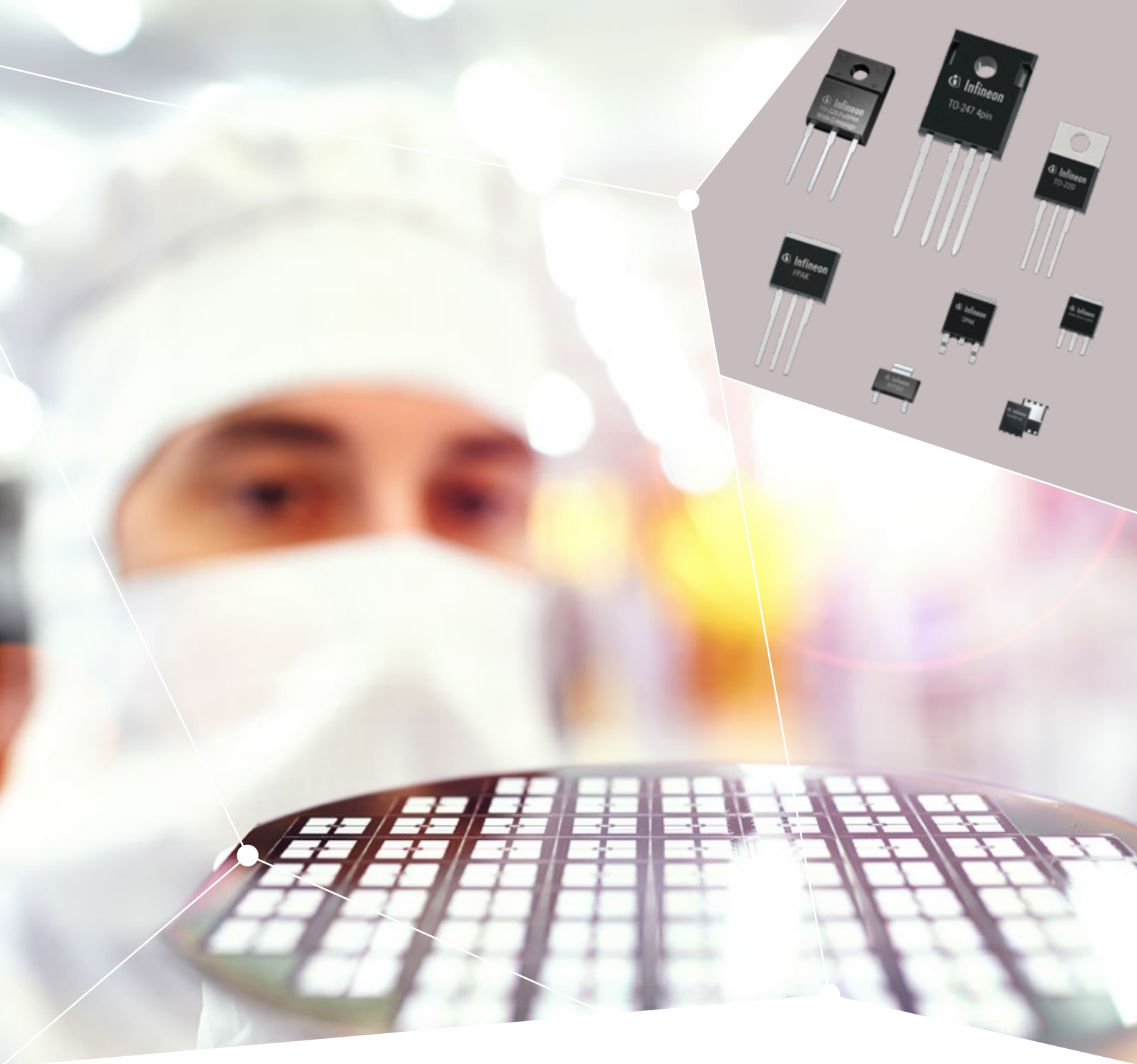




CoolMOS™ SJ MOSFETs Selection Guide

Common CoolMOS™ applications and topologies



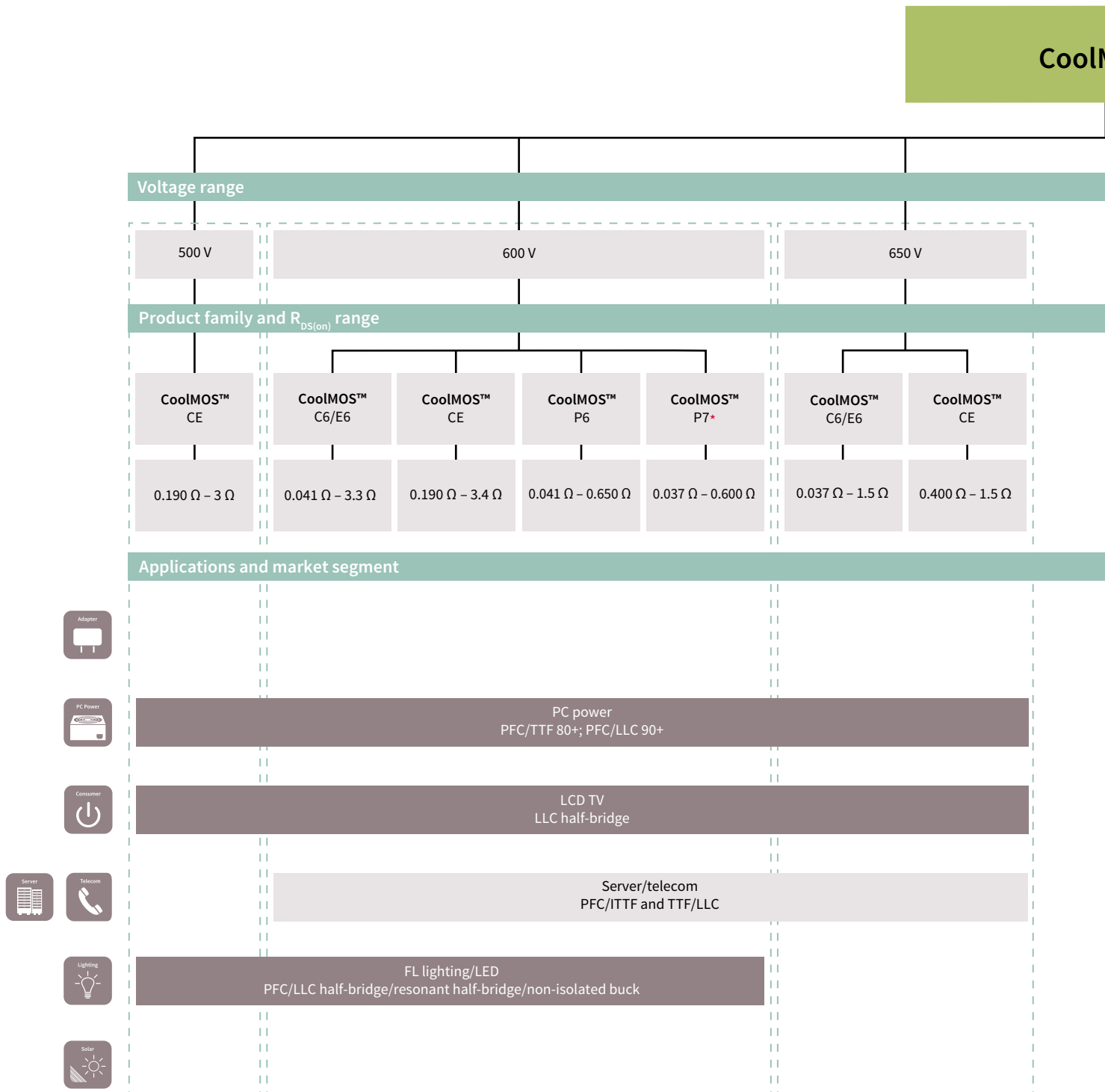
The revolutionary CoolMOS™ power MOSFET family sets new standards in the field of energy efficiency.

