



Every switch needs a driver

Gate driver application matrix

www.infineon.com/gatedriver





Home Appliances

Discover the next level of power and efficiency

Infineon's gate driver ICs utilize level-shift silicon-on-insulator technology (SOI), and level-shift junction isolation technology (JI) to meet the high performance requirements in home appliance applications.

Recommended Gate Drivers



Home Appliances	General	Air Conditioner (Residential)	Commercial Lighting	Electric Tools (Battery)	Hood Fan/ Ceiling Fan/ Freezer Fan	Power Tools (AC)	Refrigerator/ Washer/ Dryer	Vacuum Cleaner
PFC	<ul style="list-style-type: none"> ● IRS4427S ● IRS44273L ● 2EDN8524F 		<ul style="list-style-type: none"> ● IRS44273L ● 2EDN8524F ● 1EDN8511B 				<ul style="list-style-type: none"> ● IRS4427S ● IRS44273L ● 2EDN8524F 	
SMPS	ICE5QR4770AZ (CoolSET™)	<ul style="list-style-type: none"> ● 2EDN8524F ● IRS4427S ● IRS2153(1)D 						
DC-DC	<ul style="list-style-type: none"> ● 1EDI20N12AF 							
Inverter (<1 kW)		<ul style="list-style-type: none"> ● 6EDL04I06PT ● IR2136S ● IRS2890DS ● 2ED2304S06F 		<ul style="list-style-type: none"> ● 6EDL04N02PR ● IRS2007S ● IRS2301S 	<ul style="list-style-type: none"> ● 6EDL04I06PT ● IR2136S ● 2ED2304S06F 	<ul style="list-style-type: none"> ● 6EDL04I06PT ● IR2136S ● 2EDL05I06PF 	<ul style="list-style-type: none"> ● 6EDL04I06PT ● IRS2890DS ● 2ED2304S06F 	
Inverter (<3 kW)						<ul style="list-style-type: none"> ● IR2235 ● 2EDL23I06PJ ● IR2214SS 		
SR Motor Inverter							<ul style="list-style-type: none"> ● 2EDL05I06PF ● IRS2181(4) ● IRS2890DS 	
Half-bridge Topology			<ul style="list-style-type: none"> ● 2EDL05N06PF ● 2ED2304S06F ● IRS2153(1)D 					
HS-Buck			<ul style="list-style-type: none"> ● IRS2117 ● IRS25752L ● IRS20752L 					
Sync-Buck			<ul style="list-style-type: none"> ● 2EDL05N06PF ● 2ED2304S06F 					



Industrial

Reliable, high quality solutions for the most rugged situations

Infineon's gate driver ICs are the expert's choice. With the breadth and depth of the portfolio, customers can quickly design and build efficient and robust systems for every industrial application.

