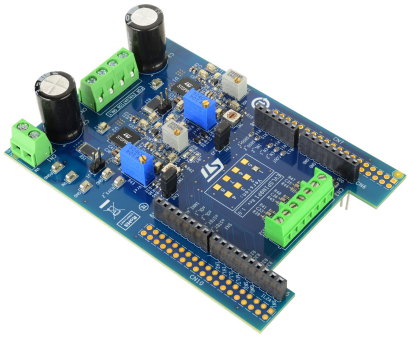
EVLSPIN9P1

Data brief

Demonstration board for STSPIN9P1 half-bridge system-in-package



Product status link
EVLSPIN9P11
EVLSPIN9P12
EVLSPIN9P15
EVLSPIN9P16
STSPIN9P11
STSPIN9P12
STSPIN9P15
STSPIN9P16

Features

- Power system-in-package integrating gate driver and high-current power MOSFETs:
  - $R_{DS(ON)}$ = 16 mΩ or 27 mΩ according to the selected part number
- Up to 75 V and 10 A_{rms} / 6 A_{rms} output current
- Programmable output slew rate
- Two input modes (EN/IN or INH/INL)
- Single shunt current sensing topology
- Integrated current limiter with adjustable reference
- Uncommitted comparator output (for specific part numbers) for external trigger (cycle-by-cycle current regulation)
- Input connector for 3 external sensors (e.g. Hall-effect based sensors)
- Open-load detection
- Thermal shutdown, UVLO, and overcurrent protection
- Standby mode
- X-Nucleo form factor with Arduino® connectors
- RoHS compliant

Applications

- Stage lighting
- Factory automation
- ATM and money handling machines
- Textile machines
- Home appliances
- Robotics

Description

The EVLSPIN9P1 demonstration board is a dual half-bridge power board, which allows the evaluation of all STSPIN9P1 features.

The board is designed to support a single shunt current sensing topology (one for each device).

The board can be stacked with an X-Nucleo MCU control board through Arduino® connectors, or driven directly by external pins.

The STSPIN family is growing with the introduction of the STSPIN9P series. The STSPIN9P1 is a high-density power driver integrating gate drivers and two N-channel power MOSFETs in half-bridge configuration.

The device has dedicated input pins for each output and one enable pin. The logic inputs are CMOS/TTL compatible down to 3.3 V for easy interfacing with control devices.

1 Specifications

Ratings of the board can be found in Table 1.

Table 1. EVLSPIN9P1 - specifications

Parameter		Value	Part numbers
Supply voltage	Nominal	From 7 V to 75 V	All
Maximum current	Continuous (1)	10 A_{rms}	STSPIN9P11, STSPIN9P12
		6 A_{rms}	STSPIN9P15, STSPIN9P16
	Peak (2)	22 A	STSPIN9P11, STSPIN9P12
		13 A	STSPIN9P15, STSPIN9P16
Maximum power	Continuous (1)	500 W	STSPIN9P11, STSPIN9P12
		300 W	STSPIN9P15, STSPIN9P16

1. *At 25 °C ambient temperature.*
2. *Typical value at 25°C ambient temperature.*

Revision history

Table 2. **Document revision history**

Date	Version	Changes
17-Dec-2025	1	Initial release.

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