

Product brief

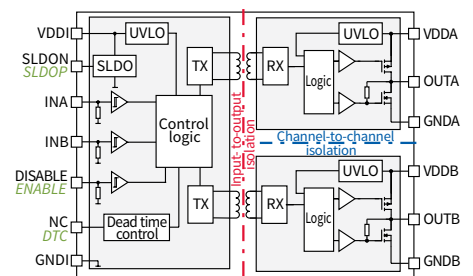
Dual-channel isolated EiceDRIVER™ family

Fast, robust, dual-channel, functional and reinforced isolated MOSFET gate driver ICs with accurate and stable timing

Overview

The dual-channel isolated EiceDRIVER™ product family is designed for the use in high-performance power conversion applications. Very strong 4 A/8 A source/sink dual-channel gate drivers increase efficiency in CoolMOS™ and OptiMOS™ MOSFET half-bridges. The low propagation delay of 37 ns, combined with highly accurate and stable timing overtemperature and production, enables further efficiency gains within and across galvanically isolated power stages or in multi-phase/multi-level topologies. The availability of functional and reinforced isolated drivers in different packages makes these a perfect fit for both primary side and (safe) secondary side control. Gate driver outputs come with a high 5 A reverse current capability and 150 V/ns CMTI robustness for high dv/dt power loops. For slower switching or driving smaller MOSFETs, 1 A/2 A peak current product variants are available as well.

Device overview



Product family overview

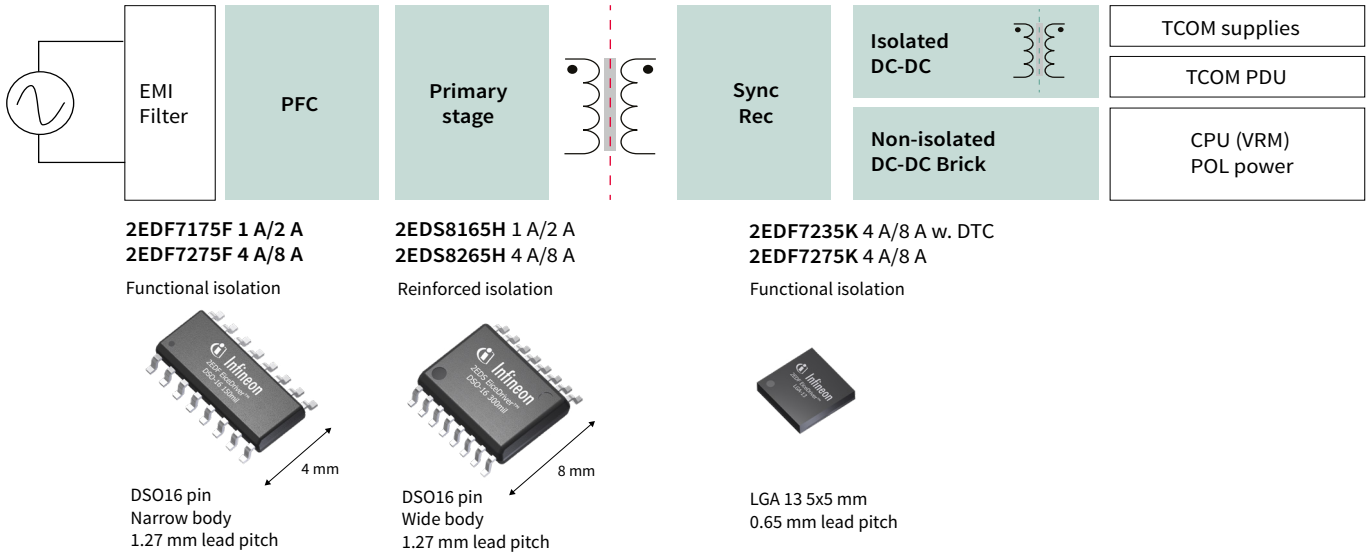
Product key features	Product benefits	System benefits
Fast power switching with accurate timing <ul style="list-style-type: none"> Available with 4 A/8 A and 1 A/2 A source/sink currents Propagation delay typ. 37 ns with 3 ns channel-to-channel precision Max. propagation delay variation ~14 ns 	Efficiency 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 5 A reverse current capability 	Improved thermal behavior at smaller form factor <ul style="list-style-type: none"> LGA with 1 mm, DSO with 2.3 mm package height versus volume > 1 cm for pulse transformers Eliminates two costly protection diodes on the gate driver outputs 	Improving long term competitive cost position, integration and mass manufacturability
Robustness against switching noise <ul style="list-style-type: none"> Floating drivers are able to handle large inductive voltage over- and undershoots Very good 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 to turn on high side MOSFETs 	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, LS+LS or 2x I_{max} on 1xHS 	Lower EMI by ground isolation, driver proximity to MOSFETs or the use of 4-pin Kelvin source MOSFETs
Input- to output channel isolation <ul style="list-style-type: none"> Functional and reinforced galvanic isolation 	Regulatory safety <ul style="list-style-type: none"> Functional for primary-side control Reinforced for secondary-side control 	Simplified safety approval through component (VDE884-10, UL1577) and system (IEC60950, IEC62368) certificates



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System application diagram



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*		
2EDF7175F	2EDF7175FXUMA1	NB-DSO16 10 x 6 mm	Dual-mode (IN_A, IN_B)	1 A/2 A	4 V	Functional	$V_{IO} = 1.5 \text{ kV}_{DC}$	n.a.	n.a.	no	
2EDF7275F	2EDF7275FXUMA1			4 A/8 A							
2EDS8165H	2EDS8165HXUMA1	WB-DSO16 10.3 x 10.3 mm		1 A/2 A	8 V	Reinforced*	$V_{IOTM} = 8 \text{ kV}_{peak}$ (VDE0884-10)	$V_{IOSM} = 10 \text{ kV}_{peak}$ (IEC60065)	VDE0884-10 UL1577 IEC60950 IEC62368 CQC		
2EDS8265H	2EDS8265HXUMA1			4 A/8 A							
2EDF7235K	2EDF7235KXUMA1	LGA13 5.0 x 5.0 mm		4 A/8 A	4 V	Functional	$V_{IO} = 1.5 \text{ kV}_{DC}$	n.a.	n.a.		yes
2EDF7275K	2EDF7275KXUMA1										no

*Certified

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