

YX4707 – 100V VIN, 4A/8A, Half Bridge GaN Driver

1 Features

- Up to 100V input voltage range
- Half bridge gate driver for GaN FET / Si MOSFET
- Integrated bootstrap switch
- Internal bootstrap supply voltage clamping
- Single PWM input with logic enable (EN)
- Tri-state PWM input with hysteresis
- 4A/8A peak source and sink current
- Dead time programmable
- Extremely short propagation delay (10ns typical)
- 6ns fast rise and 3ns fall time
- ExcelENT switching noise immunity, switching node slew rate >50V/ns
- Build-In UVLO and OTP protection
- DFN4x4-10L Package

2 Applications

- Motor drive, class-D audio, data center
- Synchronous buck converter
- Half and full bridge supplies
- Two-switch forward converter

3 Description

The YX4707 is a high-performance half bridge gate driver designed for high-speed GaN FET applications. It integrates up to 100V gate drivers and bootstrap diode and has tri-state PWM input control: high-side FET on, low-side FET on, both FET off. The high-side driving voltage is clamped internally to prevent GaN FET from exceeding gate-source voltage rating. The YX4707 has fast propagation delay and excelENT delay matching. The YX4707 can deliver high peak current up to 4A source and 8A sink into capacitive load. It supports rail-to-rail drive capability and well-balanced drive voltage for high side and low side.

The YX4707 features under voltage lockout (UVLO) and over temperature protection (OTP) help ensure the device operates safely and reliably. The YX4707 is available in an industry standard 10-lead DFN 4mmx4mm package with exposed pad and low parasitic inductance and resistance, suitable for high frequency power systems.

4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX4707AAHAJ	DFN4x4-10	4mm × 4mm

5 Simplified Application circuit