Recommended Gate Drivers



Industrial	Air Conditioner (Commercial)	Automatic Door Opening Systems	Building Fans & Pumps	Commercial Sewing Machine	Drives	Forklift Truck/CAV	UPS
Compressor/Fan/CAC	<ul style="list-style-type: none"> ● 1ED020112-F2 ● 1ED110112MF ● 2ED020112-F2 						
Inverter (<5 kW)		<ul style="list-style-type: none"> ● 6EDL04106PT ● IR2136S ● IRS2103 	<ul style="list-style-type: none"> ● 6EDL04(I,N)06PT ● 2EDL23106PJ ● IR22145S 	<ul style="list-style-type: none"> ● 6EDL04106PT ● IR2136S ● IRS2334 	<ul style="list-style-type: none"> ● 6EDL04106PT ● IR2133 ● 2EDL23106PJ 		<ul style="list-style-type: none"> ● 1EDI60112AF ● 2EDL23106PJ ● IR7106S
Inverter (<30 kW)			<ul style="list-style-type: none"> ● 1EDI30112MF ● 1EDI60112AF ● 1EDU20112SV 		<ul style="list-style-type: none"> ● 1EDI40112AF ● 1ED020112-BT ● 2ED020112-FI 	<ul style="list-style-type: none"> ● 1EDI60N12AF ● 2EDL23106PJ ● IRS2127(1) 	
Inverter (<200 kW)					<ul style="list-style-type: none"> ● 1EDI60112AF ● 1ED020112-B2 ● 1EDU20112SV 	<ul style="list-style-type: none"> ● 1EDU20112SV ● 1ED020112-B2 ● 1EDI60112AF 	<ul style="list-style-type: none"> ● 1EDI60112AF ● 1ED020112-F2 ● 1EDU20112SV
PFC			<ul style="list-style-type: none"> ● IRS4427S ● IRS44273L ● 2EDN8524F 				<ul style="list-style-type: none"> ● IRS4427S ● IRS44273L ● 2EDN8524F
DC-DC (1 kW - 100 kW)							<ul style="list-style-type: none"> ● 2EDL05N06PJ ● 2EDL23N06PJ ● 1EDI20N12AF ● 1EDI60N12AF
SMPS					<ul style="list-style-type: none"> ● 2EDN8524F ● IR7106S ● IRS2186(4) 		<ul style="list-style-type: none"> ● IRS4427S ● IRS44273L ● 2EDN7524F
Brake Chopper					<ul style="list-style-type: none"> ● 1EDI05I12AF ● 1EDI10I12MF ● IRS44273L 		
Active Bridge Rectifier							<ul style="list-style-type: none"> ● 2ED020112-F2 ● 1ED020112-F2 ● 1ED020112-FT



Mobility & Battery Driven

Full range of best-in-class components

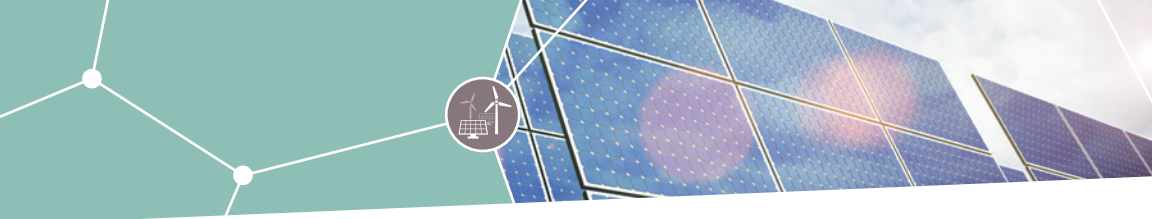
From EV charger and light electric vehicle (LEV) to service robotics and drones, Infineon's family of configurable half-bridge and three-phase gate driver ICs can be combined with powerful Infineon MOSFETs to provide the required power and efficiency. Automotive-specific gate drivers qualified according to AEC-Q100 are also available.

For battery-driven applications, saving battery power is the key. Infineon offers an excellent selection of gate driver ICs providing the highest-possible energy efficiency and top precision.

Recommended Gate Drivers



Mobility & Battery Driven	Drones/ E-Bike/ E-Scooter	EV Charger/ Battery Charger	General Traction	Light Electric Vehicle (LEV)	Lawn Mower/ Vacuum/ Service Robotics
Inverter	<ul style="list-style-type: none"> ● 6EDL04N02PR ● IRS2334 ● IRS2007S 	<ul style="list-style-type: none"> ● IRS2186S 	<ul style="list-style-type: none"> ● 1EDI60112AF ● IR2214SS ● IR2213 	<ul style="list-style-type: none"> ● 6EDL04N02PR ● IR2136S ● 2EDL05N06PF ● IRS2183 	<ul style="list-style-type: none"> ● 6EDL04N02PR
DC-DC		<ul style="list-style-type: none"> ● 1EDI20112AF ● 1EDI40112AF ● IR2214SS 			
PFC		<ul style="list-style-type: none"> ● IRS4427S ● IRS44273L ● 2EDN7524F 			
HB (LLC)		<ul style="list-style-type: none"> ● 1EDI60112AF ● 1EDU20112SV 			
Sync-Buck		<ul style="list-style-type: none"> ● IR2010S 			
BLDC					<ul style="list-style-type: none"> ● 6EDL04N02PR ● IR2136S ● IRS2007S



Renewable Energy

Powering an energy-smart world

Improving efficiency is the number one objective in the field of photovoltaics. Efficiency gains of as little as one percent can still yield enormous returns in renewable energy segment.

