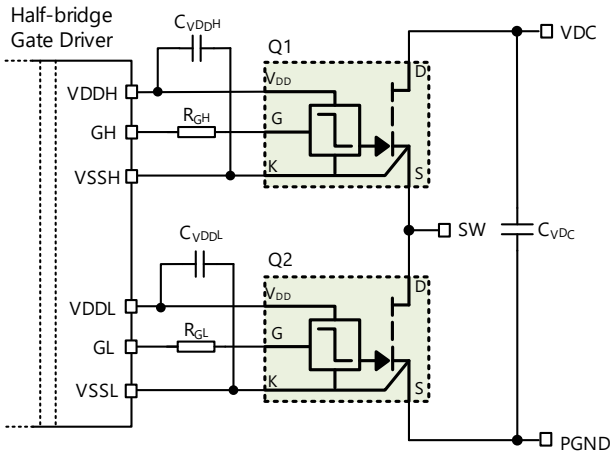
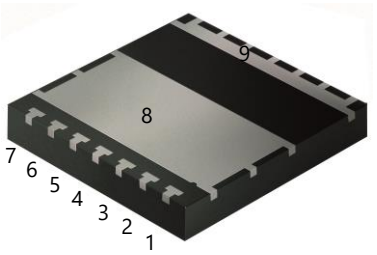


Figure 1. Example of an Application Circuit.

Packaging

Bottom-side cooled BHDFN-9-1 10 x10 mm SMD.

PIN NUMBER	NAME
1, 2, 3, 4	NC (Connect to Source)
5	Kelvin Source
6	Gate
7	VDD
8	Source
9	Drain



The foregoing presentation is for information purposes only and is not intended to represent a complete or exhaustive description of CGD products.