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Price/performance series	4
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EiceDRIVER™ application guide	8
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Price/performance

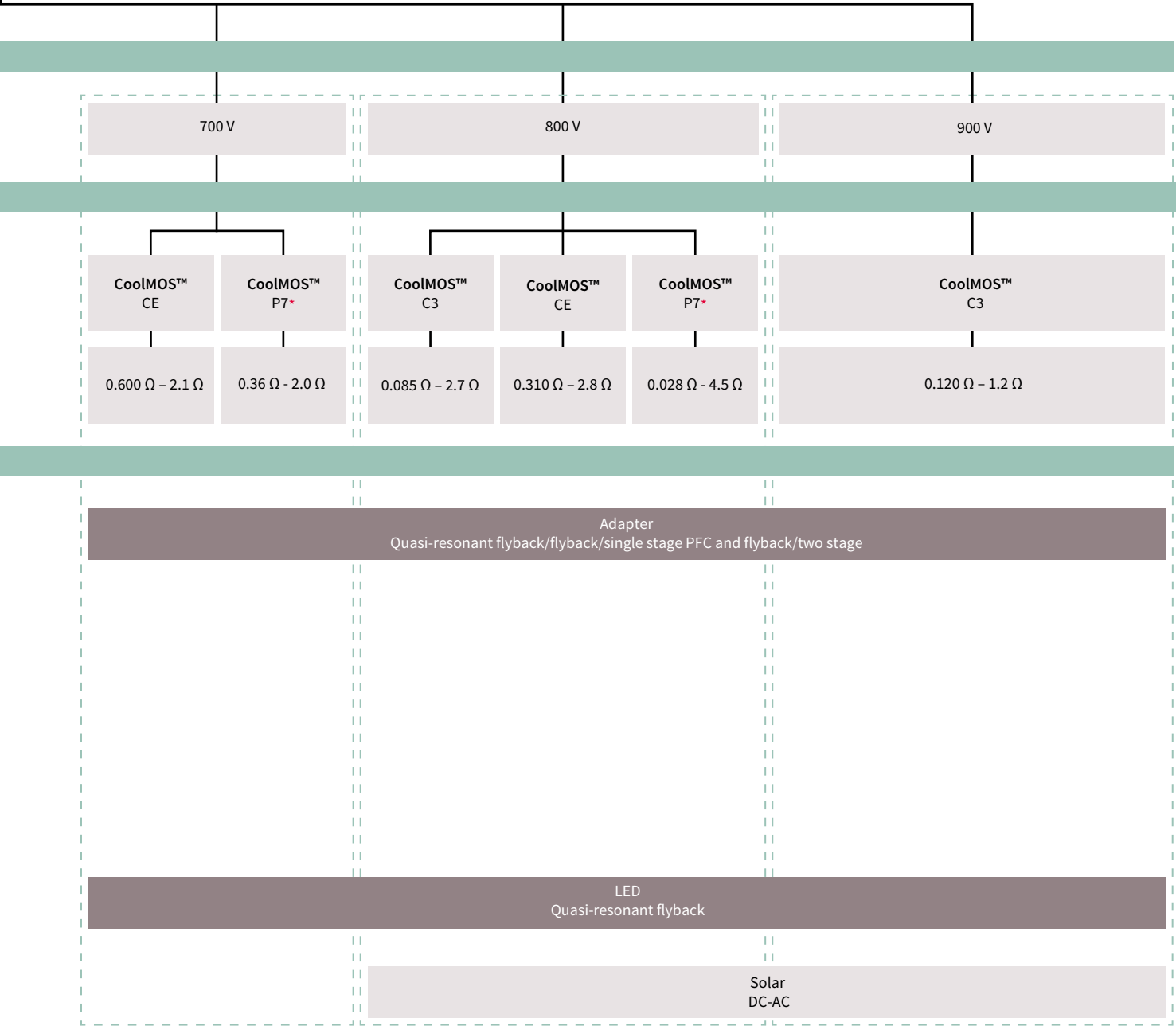
Optimum performance in the following more cost sensitive applications and topologies



For complete product portfolio, please check our homepage www.infineon.com/coolmos

Drive your CoolMOST™ to best performance with a cool EiceDRIVER™

MOS™



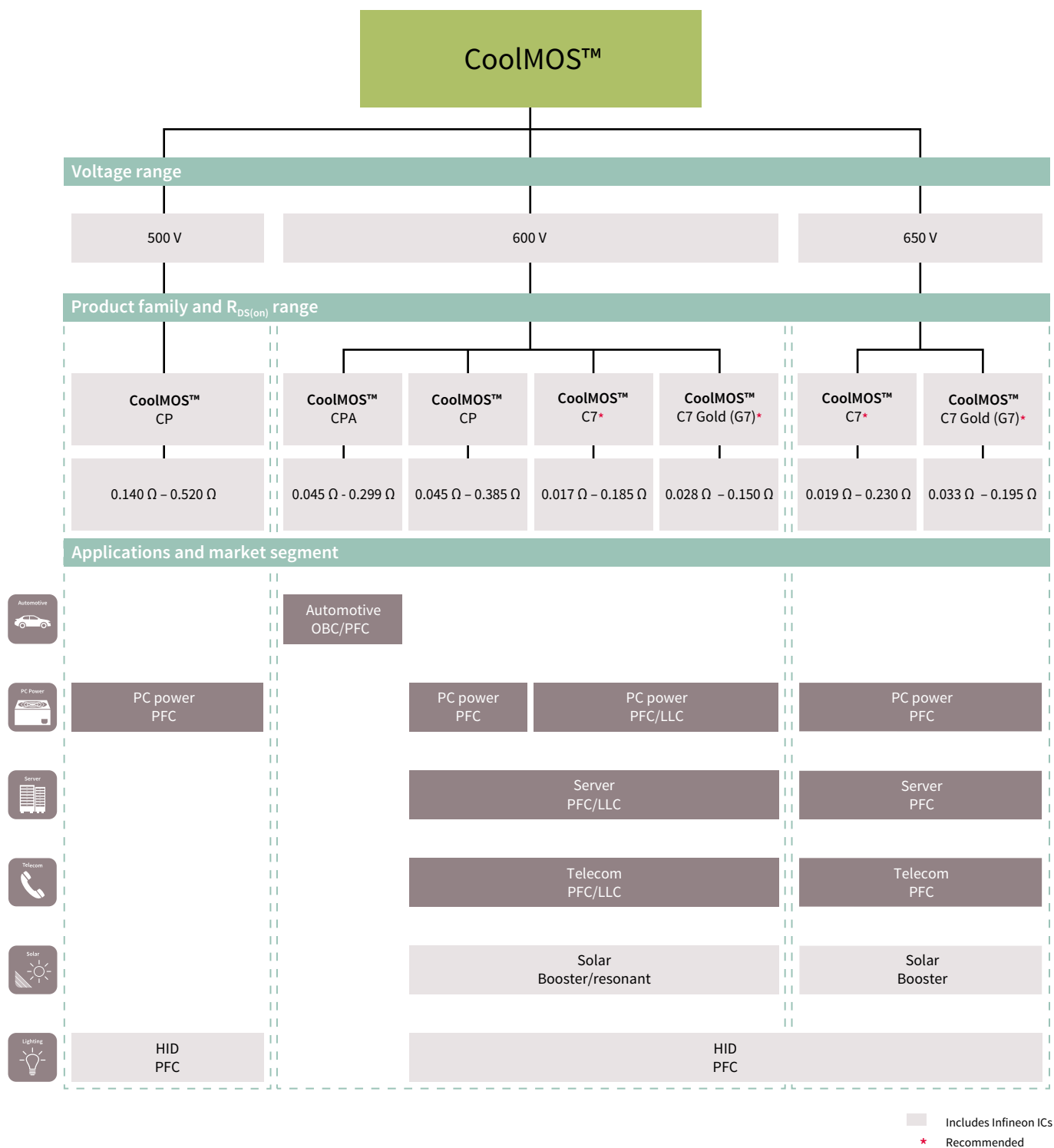
Includes Infineon ICs

* Recommended (for 600 V, CoolMOS™ P7 is recommended from 0.037 Ω to 0.6 Ω and CoolMOS™ C6 is recommended above 0.6 Ω)