Infineon provides a comprehensive portfolio of high-performance gate driver ICs for photovoltaic inverters. By combining EiceDRIVER™ with super-junction MOSFETs such as CoolMOS™, IGBTs, Silicon Carbide (SiC) MOSFET such as CoolSiC™, as well as IGBT and SiC modules, Infineon enables solutions that maximizing uptime and energy production.

Recommended Gate Drivers








Renewable Energy	Heat Pump	Solar Inverter
Inverter (<2 kW)	<ul style="list-style-type: none"> ● 6EDL04106PT ● IR2136S ● 2ED2304S06F 	
Inverter (>2 kW)	<ul style="list-style-type: none"> ● IR2214SS ● IR2213 ● IR2235 ● 1EDI20112AF 	
µInverter Boost		<ul style="list-style-type: none"> ● IRS4427S ● 2EDN7524F ● IRS44273L
µInverter DC-AC		<ul style="list-style-type: none"> ● 2ED2304S06F ● IR2114SS ● 2EDL05N06PJ
String Boost		<ul style="list-style-type: none"> ● 2EDN8524F ● IRS4427S ● 1EDI20N12AF
String Inverter		<ul style="list-style-type: none"> ● 1ED020112-F2 ● IR7106S ● 1EDI60N12AF
Central Boost/SMPS		<ul style="list-style-type: none"> ● 2EDN8524F ● 1EDI60I12AF
Central Inverter		<ul style="list-style-type: none"> ● 1EDI60I12AF ● 1ED020112-F2 ● IR2214SS

+SiC Silicon Carbide Drive Requirements

Ultra-fast switching 1200-V power transistors such as CoolSiC™ MOSFETs can be easier handled by means of isolated gate output sections. Therefore, the following galvanically isolated EiceDRIVER™ ICs based on Infineon's coreless transformer technology are recommended as most suitable.

For a larger selection of isolated gate drivers, refer to the product portfolio overview section of the selection guide. The drivers incorporate most important key features and parameters for SiC driving such as tight propagation delay matching, precise input filters, wide output-side supply range, negative gate voltage capability, and extended CMTI capability.

Product	Part Number	Typical Peak Drive Current	VCC2- VEE2	Typical Propagation Delay	Active Miller Clamp	Other Key Features	Package
1EDI Compact Isolated High-Side Driver Family	● 1EDI20I12MF	3.5 A	20 V	≤ 300 ns	✓	Functional isolation 8 mm creepage clearance; UL 1577 certified with $V_{ISO}=2500$ V(rms) for 1 min	DSO-8 
	● 1EDC20H12AH	3.5 A	40 V	≤ 125 ns	-		DSO-8 
	● 1EDC60H12AH	9.4 A	40 V	≤ 125 ns	-		
	● 1EDC20I12MH	3.5 A	20 V	≤ 300 ns	✓		
1ED-F2 Isolated High-Side Driver with Integrated Protection	● 1ED020I12-F2	2.0 A	28 V	≤ 170 ns	✓	Short circuit clamping; DESAT protection; Active shutdown	DSO-16 
2ED-F2 Isolated Dual High-Side Driver with Integrated Protection	● 2ED020I12-F2	2.0 A	28 V	≤ 170 ns	✓		DSO-36 
1EDU Slew Rate Control (SRC) Isolated High-Side Driver	● 1EDU20I12SV	2.0 A	28 V	≤ 485 ns	✓	Real-time adjustable gate current control; Over-current protection; Soft turn-off shut down; Two-level turn-off; UL 1577 certified with $V_{ISO}=5000$ V(rms) for 1 min	DSO-36 

