

YX4705 – 100V VIN, 4A/8A, Half Bridge GaN Driver

1 Features

- Up to 100V input voltage range
- Ultra-fast half bridge gate driver for GaN FET
- Integrated bootstrap switch
- Independent high side and low side TTL and CMOS logic control input with hysteresis
- 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 (10ns typical) and delay matching (1.5ns typical)
- 6ns fast rise and 3ns fall time
- Excellent noise rejection, switching node slew rate >50V/ns
- Build-In UVLO and OTP protection
- DFN 4x4-10 and DFN3X3-10 Package

2 Applications

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

3 Description

The YX4705 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 independent high-side and low-side control input. The high-side driving voltage is clamped internally to prevent GaN FET from exceeding gate-source voltage rating. The YX4705 has split gate driver for flexible output turn-on and turn-off time adjustment. The YX4705 can deliver high peak current up to 4A source and 8A sink into capacitive load. It supports rail-to-rail drive capability and TTL/CMOS logic compliant with the PWM input pins. The YX4705 features under voltage lockout (UVLO) and over temperature protection (OTP) help ensure the device operates safely and reliably. The YX4705 is available in an industry standard 10-lead DFN 4mmx4mm and 3mmx3mm package with exposed pad and low parasitic inductance and resistance, suitable for high frequency power systems.

[Ordering Information](#) appears at page2 of datasheet.

4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX4705AAEAJ	DFN3X3-10	3mm × 3mm
YX4705AAHAJ	DFN4X4-10	4mm × 4mm

5 Simplified Application circuit