Best-in-class efficiency and fast body diode series

Best-in-class efficiency

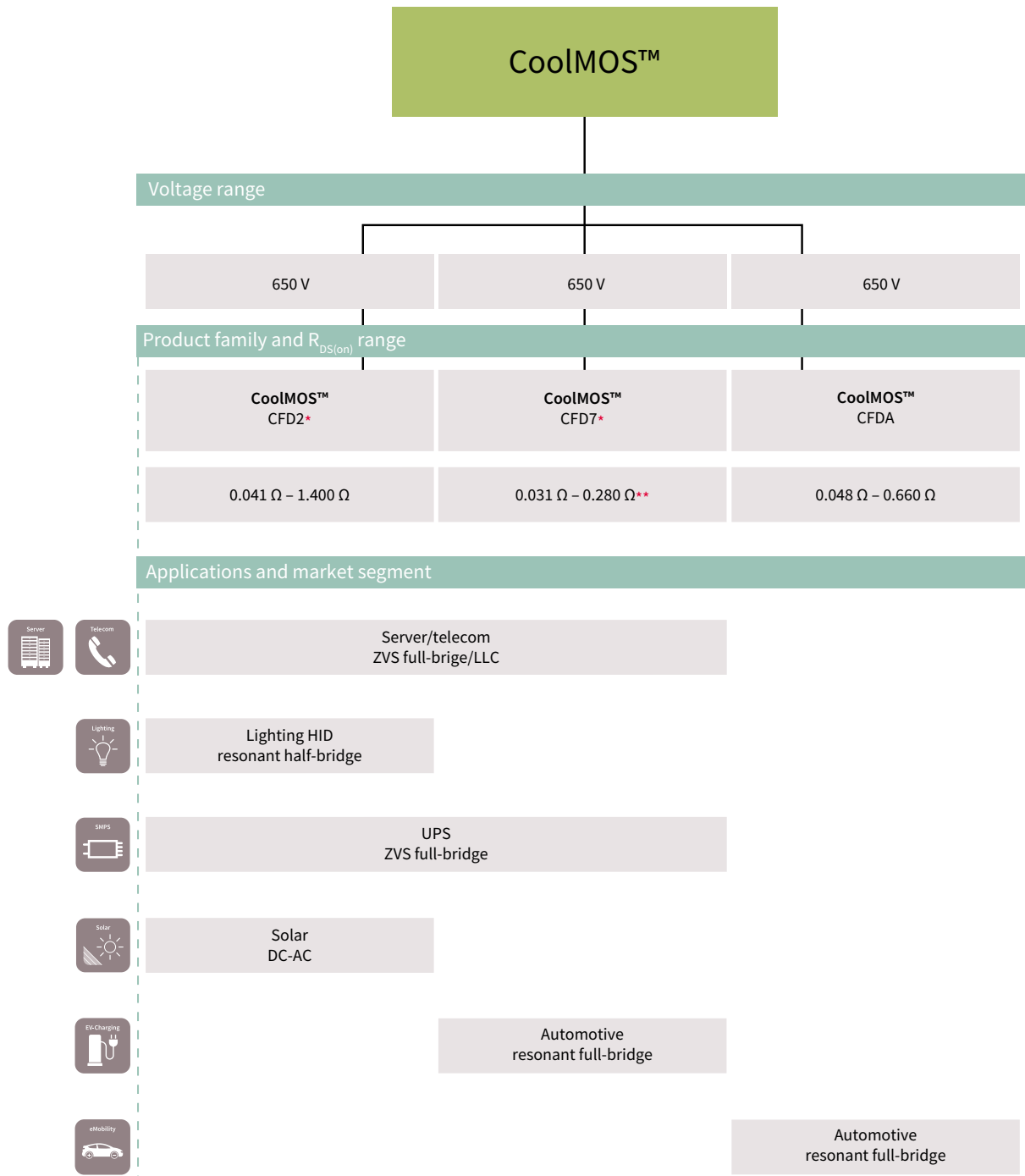
Highest performance CoolMOST™ recommended for the following applications and topologies



Drive your CoolMOST™ to best performance with a cool EiceDRIVER™

Fast body diode series

Optimum CoolMOS™ for resonant switching topologies in the following applications



Includes Infineon ICs

* Recommended (for 600 V, CoolMOS™ CFD7 is recommended for industrial and consumer applications)

** Further portfolio extension planned

Drive your CoolMOS™ to best performance with a cool EiceDRIVER™

EiceDRIVER™ application guide

Industrial, server and telecom SMPS and inverters									
PFC					High voltage DC-DC				
Functionality		Primary side controlled			Primary side controlled	Secondary side controlled			400 V DC-link
Topology		Boost PFC ("classic": diode + FET)	Interleaved boost-PFC ("classic": diode + FET)	Bridgeless-PFC (Vienna)	LLC	LLC	ZVS	(i)TTF	Full-bridge
Switching device	High-side	SiC diode Gen5	SiC diode Gen5	CoolMOS™ C7, P7	CoolMOS™ CFD2, P7	CoolMOS™ CFD2, P7	CoolMOS™ CFD2	CoolMOS™ C7, P7	CoolMOS™ C7 ²⁾ , P7 ³⁾
	Low-side	CoolMOS™ C7, P7	CoolMOS™ C7, P7	CoolMOS™ C7, P7	CoolMOS™ CFD2, P7	CoolMOS™ CFD2, P7	CoolMOS™ CFD2	CoolMOS™ C7, P7	CoolMOS™ C7 ²⁾ , P7 ³⁾
Gate driver IC	High-side	n.a.	n.a.	2EDL	1EDI	IR(S)21834 IR(S)2183 IR(S)2184	2EDN ¹⁾ 1EDN ¹⁾	2EDN ¹⁾ 1EDN ¹⁾	2EDN ¹⁾ 1EDN ¹⁾
	Low-side	2EDN 1EDN	2EDN 1EDN		2EDN 1EDN		2EDN ¹⁾ 1EDN ¹⁾	2EDN ¹⁾ 1EDN ¹⁾	2EDN ¹⁾ 1EDN ¹⁾

¹⁾ Requires pulse-transformer²⁾ 600 V for soft and hard switching high performance, 650 V for hard switching³⁾ Rugged hard and soft switching

