

SUPERIOR GaN TP44100SG – 90mΩ, 650V GaN HEMT

1.0 Features

- 650V, 90mΩ enhancement mode power HEMT
- Adapt to various PWM controllers
- Zero reverse recovery
- Adjustable turn-on slew rate
- High switching frequency (>2MHz)
- Reverse conduction capable
- Enhanced thermal performance with NC center pad
- Simple and low cost interface circuit
- Direct PWM drive, no external VCC needed

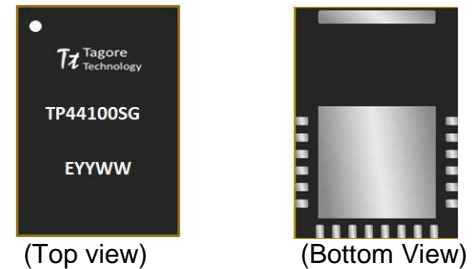


Figure 1 Device Image
(22pin 5x7x0.85 mm QFN Package)

2.0 Topologies and Applications

- As switching FETs in singles, or in pairs as half-bridges
- AC-DC, DC-DC, DC-AC converters
- PFC applications (Standard and Totem pole)
- High frequency LLC converters
- Mobile chargers and laptop adapters
- LED and motor drives
- Server power supplies



**RoHS/REACH/Halogen Free
Compliance**

3.0 Description

The SUPERIOR GaN TP44100SG is a 90mΩ, 650V GaN power HEMT device. It can be directly driven from a standard 12V PWM controller, or the new generations of 6V PWM controllers dedicated to GaN HEMT. No external VCC is needed in either case. This device has low input/output capacitances which allows switching at high frequency with minimum loss. Due to its high breakdown voltage and high reliability, it can be safely used to improve efficiency and power density while bringing down overall system cost at the same time. Its low inductance QFN package greatly helps to minimize various ground bounce related issues. Provision for controlled switching transition time helps reduce EMI very effectively.

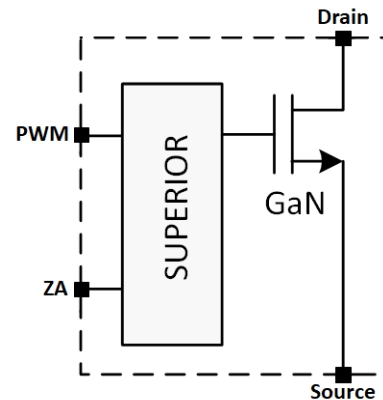


Figure 2 Functional Block Diagram

4.0 Ordering Information

Table 1 Ordering Information

Part Number	Package Type	Form	Qty	Reel Diameter	Reel Width	Orderable Part Number
TP44100SG	22 Pin 5x7x0.8mm QFN	Tape and Reel	3000	13" (330mm)	18mm	TP44100SG
Evaluation Board						TP44100SG-EVB