YX4725 – 100V, 4A/8A, Half Bridge GaN Gate Driver with ISNS/TMON

1 Features

- Up to 100V input voltage range
- Fast half bridge gate driver for Si&GaN FET
- Integrated bootstrap diode
- Tri-state PWM input
- 4A/8A peak source and sink current
- Split gate driver with programmable pull-up and pull-down driving capability
- Internal bootstrap supply voltage clamping
- Extremely short propagation delay
- Fast gate rise and fall time
- Excellent noise rejection, switching node slew rate >50V/ns
- Programmable over current (OC) limit and dead time
- Enable (EN) control for low standby power
- Output current and temperature monitoring
- Build-In UVLO, OTP, HSS, OCP protection and reporting
- QFN4x4-20L

2 Applications

- Synchronous buck converter
- Half and full bridge supplies
- Two switch forward converter
- Telecom, Brick Module Power

3 Description

The YX4725 is a high-performance half bridge gate driver designed for Si FET and high-speed GaN FET applications. It integrates up to 100V gate drivers and bootstrap diode and supports tri-sate PWM input. The high-side driving voltage is clamped internally to prevent GaN FET from exceeding gate-source voltage rating. The YX4725 has a split gate driver for flexible output turn-on and turn-off time adjustment. The YX4725 can deliver high peak current up to 4A source and 8A sink. It supports rail-to-rail drive capability with 7V maximum supply input voltage. Its ultra-short propagation delay and fast rise and fall time fits Si & GaN FET applications.

The YX4725 features output current and temperature sensing and reporting to controller. Built in under voltage lockout (UVLO), over temperature protection (OTP), high side MOSFET short protection (HSS) and over current protection (OCP) help to ensure the device operates safely and reliably.The YX4725 is available in QFN4x4-20L Device Information

Ordering Information appears at page2 of datasheet.

4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX4725CAHAK	QFN4x4-20	4mm × 4mm

5 Simplified Application circuit