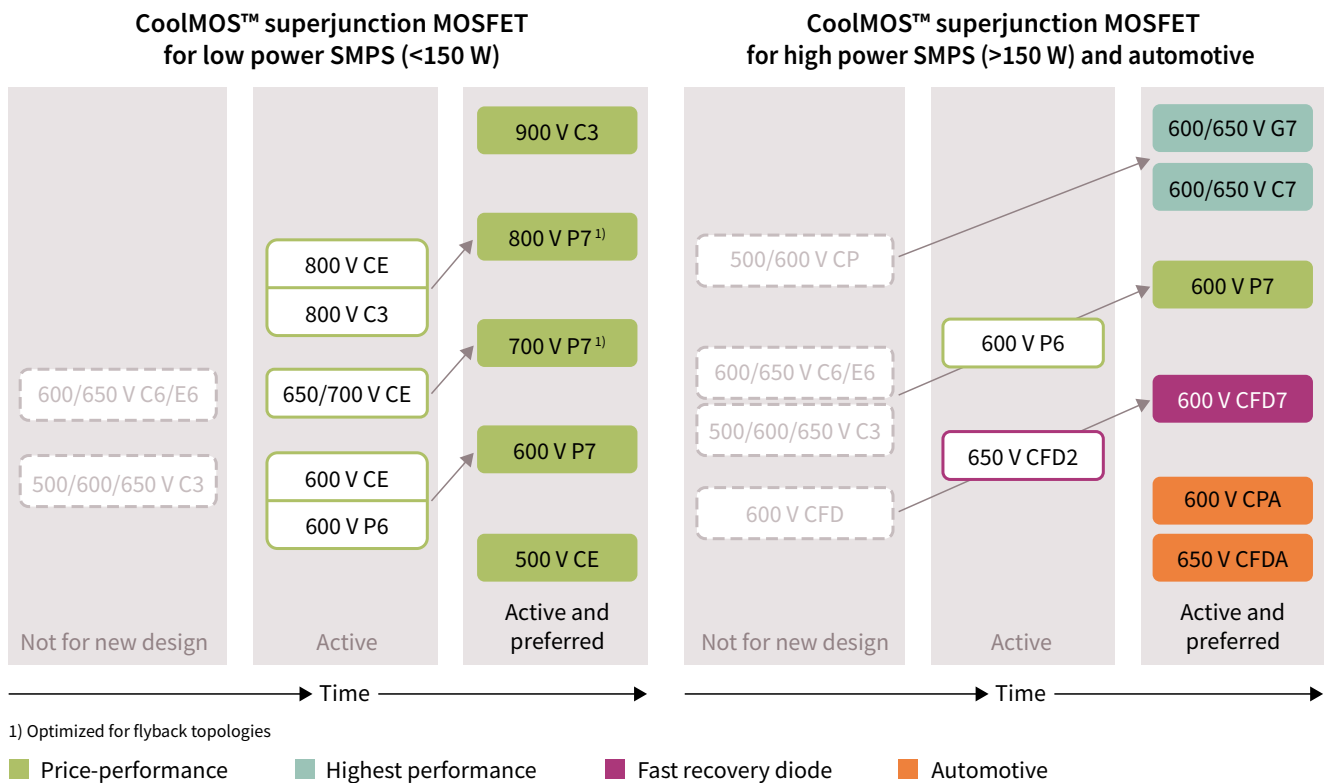
EV charging stations					
PFC				High voltage DC-DC	
Functionality					
Topology		Interleaved boost PFC	Vienna PFC		Phase-shift ZVS full-bridge
Switching device	High-side	CoolSiC™ Schottky diode G6"	CoolMOS™ C7, P7		CoolMOS™ CFD7
	Low-side	CoolMOS™ C7	CoolMOS™ C7, P7		CoolMOS™ CFD7
Gate driver IC	High-side	n.a.	2EDL	1EDICompact	2EDN1) 1EDN1)
	Low-side	2EDN 1EDN		2EDN 1EDN	2EDN1) 1EDN1)

¹⁾ Requires pulse-transformer

CoolMOS™ SJ MOSFETs

Trusted leader in high voltage MOSFETs

The revolutionary CoolMOS™ power MOSFET family sets new standards in the field of energy efficiency. Our CoolMOS™ products offer a significant reduction of conduction, switching and driving losses, and enable high power density and efficiency for superior power conversion systems.



In low power SMPS, high voltage superjunction MOSFETs address applications, such as smartphone/tablet chargers, notebook adapters, LED lighting, as well as audio and TV power supplies. Increasingly, customers replace standard MOSFETs by superjunction MOSFETs to benefit from higher efficiency and less power consumption for the end users. CoolMOS™ P7 sets a new benchmark by offering high performance and competitive price all at once.

Also for high power applications such as server, telecom, PC power, solar, UPS or industrial, Infineon's latest CoolMOS™ 7 superjunction MOSFET series with C7, G7, CFD7 and P7 product families offer what you need - from highest efficiency to best price performance.

Infineon's CoolMOS™ superjunction MOSFET offering is complemented by the automotive qualified series 600 V CPA, 650 V CFDA and 800 V C3A. Combining the broad experience from the industrial series, excellent performance and outstanding quality standards well beyond AEC Q101, these series are first choice, if you plan to grab share in the rapidly growing on-board charger and DC-DC converter markets.

CoolMOS™ product list

	CoolMOS™ series	Launch date	Position/characteristics	Applications
Price/performance	C3	2001	General purpose, easy to use series	Cost/performance PFC, PWM hard switching topologies and soft switching resonant topologies
	P6	2012	Price/performance technology with highest efficiency	Price/performance PFC PWM hard switching and soft switching resonant topologies
	CE	2012	Cost optimized platform conceived for price sensitive applications such as consumer (LCD, LED, PDP TV), lighting and PC power	Price/performance PFC and PWM stage in LLC topologies (resonant switching) and TTF topologies (hard switching)
	600 V P7	2017	Price/performance technology with highest efficiency	Price/performance PFC PWM hard switching and soft switching resonant topologies
	700 V P7	2017	Best-in-class performance, state-of-the-art in ease-of-use and designed for consumer applications	Price/performance technology for low power SMPS market optimized for flyback topologies
	800 V P7	2017	Best-in-class performance, state-of-the-art in ease-of-use and designed for consumer applications	Price/performance technology for low power SMPS market optimized for flyback topologies
Fast body diodes series	CFD2	2011	Replacement for CFD series Improved cost performance, light load efficiency and ease-of-use in EMI and low voltage overshoot	Soft switching resonant topologies with hard commutation requirements requiring a fast body diode
	CFD7	2017	Successor to CFD2 offering improved efficiency, BiC Q_{rr} and enabling highest power density.	Soft switching resonant topologies with hard commutation requirements requiring a fast body diode
	CFDA	2012	Automotive qualified fast body diode part. Same performance as CFD2	Unidirectional and bidirectional DC-DC converter, battery charger, HID lighting
Best-in-class	CP	2005	Aimed at high efficiency hard switching topologies	High efficiency PFC
	650 V C7	2012	Best-in-class $R_{DS(on)}$ /package, for hard switching topologies such as PFC with highest efficiency	Best-in-class efficiency SMPS PFC and solar boost
	600 V C7	2015	Best-in-class $R_{DS(on)}$ /packages, for hard and soft switching topologies such as PFC and high-end LLC	Best-in-class efficiency SMPS PFC/ LLC and solar boost/resonant
	650 V G7	2016	Benefits in efficiency, power density and manufacturing cost reduction with high quality and easy to use part	High quality and easy to use for hard switching topologies
	600 V G7	2017	Benefits in efficiency, power density and manufacturing cost reduction with high quality and easy to use part	High quality and easy to use for hard switching topologies and excellent performance in resonant topologies such as LLC

500 V CoolMOS™ CP



$R_{DS(on)}$ [mΩ]	TO-220	TO-220 FullPAK	TO-247	TO-252 (DPAK)	TO-262 (I ² PAK)	TO-263 (D ² PAK)	TO-251 (IPAK Short Lead)
140	IPP50R140CP	IPA50R140CP	IPW50R140CP			IPB50R140CP	
199	IPP50R199CP	IPA50R199CP				IPB50R199CP	
250	IPP50R250CP	IPA50R250CP	IPW50R250CP				
299	IPP50R299CP						
350	IPP50R350CP	IPA50R350CP			IP150R350CP		
399	IPP50R399CP			IPD50R399CP	IP150R399CP		
520	IPP50R520CP			IPD50R520CP			IPSS50R520CP

500 V CoolMOS™ CE **ACTIVE & PREFERRED**

$R_{DS(on)}$ [mΩ]	TO-220	TO-220 FullPAK	TO-247	TO-252 (DPAK)	TO-251 (IPAK)	TO-251 (IPAK Short Lead)	SOT-223	TO-220 FullPAK Narrow Lead
190	IPP50R190CE	IPA50R190CE						
280	IPP50R280CE	IPA50R280CE		IPD50R280CE				
380	IPP50R380CE	IPA50R380CE		IPD50R380CE				
500		IPA50R500CE		IPD50R500CE				IPAN50R500CE
650				IPD50R650CE			IPN50R650CE	
800		IPA50R800CE		IPD50R800CE			IPN50R800CE	
950		IPA50R950CE		IPD50R950CE			IPN50R950CE	
1400				IPD50R1K4CE			IPN50R1K4CE	
2000				IPD50R2K0CE			IPN50R2K0CE	
3000				IPD50R3K0CE			IPN50R3K0CE	

www.infineon.com/coolmos-500V
www.infineon.com/500v-ce

600 V CoolMOS™ CE



R _{DS(on)} [mΩ]	TO-220 FullPAK	TO-220 FullPAK Wide Creepage	TO-247	TO-252 (DPAK)	TO-251 (IPAK)	TO-251 (IPAK Short Lead)	SOT-223	TO-220 FullPAK Narrow Lead
190		IPAW60R190CE						
280		IPAW60R280CE						
380		IPAW60R380CE						
400	IPA60R400CE			IPD60R400CE		IPS60R400CE		
460	IPA60R460CE			IPD60R460CE		IPS60R460CE		
600		IPAW60R600CE						
650	IPA60R650CE			IPD60R650CE		IPS60R650CE		IPAN60R650CE
800				IPD60R800CE		IPS60R800CE		IPAN60R800CE
1000	IPA60R1K0CE			IPD60R1K0CE	IPU60R1K0CE	IPS60R1K0CE	IPN60R1K0CE	
1500	IPA60R1K5CE			IPD60R1K5CE	IPU60R1K5CE	IPS60R1K5CE	IPN60R1K5CE	
2100				IPD60R2K1CE	IPU60R2K1CE	IPS60R2K1CE	IPN60R2K1CE	
3400				IPD60R3K4CE		IPS60R3K4CE	IPN60R3K4CE	

