

## GET STARTED

### Bring MaxDrive into your next SiC power stage

1

Request an evaluation kit and the parameter template matching your target SiC module (Wolfspeed / BASiC / StarPower).

2

Load the module profile in MaxDrive Studio and verify drive waveforms under no-load / light-load conditions.

3

Schedule a technical review with our applications team before full-load commissioning.

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MaxDrive works at high voltage. Installation, commissioning and maintenance must be performed by qualified high-voltage personnel only. Specifications in this brochure are subject to change without notice; refer to the current MaxDrive datasheet for design-in values.

## MAXWELL SEMICONDUCTOR

### MAXWELL Semiconductor

SiC Power Modules & Gate Drive Solutions

#### SHENZHEN, CHINA

Domestic delivery, engineering support & local applications team.

#### HONG KONG SAR

International brand office & cross-border partnerships.

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## MAXWELL SEMICONDUCTOR

# MaxDrive

1200V / 650A · DIGITAL ISOLATION

A parameterized SiC MOSFET gate-drive platform for traction inverters, ESS PCS and industrial power conversion.

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Digitally isolated. Precisely driven.

# Built to keep pace with SiC switching

## Digital isolation, not optocouplers

Digital isolators replace legacy optocoupler links, giving higher isolation withstand voltage, lower propagation delay, and stronger noise immunity in fast-edge SiC switching environments.

## Adaptive dead-time

Dead time is automatically tuned to bus voltage and load current in real time, balancing switching loss against shoot-through risk across the full operating envelope.

## Parametric module adaptation

One driver architecture. Reconfigure for a different SiC module vendor by loading a parameter template in MaxDrive Studio — no hardware redesign, no new drive-loop development cycle.

## PLATFORM OVERVIEW

# Driver board + firmware + config tool

MaxDrive pairs isolated gate-drive hardware with MaxDrive OS embedded firmware and the optional MaxDrive Studio configuration tool — one integrated system spanning protection logic, dead-time adaptation and fault diagnostics, shortening drive-circuit development time and design-in risk for SiC power modules.

## SNAPSHOT

|                         |              |
|-------------------------|--------------|
| Rated isolation voltage | 1200 V       |
| Drive channel current   | 650 A (peak) |
| Drive output voltage    | -5 ~ +20 V   |
| Switching frequency     | 10 ~ 100 kHz |
| Short-circuit response  | ≤ 2 μs       |
| Communication           | CAN 2.0B     |
| Operating temperature   | -40 ~ +85 °C |

## Multi-level short-circuit protection

DESAT detection, Miller clamp and soft turn-off work together, with fault response down to ≤2μs — protecting the module before a short-circuit event becomes a failure.

## CAN 2.0B telemetry

Drive status, fault codes and board temperature are reported over a standard CAN interface, ready to integrate with an existing vehicle or system controller.

## APPLICATIONS

● **EV traction inverters**  
Main-drive power stages for electric vehicles

● **ESS power conversion systems**  
Battery storage PCS power units

● **Industrial power conversion**  
High-power industrial converters and supplies