

2SML0220D2E0-FF600R17ME4 SCALE-iFlex LT Family

Module Adapted Gate Driver (MAG) for 1700 V Half-Bridge
Power Modules

PRELIMINARY

Product Highlights

Highly Integrated, Compact Footprint

- Ready-to-use gate driver solution optimized for 17 mm power modules up to 1700 V blocking voltage
- Dual channel gate driver
- To be controlled by IMC, e.g. 2SIL1200T2A0-33
- Operation altitude up to 2000 m
- Optimized for paralleling of up to 6 power modules
- Supply voltage to be provide by IMC, e.g. 2SIL1200T2A0-33
- 1.5 W output power per channel at maximum ambient temperature
- ± 20 A maximum gate current
- -40 °C to 85 °C operating ambient temperature

Protection / Safety Features

- Applied double sided conformal coating

Full Safety and Regulatory Compliance

- Clearance and creepage distances between both secondary sides meet requirements for basic isolation according to IEC61800-5-1.
- RoHS compliant

Applications

- Wind and photovoltaic power
- Industrial drives

Description

The SCALE-iFlex™ LT gate driver family consists of a central Isolated Master Control (IMC) and Module Adapted Gate Driver (MAG) together with a cable set. The IMC is designed for operation of 17 mm power modules with a blocking voltage of up to 1700 V, whereas the MAGs are available in various variants optimized for different power modules of different suppliers and chip technologies in the voltage classes of up to 1700 V.

SCALE-iFlex LT enables easy paralleling of up to six power modules providing high flexibility and system scalability with minimum development effort.

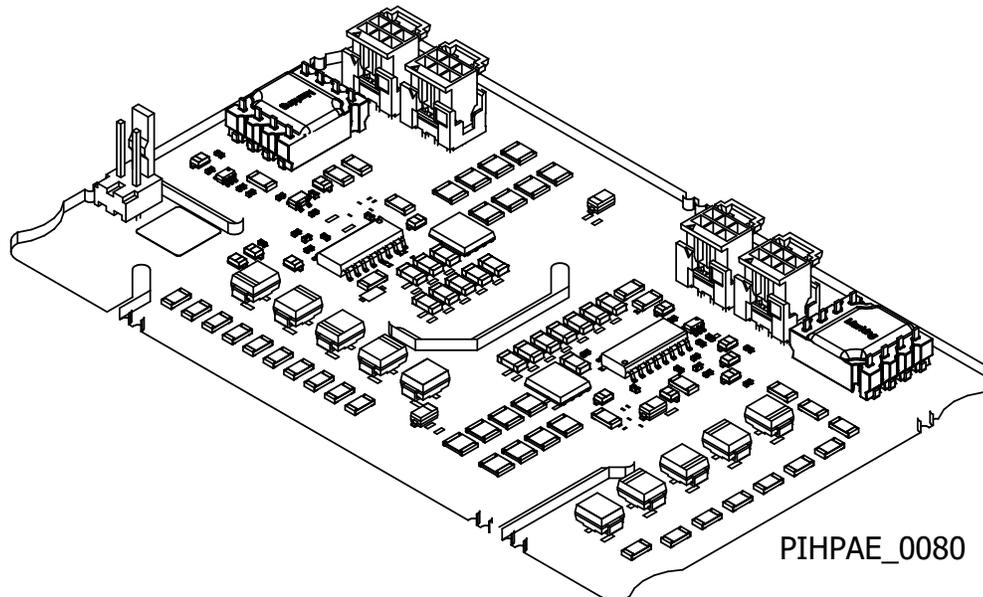


Figure 1. 3D Picture.