600 V CoolMOS™ P6



R _{DS(on)} [mΩ]	TO-220	TO-263 (D ⁺ PAK)	TO-220 FullPAK	TO-247	TO-247 4pin	TO-252 (DPAK)	ThinPAK 5x6	ThinPAK 8x8
41				IPW60R041P6				
70				IPW60R070P6	IPZ60R070P6			
99	IPP60R099P6		IPA60R099P6	IPW60R099P6	IPZ60R099P6			
125	IPP60R125P6		IPA60R125P6	IPW60R125P6				
160	IPP60R160P6	IPB60R160P6	IPA60R160P6	IPW60R160P6				
180								IPL60R180P6
190	IPP60R190P6		IPA60R190P6	IPW60R190P6				
210								IPL60R210P6
230		IPB60R230P6	IPA60R230P6					
255								
280	IPP60R280P6	IPB60R280P6	IPA60R280P6	IPW60R280P6				
330/360		IPB60R330P6					IPL60R360P6S	
380			IPA60R380P6			IPD60R380P6		
600		IPB60R600P6	IPA60R600P6			IPD60R600P6		
650							IPL60R650P6S	

600 V CoolMOS™ C7 **ACTIVE & PREFERRED**

R _{DS(on)} [mΩ]	TO-220	TO-263 (D ⁺ PAK)	TO-220 FullPAK	TO-247	TO-247 4pin	TO-252 (DPAK)	ThinPAK 8x8
17				IPW60R017C7	IPZ60R017C7		
40	IPP60R040C7	IPB60R040C7		IPW60R040C7	IPZ60R040C7		
60	IPP60R060C7	IPB60R060C7	IPA60R060C7	IPW60R060C7	IPZ60R060C7		
65							IPL60R065C7
99	IPP60R099C7	IPB60R099C7	IPA60R099C7	IPW60R099C7	IPZ60R099C7		
104							IPL60R104C7
120	IPP60R120C7	IPB60R120C7	IPA60R120C7	IPW60R120C7			
125							IPL60R125C7
180	IPP60R180C7	IPB60R180C7	IPA60R180C7	IPW60R180C7		IPD60R180C7	
185							IPL60R185C7

600 V CoolMOST™ C7 Gold (G-series) **ACTIVE & PREFERRED**

R _{DS(on)} [mΩ]	TO -220	TO-Leadless (TOLL)	TO-220 FullPAK	TO-247	TO-252 (Quadruple DPAK)	TO-247 4 pin	TO-252 (Double DPAK)	ThinPAK 8x8
28		IPT60R028G7			IPDQ60R028G7*			
50		IPT60R050G7			IPDQ60R050G7*		IPDD60R050G7*	
80		IPT60R080G7			IPDQ60R080G7*		IPDD60R080G7*	
102		IPT60R102G7			IPDQ60R102G7*		IPDD60R102G7*	
125		IPT60R125G7					IPDD60R125G7*	
150		IPT60R150G7					IPDD60R150G7*	
190							IPDD60R190G7*	

600 V CoolMOST™ P7 **ACTIVE & PREFERRED**

Industrial grade



R _{DS(on)} [mΩ]	TO -220	TO-220 FullPAK	TO-247	TO-247 4pin asymmetric leads	TO-252 (DPAK)	TO-220 FullPAK Wide Creepage	ThinPAK 8x8	D ² PAK
37			IPW60R037P7	IPZA60R037P7				
60	IPP60R060P7	IPA60R060P7	IPW60R060P7	IPZA60R060P7				IPB60R060P7
65							IPL60R065P7	
80	IPP60R080P7	IPA60R080P7	IPW60R080P7	IPZA60R080P7			IPL60R085P7	IPB60R080P7
99	IPP60R099P7	IPA60R099P7	IPW60R099P7	IPZA60R099P7				IPB60R099P7
105							IPL60R105P7	
120	IPP60R120P7	IPA60R120P7	IPW60R120P7	IPZA60R120P7				IPB60R120P7
125							IPL60R125P7	
180	IPP60R180P7	IPA60R180P7	IPW60R180P7	IPZA60R180P7	IPD60R180P7			IPB60R180P7
185							IPL60R185P7	
280	IPP60R280P7	IPA60R280P7			IPD60R280P7			IPB60R280P7
285							IPL60R285P7	
360	IPP60R360P7	IPA60R360P7			IPD60R360P7			IPB60R360P7
365							IPL60R365P7	
600	IPP60R600P7	IPA60R600P7			IPD60R600P7			

600 V CoolMOST™ P7 **ACTIVE & PREFERRED**

Standard grade



R _{DS(on)} [mΩ]	TO -220	TO-220 FullPAK	TO-247	TO-247 4pin	TO-252 (DPAK)	TO-220 FullPAK Wide Creepage	ThinPAK 8x8	SOT-223
180		IPA60R180P7S			IPD60R180P7S	IPAW60R180P7S		
280		IPA60R280P7S			IPD60R280P7S	IPAW60R280P7S		
360		IPA60R360P7S			IPD60R360P7S	IPAW60R360P7S		IPN60R360P7S
600		IPA60R600P7S			IPD60R600P7S	IPAW60R600P7S		IPN60R600P7S

600 V CoolMOST™ CFD7 **ACTIVE & PREFERRED**

R _{DS(on)} [mΩ]	TO-220	TO-263 (D ² PAK)	TO-220 FullPAK	TO-247	TO-247 4pin	TO-252 (DPAK)	ThinPAK 8x8
31				IPW60R31CFD7			
40				IPW60R40CFD7			
55				IPW60R55CFD7			
70	IPP60R70CFD7			IPW60R70CFD7			
75							IPL60R75CFD7
90	IPP60R90CFD7			IPW60R90CFD7			
125	IPP60R125CFD7		IPA60R125CFD7	IPW60R125CFD7			
170	IPP60R170CFD7		IPA60R170CFD7	IPW60R170CFD7		IPD60R170CFD7	
185							IPL60R185CFD7
280	IPP60R280CFD7		IPA60R280CFD7			IPD60R280CFD7	

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www.infineon.com/600v-p7

650 V CoolMOS™ CFD2



$R_{DS(on)}$ [mΩ]	TO-220	TO-262 (IPAK)	TO-263 (D ² PAK)	TO-220 FullPAK	TO-247	TO-252 (DPAK)	ThinPAK 8x8
41					IPW65R041CFD		
80					IPW65R080CFD		
110	IPP65R110CFD	IPI65R110CFD	IPB65R110CFD	IPA65R110CFD	IPW65R110CFD		
150	IPP65R150CFD	IPI65R150CFD	IPB65R150CFD	IPA65R150CFD	IPW65R150CFD		
165							IPL65R165CFD
190	IPP65R190CFD	IPI65R190CFD	IPB65R190CFD	IPA65R190CFD	IPW65R190CFD		
210							IPL65R210CFD
310	IPP65R310CFD	IPI65R310CFD	IPB65R310CFD	IPA65R310CFD	IPW65R310CFD		
340							IPL65R340CFD
420	IPP65R420CFD	IPI65R420CFD	IPB65R420CFD	IPA65R420CFD	IPW65R420CFD	IPD65R420CFD	
460							IPL65R460CFD
660	IPP65R660CFD	IPI65R660CFD	IPB65R660CFD	IPA65R660CFD	IPW65R660CFD	IPD65R660CFD	
725							IPL65R725CFD
950						IPD65R950CFD	
1400						IPD65R1K4CFD	