Every Switch Needs A Driver

Technology leadership

- › Rugged and proven high-voltage processes
- › Coreless transformer technology for galvanic isolation
- › Highest performance and best-in-class protection features

System knowledge

- › Optimum solutions based on detailed understanding of the system
- › Comprehensive range of products for different system requirements

Comprehensive portfolio

- › Over 500 gate driver ICs

Quality

- › Proactive quality management of products and processes
- › Highest reliability for demanding industrial applications

Support

- › Regional application support centers
- › Detailed application notes and evaluation boards
- › Supply continuity for long-term production



Gate Driver Support

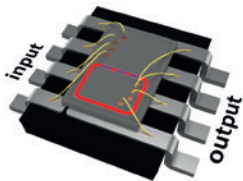
Tools and Materials

- › Infineon Gate Drivers Home Page
- › Selection Guide Brochure
- › Gate Driver Finder Tool
- › Cross Reference Search Tool
- › Simulation Tools

- www.infineon.com/gatedriver
- www.infineon.com/gdbrochure
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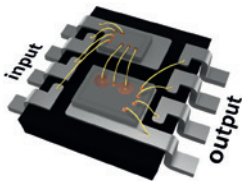


Infineon Gate Driver IC Technologies



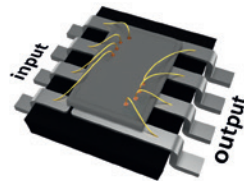
Level-shift junction isolation (JI) & silicon-on-insulator (SOI)

> International Rectifier pioneering junction-isolation technology and new-generation Infineon SOI technology.



Coreless transformer (CT)

> Magnetically-coupled technology for galvanic isolation.



Non-isolated (N-ISO)

> Industry-leading non-isolated mixed-signal low-voltage process technologies.

Driver Configuration			5 V	25 V	100 V	200 V	500 V	600 V	700 V	1200 V
Drivers	1-Channel	High-Side			●	●	●	●		●
		Low-Side	●	●						
	2-Channel	High-Side								●
		Low-Side		●						
		High-Side + Low-Side				●	●	● ●	●	●
		Half-Bridge			●	●		● ● ●	●	● ●
	4-Channel	H Bridge			●					
	6-Channel	Three-Phase Bridge				●		● ●		● ●
System Building Blocks	Current Sense							●		●
	Start-Up						●			

● Non-Isolated (N-ISO)

● Junction Isolation (JI)

● Silicon On Insulator (SOI)

● Coreless Transformer (CT)



Infineon Gate Driver IC Package Options

DSO-8 (SOIC-8N)		DSO-28 (SOIC-28WB)		MQFP-64	
DSO-8 300-mil (SOIC-8WB)		DSO-36		WSON-6	
DSO-14 (SOIC-14N)		DIP-8 (PDIP-8)		WSON-8	
DSO-16 300-mil (SOIC-16WB)		DIP-14 (PDIP-14)		SSOP-24	
DSO-18		DIP-28 (PDIP-28)		TSSOP-28	
DSO-19		SOT23-5		TSSOP-8	
DSO-20 (SOIC-20WB)		SOT23-6		VQFN-14 (MLPQ 4X4 14L)	
VQFN-34 (MLPQ 7X7 34L)		LCC-32 (PLCC-44)		VQFN-28 (MLPQ 5X5 28L)	
CHIP					

Where to buy

Infineon distribution partners and sales offices:

www.infineon.com/WhereToBuy

Service hotline

Infineon offers its toll-free 0800/4001 service hotline as one central number, available 24/7 in English, Mandarin and German.

- > Germany 0800 951 951 951 (German/English)
- > China, mainland 4001 200 951 (Mandarin/English)
- > India 000 800 4402 951 (English)
- > USA 1-866 951 9519 (English/German)
- > Other countries 00* 800 951 951 951 (English/German)
- > Direct access +49 89 234-0 (interconnection fee, German/English)

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