



Product brief

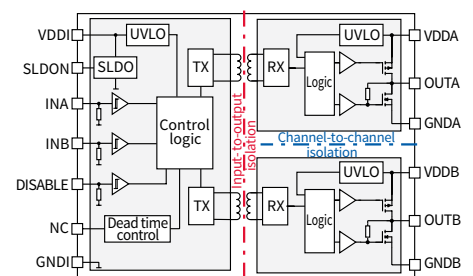
EiceDRIVER™ 2EDS8265H and 2EDS8165H

Fast, robust, dual-channel, reinforced isolated MOSFET gate drivers with accurate and stable timing

Overview

The EiceDRIVER™ 2EDS8265H and 2EDS8165H are reinforced isolated gate drivers for secondary-side control over the mandatory safe isolation barrier in SMPS. The 2EDS8265H strong 4 A/8 A source/sink dual-channel gate driver comes with a very high 150 V/ns CMTI (Common Mode Transient Immunity) for robust operation with fast CoolMOS™ and high power switching noise environment. The very fast propagation delay of 37 ns is provided with low variation over temperature and production which enables the power system design to achieve higher efficiency through very tight timing control across the safety isolation barrier. The 2EDS8165H with 1 A/2 A is available for smaller MOSFETs or PWM signal/data decoupling for very high power designs working with local boost drivers. Safety certificates in accordance with UL1577, VDE0884-10, IEC62386 and IEC60950 will be provided with these devices. The 2EDFS8xx5H parts come in wide-body 300 mil DSO16 packages.

Device overview



EiceDRIVER™ 2EDS8265H and 2EDS8165H block diagram

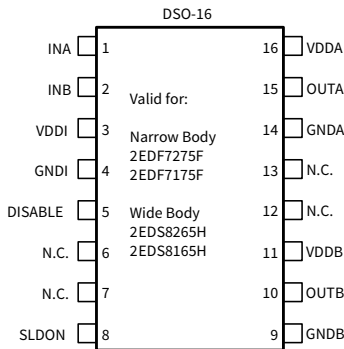
Product key features	Product benefits	System benefits
Fast switching with accurate timing <ul style="list-style-type: none"> Available with 4 A/8 A and 1 A/2 A source/sink currents Propagation delay typ. 37 ns with 3 ns channel-to-channel mismatch Max. delay variation ~14 ns 	Efficiency gain and lower losses <ul style="list-style-type: none"> Lower switching losses in half-bridges due to fast and accurate turn on/off Perfect for new digital, fast high resolution PWM control including light load optimization 	Enabling higher system efficiency and higher power density designs
Optimized for area and system BOM <ul style="list-style-type: none"> Isolation and driver in one package Low power dissipation due to low on-resistance Output stages with 5A reverse current capability 	Improved thermal behavior at smaller form factor <ul style="list-style-type: none"> DSO package with 2.3 mm height versus volume > 1 cm³ for pulse transformers Eliminates two costly protection diodes on the gate driver outputs 	
Robust against switching noise <ul style="list-style-type: none"> Floating drivers are able to handle large inductive voltage over- and undershoots Very high common mode transient immunity CMTI > 150 V/ns Undervoltage lockout function for switch protection 	Protection and safe operation <ul style="list-style-type: none"> Ideal for use in high power designs with fast switching transients Reliable CT coreless transformer PWM signal chain for noisy power switching environment 	Extending end-product lifetime by improving safe operation of power switches in normal and abnormal field (grid) conditions
Output- to-output channel isolation <ul style="list-style-type: none"> Functional level galvanic isolation 	Flexible configurations <ul style="list-style-type: none"> HS+LS, HS+HS or LS+LS 	
Input-to-output channel isolation <ul style="list-style-type: none"> Reinforced galvanic isolation 	Regulatory safety <ul style="list-style-type: none"> Reinforced isolation for secondary-side control 	Simplified safety approval through component (VDE884-x, UL1577 and system (IEC60950, IEC62386) certificates



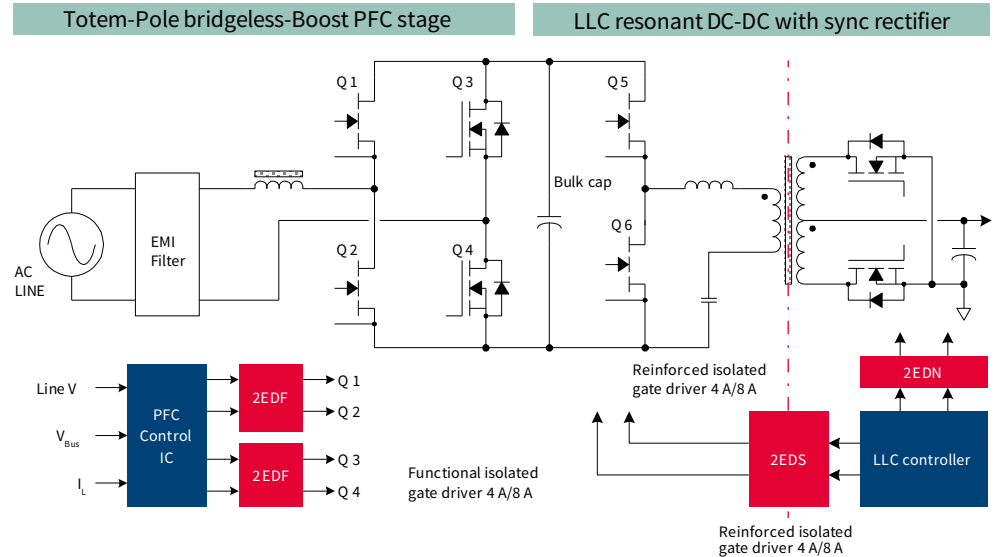
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Pin configuration



Application diagram example



New high-speed, high-resolution digital controllers are able to simultaneously provide control signals for LLC and SyncRec stage, with tight control of the switches on the (safe) secondary side. Besides form-factor, the improved timing accuracy required in today's optimized power systems is one of the key benefits of 2EDS8x65H compared to classic pulse transformer solutions, finally leading to greatly improved power conversion efficiency.

The unique combination of the 2EDi cross-family shared key features, regardless of isolation class, provides new power partitioning options and enables the system designer to work across any isolation barriers/power stages with consistent timing, best-in-class gate driver performance and reduced system bill of materials.

Product portfolio

Part number	Orderable part number (OPN)	Package	PWM Input type	Driver source/ Sink current	Gate driver UVLO	Input to output isolation				Dead-time control
						Isolation class	Rating	Surge testing	Safety certification*	
2EDS8265H	2EDS8265HXUMA1	WB-DSO16 10.3 mm x 10.3mm	Dual (INA, INB)	4 A/8 A	8 V	Reinforced*	$V_{IOTM} = 8 \text{ kV}_{peak}$ (VDE0884-1x)	$V_{IOSM} = 10 \text{ kV}_{peak}$ (IEC60065)	VDE0884-10 UL1577 IEC60950, IEC62368,CQC	yes
2EDS8165H	2EDS8165HXUMA1			1 A/2 A			$V_{ISO} = 5.7 \text{ kV}_{rms}$ (UL1577)			

*Certification pending (expected Q3/2018)

For further device information and application notes visit the 2EDi EiceDRIVER™ family under www.infineon.com/2EDi

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