Pin Functional Description

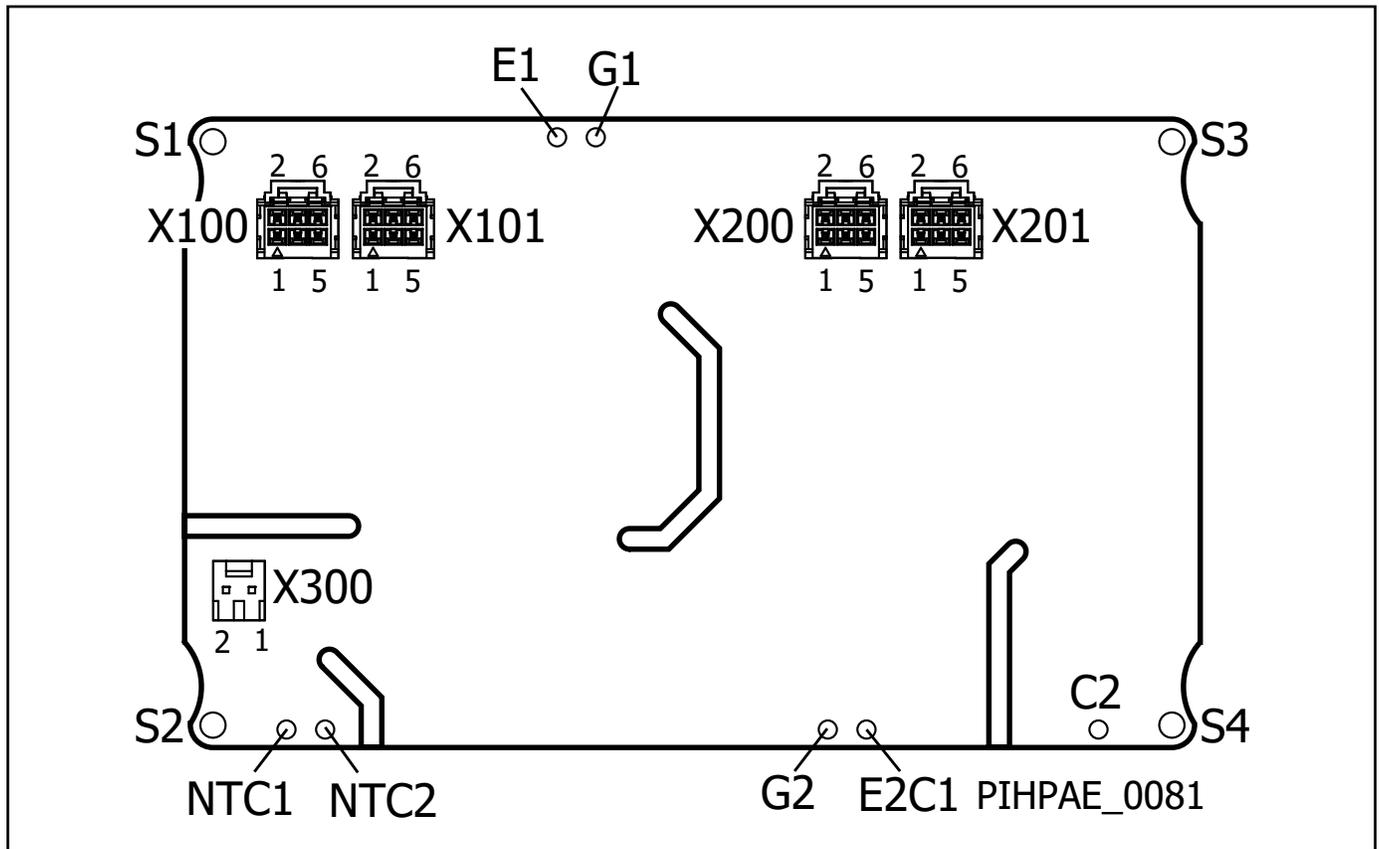


Figure 2. Pin Configuration.

Connections to Power Module

Connections directly soldered to FF600R17ME4 (also refer to data sheets of power module).

E1

Auxiliary emitter contact of channel 1 switch.

G1

Gate contact of channel 1 switch.

E2C1

Auxiliary emitter contact of channel 2 switch and auxiliary collector contact of channel 1 switch.

G2

Gate contact of channel 2 switch.

C2

This pin is the command input for channel 2 (high-side switch).

NTC1, NTC2

Contacts to module internal NTC.

Connector X100

Connection from MAG to IMC or previous MAG for gate driver channel 1.

Connector X101

Connection from MAG to next MAG (if any) for gate driver channel 1.

Connector X200

Connection from MAG to IMC or previous MAG for gate driver channel 2.

Connector X201

Connection from MAG to next MAG (if any) for gate driver channel 2.

Connector X300

Direct connection to module internal NTC of the FF600R17ME4 (Also refer to data sheets of power module). Pin 1 is connected to NTC2, Pin2 is connected to NTC1.

Screw Holes S1, S2, S3 and S4

Screw holes for mechanical fixation of the board to the power module.