650 V CoolMOS™ CE **ACTIVE & PREFERRED**

$R_{DS(on)}$ [mΩ]	TO-220	TO-220 FullPAK	TO-247	TO-252 (DPAK)	TO-251 (IPAK)	TO-251 (IPAK Short Lead)	SOT-223	TO-220 FullPAK Narrow Lead
400		IPA65R400CE		IPD65R400CE		IPS65R400CE		
650		IPA65R650CE		IPD65R650CE		IPS65R650CE		IPAN65R650CE
1000		IPA65R1K0CE		IPD65R1K0CE		IPS65R1K0CE		
1500		IPA65R1K5CE		IPD65R1K5CE			IPN65R1K5CE	

650 V CoolMOST™ C7 **ACTIVE & PREFERRED**

R _{DS(on)} [mΩ]	TO-220	TO-263 (D ² PAK)	TO-220 FullPAK	TO-247	TO-247 4pin	TO-252 (DPAK)	ThinPAK 8x8
19				IPW65R019C7	IPZ65R019C7		
33							
45	IPP65R045C7	IPB65R045C7	IPA65R045C7	IPW65R045C7	IPZ65R045C7		
65	IPP65R065C7	IPB65R065C7	IPA65R065C7	IPW65R065C7	IPZ65R065C7		
70							IPL65R070C7
95	IPP65R095C7	IPB65R095C7	IPA65R095C7	IPW65R095C7	IPZ65R095C7		
99							IPL65R099C7
105							
125	IPP65R125C7	IPB65R125C7	IPA65R125C7	IPW65R125C7			
130							IPL65R130C7
190	IPP65R190C7	IPB65R190C7	IPA65R190C7	IPW65R190C7		IPD65R190C7	
195							IPL65R195C7
225	IPP65R225C7	IPB65R225C7	IPA65R225C7			IPD65R225C7	
230							IPL65R230C7

650 V CoolMOST™ C7 Gold (G-series) **ACTIVE & PREFERRED**

R _{DS(on)} [mΩ]	TO -220	TO-Leadless (TOLL)	TO-263 (D2PAK)	TO-220 FullPAK	TO-247	TO -252 (DPAK)
33		IPT65R033G7				
105		IPT65R105G7				
195		IPT65R195G7				

700 V CoolMOST™ CE



R _{DS(on)} [mΩ]	TO-220	TO-220 FullPAK Wide Creepage	TO-262 (I ² PAK)	TO-251 (IPAK Short Lead with ISO Standoff)	TO-252 (DPAK)	TO-251 (IPAK)	TO-251 (IPAK Short Lead)	SOT-223
600		IPAW70R600CE		IPSA70R600CE	IPD70R600CE			
950		IPAW70R950CE	IPi70R950CE	IPSA70R950CE	IPD70R950CE		IPS70R950CE	
1000								IPN70R1K0CE
1400				IPSA70R1K4CE	IPD70R1K4CE		IPS70R1K4CE	
1500								IPN70R1K5CE
2000				IPSA70R2K0CE	IPD70R2K0CE		IPS70R2K0CE	IPN70R2K0CE
2100								

700 V CoolMOST™ P7 **ACTIVE & PREFERRED**

R _{DS(on)} [mΩ]	TO -220	TO - 262 (I ² PAK)	TO-251 (IPAK Short Lead)	TO-220 FullPAK	TO-247	TO-252 (DPAK)	TO-220 FullPAK narrow lead	TO-251 (IPAK Short Lead w/ ISO Standoff)	SOT-223
360			IPS70R360P7S	IPA70R360P7S		IPD70R360P7S	IPAN70R360P7S	IPSA70R360P7S	IPN70R360P7S
450				IPA70R450P7S			IPAN70R450P7S	IPSA70R450P7S	IPN70R450P7S
600			IPS70R600P7S	IPA70R600P7S		IPD70R600P7S	IPAN70R600P7S	IPSA70R600P7S	IPN70R600P7S
750				IPA70R750P7S			IPAN70R750P7S	IPSA70R750P7S	IPN70R750P7S
900			IPS70R900P7S	IPA70R900P7S		IPD70R900P7S	IPAN70R900P7S	IPSA70R900P7S	IPN70R900P7S
1200								IPSA70R1K2P7S	IPN70R1K2P7S
1400			IPS70R1K4P7S			IPD70R1K4P7S		IPSA70R1K4P7S	IPN70R1K4P7S
2000								IPSA70R2K0P7S	IPN70R2K0P7S

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www.infineon.com/ce
www.infineon.com/700v-p7

800 V CoolMOS™ C3



R _{DS(on)} [mΩ]	TO-220	TO-262 (I ² PAK)	TO-263 (D ² PAK)	TO-220 FullPAK	TO-247	TO-252 (DPAK)
85					SPW55N80C3	
290	SPP17N80C3		SPB17N80C3	SPA17N80C3	SPW17N80C3	
450	SPP11N80C3			SPA11N80C3	SPW11N80C3	
650	SPP08N80C3			SPA08N80C3		
900	SPP06N80C3			SPA06N80C3		SPD06N80C3
1300	SPP04N80C3			SPA04N80C3		SPD04N80C3
2700				SPA02N80C3		SPD02N80C3

800 V CoolMOS™ CE



R _{DS(on)} [mΩ]	TO-220	TO-220 FullPAK	TO-247	TO-252 (DPAK)	TO-251 (IPAK)	TO-251 (IPAK Short Lead)
310		IPA80R310CE				
460		IPA80R460CE				
650		IPA80R650CE				
1000		IPA80R1K0CE		IPD80R1K0CE	IPU80R1K0CE	
1400		IPA80R1K4CE		IPD80R1K4CE		
2800				IPD80R2K8CE		

800 V CoolMOS™ P7 **ACTIVE & PREFERRED**

R _{DS(on)} [mΩ]	TO -220	TO-220 FullPAK	TO-247	TO-252 (DPAK)	TO-251 (IPAK)	TO-251 (IPAK Short Lead)	SOT-223	TO-220 FullPAK lead narrow
280	IPP80R280P7	IPA80R280P7	IPW80R280P7	IPD80R280P7				IPAN80R280P7
360	IPP80R360P7	IPA80R360P7	IPW80R360P7	IPD80R360P7				IPAN80R360P7
450	IPP80R450P7	IPA80R450P7		IPD80R450P7				IPAN80R450P7
600	IPP80R600P7	IPA80R600P7		IPD80R600P7	IPU80R600P7	IPS80R600P7	IPN80R600P7	
750	IPP80R750P7	IPA80R750P7		IPD80R750P7	IPU80R750P7	IPS80R750P7	IPN80R750P7	
900/950	IPP80R900P7	IPA80R900P7		IPD80R900P7	IPU80R900P7	IPS80R900P7	IPN80R950P7	
1200	IPP80R1K2P7	IPA80R1K2P7		IPD80R1K2P7	IPU80R1K2P7	IPS80R1K2P7	IPN80R1K2P7	
1400	IPP80R1K4P7	IPA80R1K4P7		IPD80R1K4P7	IPU80R1K4P7	IPS80R1K4P7	IPN80R1K4P7	
2000				IPD80R2K0P7	IPU80R2K0P7	IPS80R2K0P7	IPN80R2K0P7	
2400				IPD80R2K4P7	IPU80R2K4P7	IPS80R2K4P7	IPN80R2K4P7	
3300				IPD80R3K3P7	IPU80R3K3P7		IPN80R3K3P7	
4500				IPD80R4K5P7	IPU80R4K5P7		IPN80R4K5P7	

