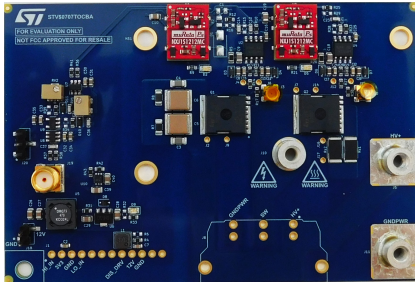


Evaluation board for half-bridge with SGT070R70HTO, 53 mΩ typ., 26 A e-mode PowerGaN transistor



The picture shown is for illustration purpose only.
Actual product may vary depending on buyer's selection and availability.

Features

- Half-bridge topology featuring 630 V peak voltage
- Equipped with 700 V, 53 mΩ typ., 26 A, e-mode PowerGaN transistor
- Bottom solder mask aperture for high heat-sink performance
- 8° C/W junction-to-heatsink thermal resistance to evaluate large power topologies
- -3.0 VCC/+6.2 VCC gate driver supply voltage
- On-board adjustable deadtime generator to convert single PWM signals into independent high-side and low-side signals with deadtimes from 10 ns to 150 ns
- Dedicated input connector for external deadtime PWM
- Up to 1 MHz switching frequency operation
- MMCX high frequency connector for high side GaN gate voltage measurement
- 5.08 mm pitch for GaN drain-source voltage monitoring
- Optional low-side shunt for transistor source current monitoring

Description

The **STEVAL-G0707TOCB** is designed for evaluating the electrical and thermal characteristics of the **SGT070R70HTO** 700-V e-mode PowerGaN transistor using the isolated gate driver **STGAP2GS**.

The half-bridge configuration enables the emulation of buck, boost, PFC, and inverter topologies with a dedicated external controller and filtering.

The **STEVAL-G0707TOCB** is optimized to reduce voltage undershoots and overshoot while ensuring fast switching times.

As the PowerGaN switches are mounted on the top side of the FR4 PCB, it facilitates the evaluation of different thermal interface materials (TIM), enabling the PowerGaN to deliver maximum power with an efficient thermal interface.

The **SGT070R70HTO** is a 53 mΩ typ, 700 V, 26 A e-mode GaN power transistor combined with bottom side cooling packaging technology. This device provides low conduction losses, high current capability, and ultrafast switching operation, enabling high-power density and efficiency performance.

The PowerGaN transistor is controlled by the **STGAP2GS**, a galvanically isolated 3 A single gate driver for enhancement-mode GaN FETs. The board allows independent optimization of turn-on and turn-off by using dedicated gate resistors.

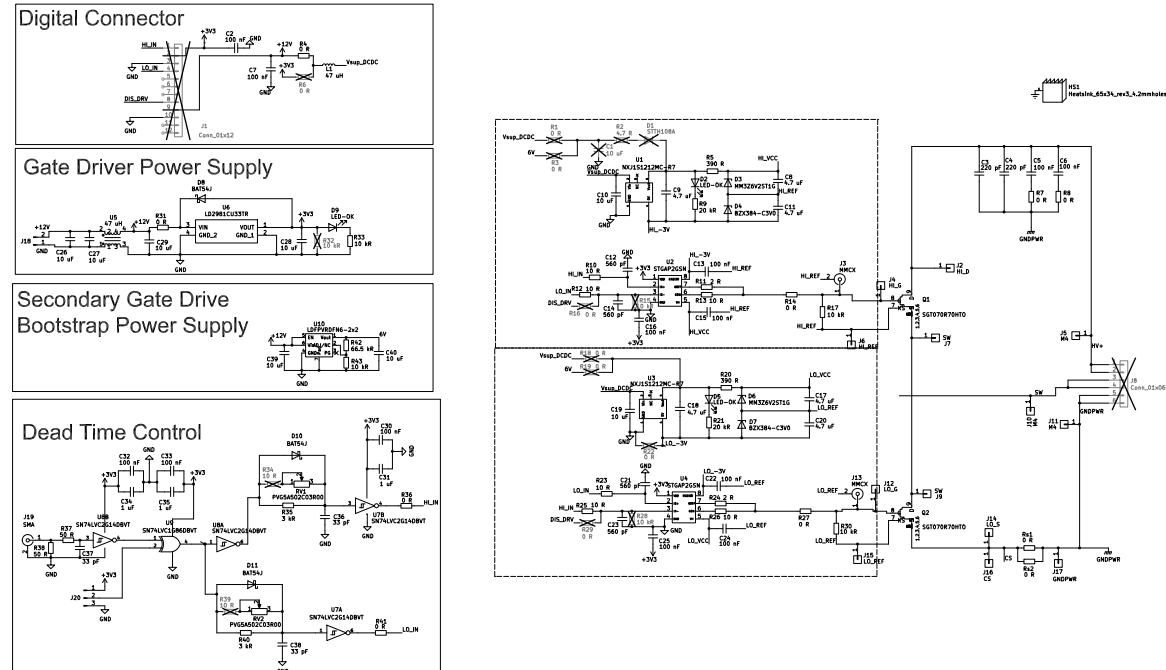
Product summary

Evaluation board for half-bridge with SGT070R70HTO, 53 mΩ typ., 26 A e-mode PowerGaN transistor	STEVAL-G0707TOCB
700 V, 53 mΩ typ., 26 A, e-mode PowerGaN transistor	SGT070R70HTO
Galvanically isolated 3 A single gate driver for Enhancement mode GaN FETs	STGAP2GS
Applications	AC-DC converters/DC-DC converters

Schematic diagrams

Notice: These schematics are for illustration purpose only. Actual product may vary depending on buyer's selection and availability.

Figure 1. STEVAL-G0707TOCB - Circuit schematic



2 Custom evaluation boards information

Notice: These evaluation boards are custom designed and built, in small quantities, according to specific requests from customers and are destined for evaluation and testing of ST products in a research and development setting. Please contact ST to provide your specific requests and get your custom built board(s).

Revision history

Table 1. Document revision history

Date	Revision	Changes
16-Jul-2026	1	Initial release.

IMPORTANT NOTICE – READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice.

In the event of any conflict between the provisions of this document and the provisions of any contractual arrangement in force between the purchasers and ST, the provisions of such contractual arrangement shall prevail.

The purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgment.

The purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of the purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

If the purchasers identify an ST product that meets their functional and performance requirements but that is not designated for the purchasers' market segment, the purchasers shall contact ST for more information.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2026 STMicroelectronics – All rights reserved