Product Dimensions

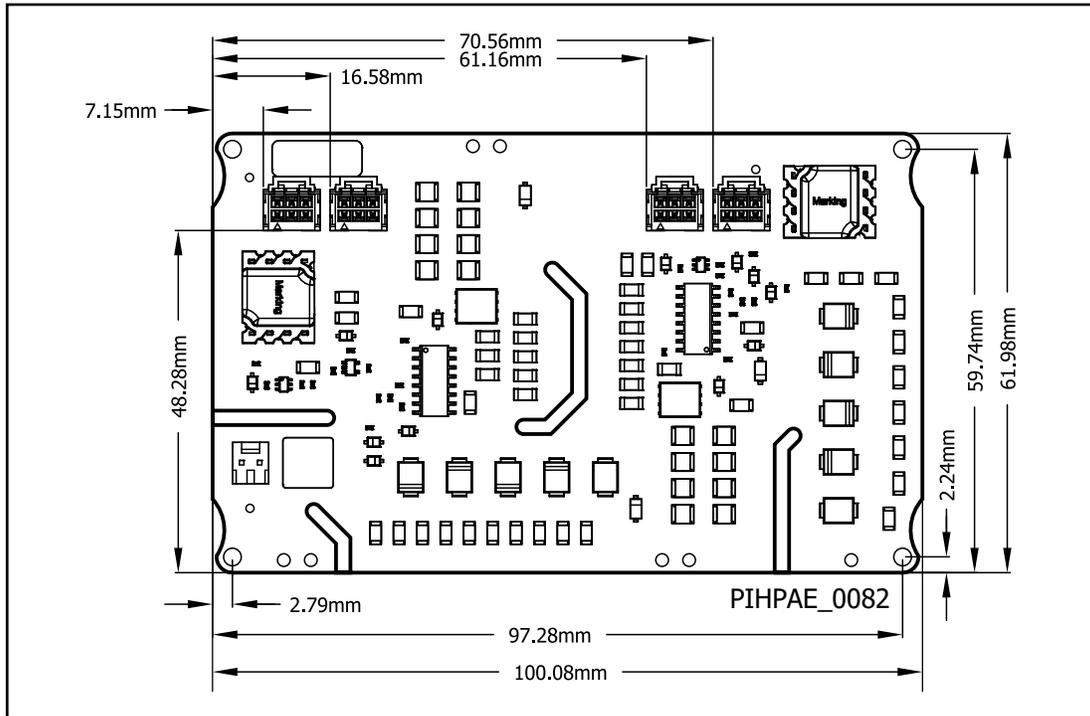


Figure 3. Top View.

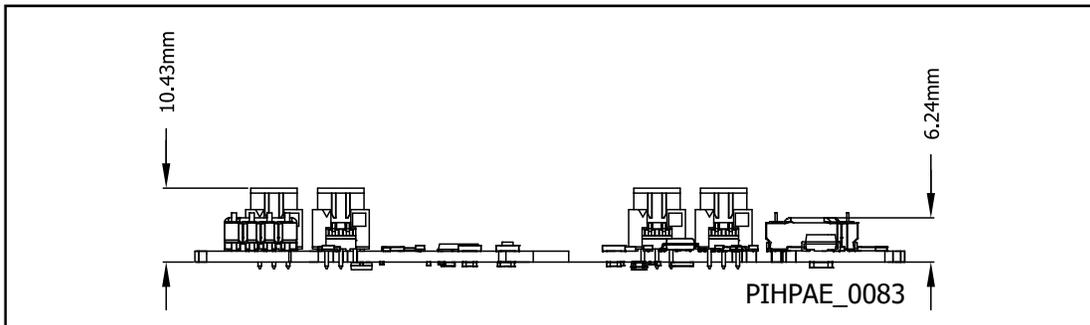


Figure 4. Side View.

Product Details

Part Number	Power Module	Voltage Class	Current Class	Package	Power Device Supplier
2SML0220D2E0-FF600R17ME4	FF600R17ME4	1700 V	600 A	EconoDUAL	Infineon

Transportation and Storage Conditions

For transportation and storage conditions refer to Power Integrations' Application Note AN-1501.

RoHS Statement

We hereby confirm that the product supplied does not contain any of the restricted substances according Article 4 of the RoHS Directive

2011/65/EU in excess of the maximum concentration values tolerated by weight in any of their homogeneous materials.

Additionally, the product complies with RoHS Directive 2015/863/EU (known as RoHS 3) from 31 March 2015, which amends Annex II of Directive 2011/65/EU.

Revision	Notes	Date
A	Preliminary.	09/21

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