900 V CoolMOS™ C3 **ACTIVE & PREFERRED**

R _{DS(on)} [mΩ]	TO-220	TO-262 (I ² PAK)	TO-263 (D ² PAK)	TO-220 FullPAK	TO-247	TO-252 (DPAK)
120					IPW90R120C3	
340	IPP90R340C3	IPI90R340C3	IPB90R340C3	IPA90R340C3	IPW90R340C3	
500		IPI90R500C3		IPA90R500C3	IPW90R500C3	
800	IPP90R800C3			IPA90R800C3		
1000	IPP90R1K0C3			IPA90R1K0C3		
1200	IPP90R1K2C3	IPI90R1K2C3		IPA90R1K2C3		IPD90R1K2C3

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CoolMOS™ automotive



650 V CoolMOS™ CFDA ACTIVE & PREFERRED

Product type	$R_{DS(on)}$ @ $T_J = 25^\circ\text{C}$ $V_{GS} = 10\text{ V}$ [mΩ]	$I_{D,max.}$ @ $T_J = 25^\circ\text{C}$ [A]	$I_{D,puls,max.}$ [A]	$V_{GS(th),min.-max.}$ [V]	$Q_{G,typ.}$ [nC]	$R_{thJC,max.}$ [K/W]	Package
IPD65R420CFDA	420	8.7	27	3.5...4.5	32	1.5	TO-252
IPD65R660CFDA	660	6	17	3.5...4.5	20	2	TO-252
IPB65R110CFDA	110	31.2	99.6	3.5...4.5	11	0.45	TO-263
IPB65R150CFDA	150	22.4	72	3.5...4.5	86	0.64	TO-263
IPB65R190CFDA	190	17.5	57.2	3.5...4.5	68	0.83	TO-263
IPB65R310CFDA	310	11.4	34.4	3.5...4.5	41	1.2	TO-263
IPB65R660CFDA	660	6	17	3.5...4.5	20	2	TO-263
IPP65R110CFDA	110	31.2	99.6	3.5...4.5	11	0.45	TO-220
IPP65R150CFDA	150	22.4	72	3.5...4.5	86	0.64	TO-220
IPP65R190CFDA	190	17.5	57.2	3.5...4.5	68	0.83	TO-220
IPP65R310CFDA	310	11.4	34.4	3.5...4.5	41	1.2	TO-220
IPP65R660CFDA	660	6	17	3.5...4.5	20	2	TO-220
IPW65R048CFDA	48	63.3	228	3.5...4.5	27	0.25	TO-247
IPW65R080CFDA	80	43.3	127	3.5...4.5	16	0.32	TO-247
IPW65R110CFDA	110	31.2	99.6	3.5...4.5	11	0.45	TO-247
IPW65R150CFDA	150	22.4	72	3.5...4.5	86	0.64	TO-247
IPW65R190CFDA	190	17.5	57.2	3.5...4.5	68	0.83	TO-247



600 V CoolMOS™ CPA ACTIVE & PREFERRED

Product type	$R_{DS(on)}$ @ $T_J = 25^\circ\text{C}$ $V_{GS} = 10\text{ V}$ [mΩ]	$I_{D,max.}$ @ $T_J = 25^\circ\text{C}$ [A]	$I_{D,puls,max.}$ [A]	$V_{GS(th),min.-max.}$ [V]	$Q_{G,typ.}$ [nC]	$R_{thJC,max.}$ [K/W]	Package
IPB60R099CPA	99	31	93	-20 ... 20	60	0.5	TO-263
IPB60R199CPA	199	16	51	-20 ... 20	32	0.9	TO-263
IPB60R299CPA	299	11	34	-20 ... 20	22	1.3	TO-263
IPP60R099CPA	99	31	93	-20 ... 20	60	0.5	TO-220
IPW60R045CPA	45	60	230	-20 ... 20	150	0.29	TO-247
IPW60R075CPA	75	39	130	-20 ... 20	87	0.4	TO-247
IPW60R099CPA	99	31	93	-20 ... 20	60	0.5	TO-247
IPi60R099CPA	99	31	93	-20 ... 20	60	0.5	TO-262

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1EDN MOSFET EiceDRIVER™ family

Rugged, cool and fast, 1-channel low-side 4/8 A gate driver ICs

1EDN family overview

1-channel MOSFET gate driver ICs are the crucial link between control ICs and powerful MOSFET and GaN switching devices. Gate driver ICs enable high system level efficiencies, excellent power density and consistent system robustness.

1EDN family: Fast, precise, strong and compatible

- › Highly efficient SMPS enabled by 5 ns short slew rates and ± 5 ns propagation delay precision for fast MOSFET and GaN switching
- › Separate source and sink outputs simplify the application design
- › Industry standard packages and pinout ease system design upgrades

1EDN family: The new reference in ruggedness and low power dissipation

- › -10 V robustness of control and enable inputs provides crucial safety margin when driving pulse transformers
- › 5 A reverse output current robustness eliminates the need for Schottky switching diodes when driving MOSFETs in TO-220 and TO-247 packages
- › Cool driver ICs thanks to true rail-to-rail low impedance output stages
- › 4 V and 8 V UVLO (Under Voltage Lock Out) options for instant MOSFET protection during start-up and under abnormal conditions

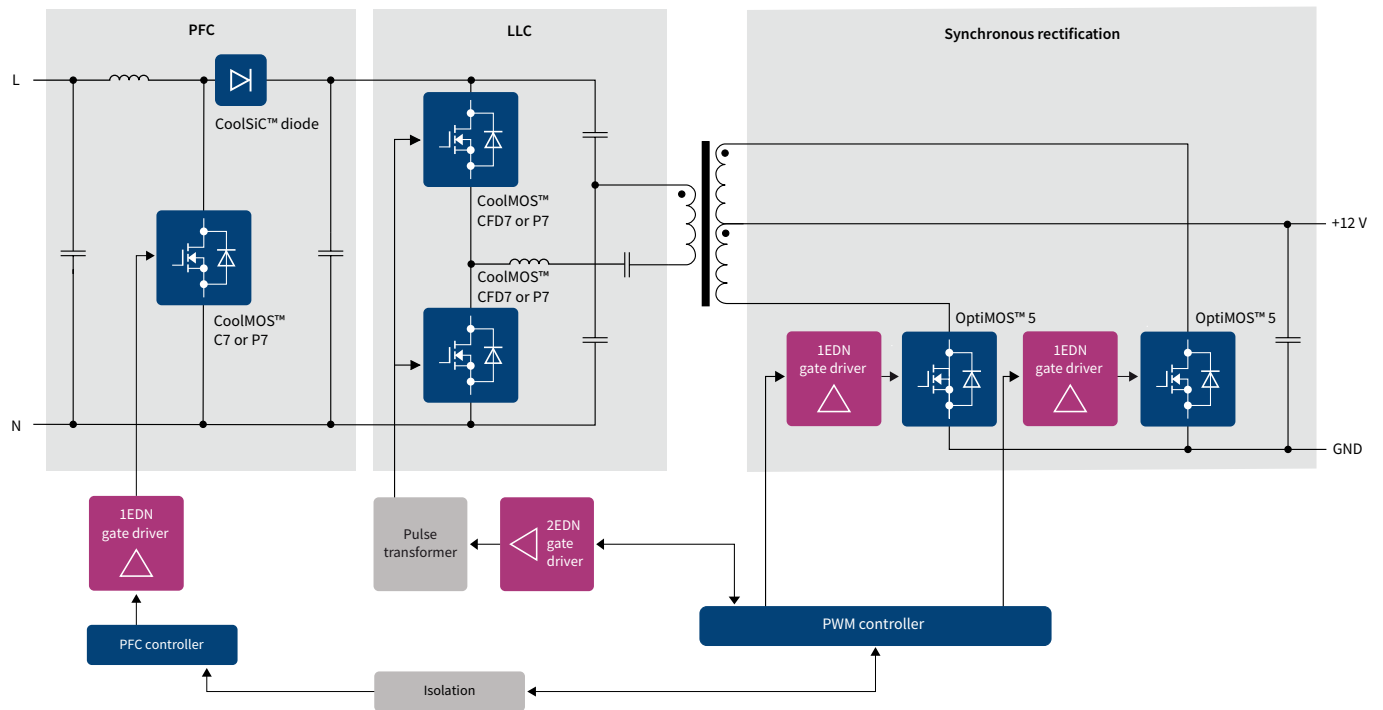
Applications

- › PFC
- › Synchronous rectification
- › DC-DC converters
- › Telecom bricks
- › Power tools
- › Industrial SMPS
- › Motor control
- › Wireless charging



