

Product brief

GaN EiceDRIVER™ family

Single-channel isolated gate driver ICs for high voltage GaN switches

CoolGaN™ e-mode HEMTs are best driven by Infineon's EiceDRIVER™ ICs, the 1EDF5673K, 1EDF5673F and 1EDS5663H. They ensure robust and highly efficient high voltage GaN switch operation whilst concurrently minimizing R&D efforts and shortening time-to-market.

Key advantages of designing with the GaN EiceDRIVER™ family

Positive and negative gate drive currents:

- › Fast turn-on / turn-off GaN switch slew-rates

Firmly hold gate voltage at zero, during off-phase:

- › Avoids spurious GaN switch turn-on
- › Up to 50% lower dead-time losses

Configurable and constant GaN switching slew-rates, across wide range of switching frequency and duty-cycle:

- › Robust and energy efficient SMPS designs
- › Short time-to-market

Integrated galvanic isolation:

- › Robust operation in hard-switching applications
- › Safe isolation where needed

GaN EiceDRIVER™ ICs evaluation environment

High frequency (1 MHz) half-bridge evaluation board EVAL_1EDF_G1_HB_GAN

Key components:

- › GaN switches: 2x CoolGaN™ 600 V e-mode HEMTs (IGOT60R070D1)
- › GaN drivers: 2x GaN EiceDRIVER™ (1EDF5673K)

Order code: EVAL_1EDF_G1_HB_GAN*

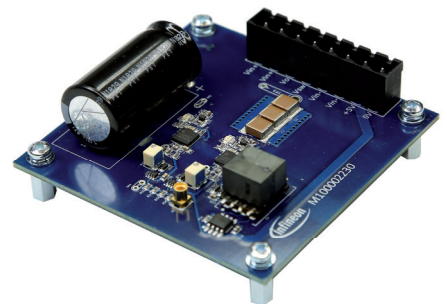
*Coming soon

Key use cases

- › Totem-pole PFCs
- › Vienna rectifiers
- › Multi-level topologies
- › Resonant LLC

Key features

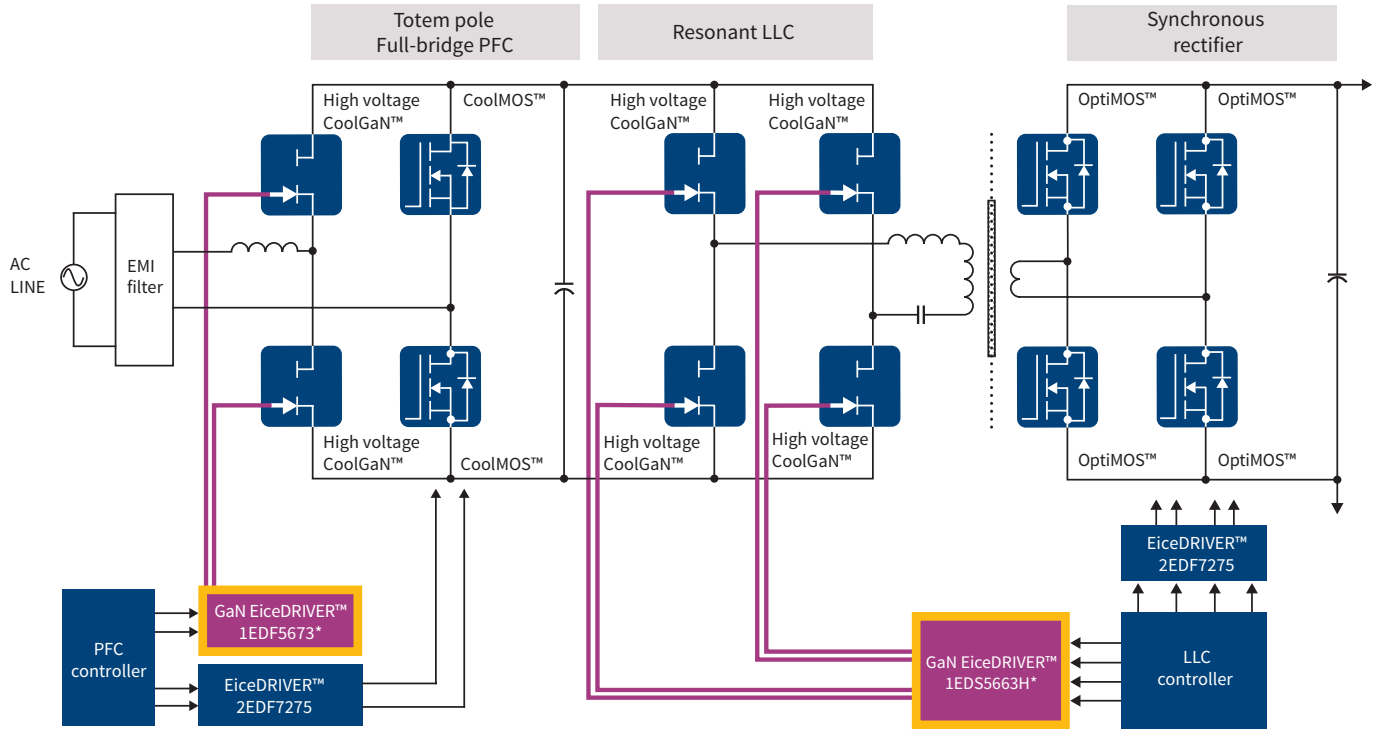
- › Low ohmic outputs:
 - Source: 0.85 Ω
 - Sink: 0.35 Ω
- › Single-channel galvanic isolation:
 - Functional: $V_{IO} = 1500 V_{DC}$
 - $V_{IOWM} = 510 V_{rms}$ (16-pin DSO)
 - $V_{IOWM} = 460 V_{rms}$ (LGA 5x5)
 - Reinforced: $V_{IOTM} = 8000 V_{pk}$ (VDE 0884-10 pending)
 - $V_{IOWM} = 1420 V_{DC}$
 - CMTI min: 200 V/ns
- › Timing:
 - Minimum output pulse width: 18 ns
 - Propagation delay accuracy: 13 ns



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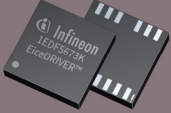


Single-channel isolated gate driver ICs for high voltage GaN switches

High power SMPS application example



*GaN EiceDRIVER™ ICs are single-channel products

Product portfolio

			
Package	13-pin LGA 5x5 mm	16-pin DSO 150 mil	16-pin DSO 300 mil
Product	1EDF5673K*	1EDF5673F	1EDS5663H
OPN	1EDF5673KXUMA1	1EDF5673FXUMA1	1EDS5663HXUMA1
Isolation (input to output)	$V_{io} = 1500 V_{DC}$	$V_{io} = 1500 V_{DC}$	$V_{ioTM} = 8000 V_{pk}$ (VDE0884-10 pending)
Source/sink output resistance	0.85 Ω /0.35 Ω	0.85 Ω /0.35 Ω	0.85 Ω /0.35 Ω
UVLO	4.5 V / 5.0 V	4.5 V / 5.0 V	4.5 V / 5.0 V

*Coming soon

www.infineon.com/gan-eicedriver

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