PRIMECHIP

YX4506

Single Low Side Gate Driver with Slew Rate Control

PRODUCT INTRODUCTION

The YX4506 is a high performance single-channel low side gate driver designed for use in high-speed GaN FET and Si MOSFET applications. Its low propagation delay and high peak current make it suitable for a range of applications including LiDAR, time-of-flight, facial recognition, and power converters. The YX4506 can deliver high peak current up to 4A source and 8A sink into capacitive load. It also supports turn on slew rate control of gate with a single external resistor pulled up to VDD for EMI performance and switching loss trade off design.

The YX4506 features under voltage lockout (UVLO) and over temperature protection help ensure the device operates safely and reliably. The YX4506 is available in an industry standard and small 6-lead DFN 2mmx2mm package with exposed pad and low parasitic inductance and resistance, suitable for high frequency power systems.

FEATURES

· 4V to 7V gate drive capability

· Low side ultra-fast gate driver for GaN FET/ Si MOSFET

· 1.4ns minimum input pulse width

· Up to 50MHz Fsw

· 4A/8A peak source and sink current

· Turn-on slew rate control for better EMI

· Dual-slope slew rate control

· TTL and CMOS logic input with hysteresis

· Default low output when input pins floating

· 3.4ns propagation delay

· 0.5ns fast rise and fall time

· Build-In UVLO and OTP protection

· 6-Lead DFN 2mmx2mm Package

APPLICATIONS

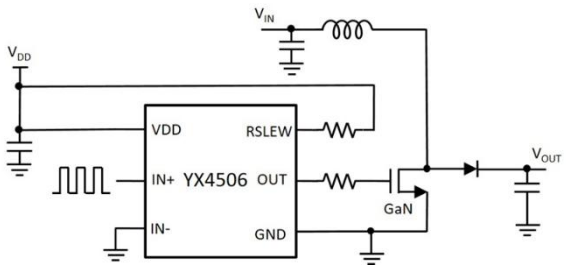
· GaN FET/ Si MOSFET Gate Driver

· On Board Charger, Automotive DC-DC

· LiDAR, Laser Drivers, facial recognition

· Motor Drives and Solar Power

· Class-D Audio Amplifiers and Wireless Charger



Simplified boost converter circuit

	Split Gate Driving	Integrated LDO	Slew Rate Control	Current Sensing	Temperature sensing
YX4505	O				
YX4506			O		
YX4507	O	O			
YX4508				O	
YX4509		O			O