Product features	Product benefits	System benefits
› 4 A source/8 A sink current › 6 ns rise/5 ns fall times › ± 5 ns propagation delay precision	› Fast Miller plateau transition › Precise timing	› High power efficiency – in hard switching PFC with SiC diode – in half-bridges and synchronous rectifications
› True rail-to-rail low impedance output stages	› Low power dissipation in driver IC	› Cooler driver IC operation › Higher MOSFET drive capability
› 4 V and 8 V UVLO options › 19 ns propagation delay	› Fast and reliable MOSFET turn-off, independent of control IC	› Instant MOSFET protection during start-up and under abnormal operation
› -10 V robustness of inputs	› Increased GND-bounce robustness	› Crucial safety margin to drive pulse transformer
› 5 A reverse output current robustness	› Saves switching diodes	› Increases power density › BOM savings
› Industry standard pinout and packages	› Straight forward design upgrades	› Short time-to-market

Application overview 800 W switched mode power supply



2EDN MOSFET EiceDRIVER™ family

Rugged, cool and fast, 2-channel low-side 5 A driver ICs

2EDN family overview

- › 2-channel MOSFET driver ICs are the crucial link between control ICs and powerful MOSFET and GaN switching devices. MOSFET driver ICs enable high system level efficiencies, excellent power density and consistent system robustness.

2EDN family: Fast, precise, strong and compatible

- › Highly efficient SMPS enabled by 5 ns short slew rates and 10 ns propagation delay precision for fast MOSFET and GaN switching
- › Numerous deployment options due to two 5 A channels. 1 ns channel-to-channel accuracy to use two channels in parallel
- › Industry standard packages and pinout ease system design upgrades

2EDN family: The new reference in ruggedness and low power dissipation

- › 4 V and 8 V UVLO (Under Voltage Lock Out) options for instant MOSFET protection under abnormal conditions
- › -10 V robustness of control and enable inputs provides crucial safety margin when driving pulse transformers or driving MOSFETs in TO-220 and TO-247 packages
- › 5 A reverse output current robustness eliminates the need for Schottky switching
- › Diodes and reduces bill-of-material
- › Cool driver ICs from true rail-to-rail low impedance output stages

Applications

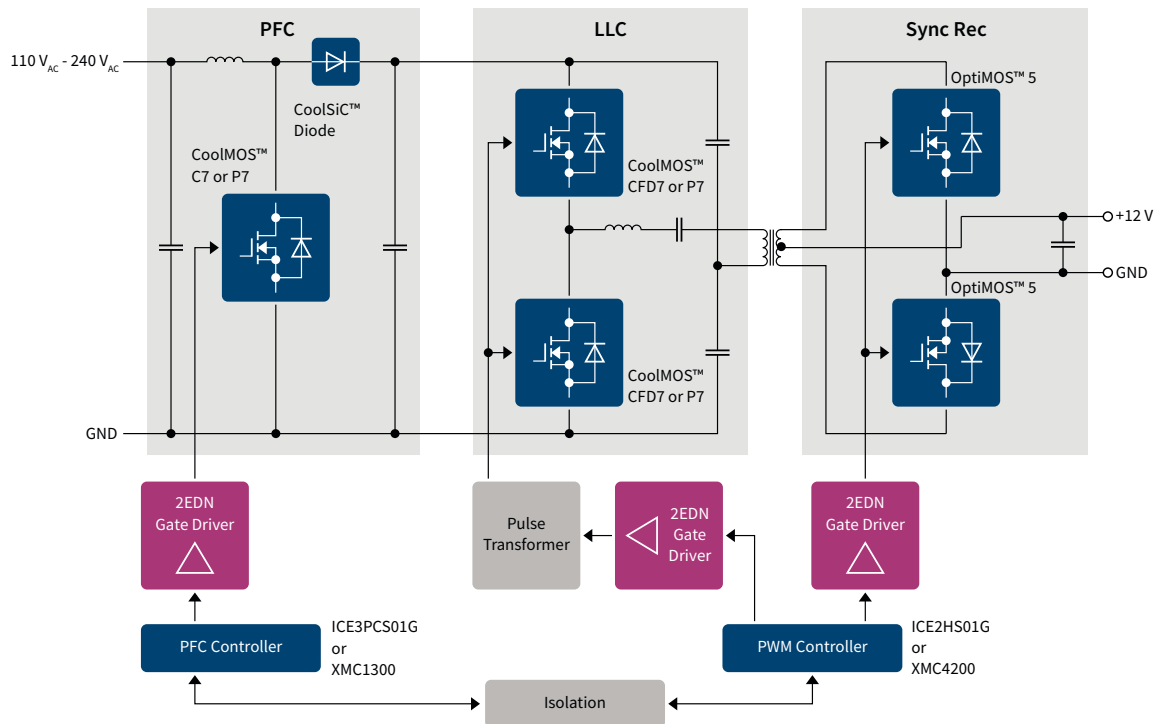
- › Server
- › Telecom
- › DC-DC converters
- › Bricks
- › Power tools
- › Industrial SMPS
- › Motor control
- › Solar



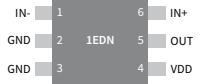
Product features	Product benefits	System benefits
› 5 A source/sink current › 5 ns rise/fall times › <10 ns propagation delay precision	› Fast Miller plateau transition › Precise timing	› High power efficiency – in hard switching PFC with SiC Diode – in half-bridges and synchronous rectifications
› True rail-to-rail low impedance output stages	› Low power dissipation in Driver IC	› Cooler driver IC operation › Higher MOSFET drive capability
› 4 V and 8 V UVLO options › 19 ns propagation delay for both control and enable inputs	› Fast and reliable MOSFET turn-off, independent of control IC	› Instant MOSFET protection under abnormal operation
› -10 V robustness of control and enable inputs	› Increased GND-bounce robustness	› Crucial safety margin to drive pulse transformer
› 5 A reverse output current robustness	› Saves switching diodes	› Increases power density › BOM savings
› 2 independent channels › Excellent 1 ns channel-to-channel accuracy	› Option to increase drive current by truly ncurrent switching of 2 channels	› One IC covering many applications
› Industry standard pinout and packages	› Straight forward design upgrades	› Short time-to-market



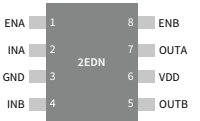
Application overview 800 W 130 kHz switched mode power supply



1EDN Product portfolio

Package		UVLO	Product name	Orderable part number	Pinout
	SOT-23 6pin	4 V	1EDN7511B	1EDN7511BXUSA1	
		8 V	1EDN8511B	1EDN8511BXUSA1	
	SOT-23 5pin	4 V	1EDN7512B	1EDN7512BXTSA1	
	WSO6 6pin	4 V	1EDN7512G	1EDN7512GXTMA1	

2EDN Product portfolio

Package		UVLO	Inputs	Product name	Orderable part number	Industry standard pinout configuration
	SOT-23 6pin	4 V	Direct	2EDN7524F	2EDN7524FXTMA1	
			Inverted	2EDN7523F	2EDN7523FXTMA1	
		8 V	Direct	2EDN8524F	2EDN8524FXTMA1	
			Inverted	2EDN8523F	2EDN8523FXTMA1	
	SOT-23 5pin	4 V	Direct	2EDN7524R	2EDN7524RXUMA1	
			Inverted	2EDN7523R	2EDN7523RXUMA1	
		8 V	Direct	2EDN8524R	2EDN8524RXUMA1	
			Inverted	2EDN8523R	2EDN8523RXUMA1	
	WSO6 6pin	4 V	Direct	2EDN7524G	2EDN7524GXTMA1	
			Inverted	2EDN7523G	2EDN7523GXTMA1	

Notes



Infineon support for high voltage MOSFETs and industrial gate driver ICs

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