

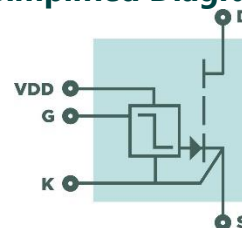
## CGD65C025SP2–iCeGaN® Power IC

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

 $T_{case} = 25\text{ °C}$  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<br>and $V_{GS} \leq V_{DD}$ | V    |
| iCeGaN® Gate Supply Voltage    | $V_{DD}$ | 0 to +20                              | V    |
| Continuous Drain Current       | $I_D$    | 60                                    | A    |

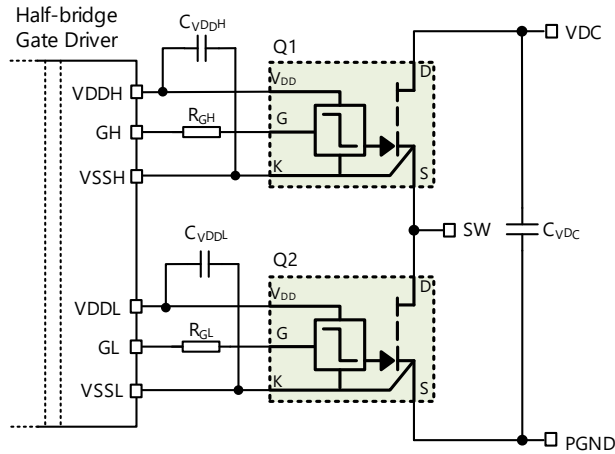
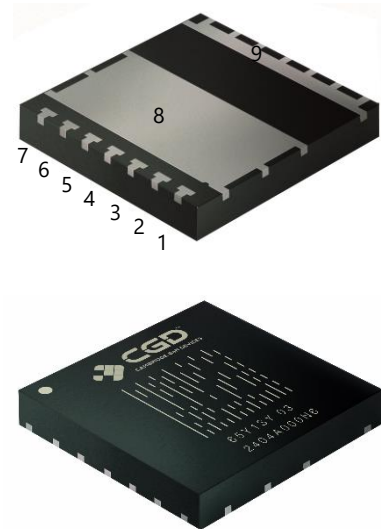


Figure 1. Example of an Application Circuit.

## 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                  |



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