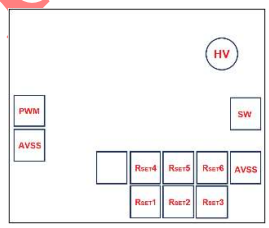
General Descriptions

GPE3115 gate driver is designed to drive enhancement mode GaN HEMTs in low-side switching applications. Tiny die sizes can be co-packaged with depletion-mode GaN HEMTs to reduce parasitic RLC. GPE3115 built-in SCP (Short-Circuit Protection) and OTP (Over-Temperature Protection) functions make GaN HEMT operation safer. Input PWM ranges are available for various PWM controller designs. In addition, the built-in slew rate control allows the selection of different dv/dt without the need for external components to adjust.

Features

- Enhancement -mode GaN HEMT Gate Driver
- PWM PIN compatibility 9 to 18V
- Over temperature protection
- Short circuit protection
- Programmable turn-on dv/dt
- 30 ns typical delay time
- 10 ns Typical Rise / 10 ns Typical Fall time

Pad Definitions



1020x1260um

Symbol	Description
HV	Connect to the Drain terminal of GaN HEMT
R_{SET}1~6	dv/dt setting pin
PWM	PWM input
SW	Connect to the gate terminal of GaN HEMT
AVSS	GND. Connect to the lead frame

Absolute Maximum Ratings

Over operating free-air temperature range (unless otherwise noted)

Parameter	Symbol	Value	Unit
High Voltage	V_{HV}	800	V
PWM Voltage	V_{PWM}	30	V
Maximum Junction Temperature	T_{J_MAX}	150	°C

ESD Ratings

Over operating free-air temperature range (unless otherwise noted)

Parameter	Symbol	Value	Unit
Human Body Model	HBM	2000	V
Charged Device Model	CDM	1000	V

Recommended Operating Conditions

over operating free-air temperature range (unless otherwise noted)

Parameter	Symbol	Value	Unit
High Voltage	V_{HV}	<800	V
PWM Voltage	V_{PWM}	9~30	V
Operating Ambient Temperature	T_{OP}	-40~125	°C