



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									



Reliable, high quality solutions for the most rugged situations

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	● 1ED020112-F2 ● 1ED110112MF ● 2ED020112-F2														
Inverter (<5 kW)		● 6EDL04106PT ● IR2136S ● IRS2103	● 6EDL04(I,N)06PT ● 2EDL23106PJ ● IR2214SS	● 6EDL04106PT ● IR2136S ● IRS2334	● 6EDL04106PT ● IR2133 ● 2EDL23106PJ		● 1EDI60112AF ● 2EDL23106PJ ● IR7106S								
Inverter (<30 kW)			● 1EDI30112MF ● 1EDI60112AF ● 1EDU20112SV		● 1EDI40112AF ● 1ED020112-BT ● 2ED020112-FI	● 1EDI60N12AF ● 2EDL23106PJ ● IRS2127(1)									
Inverter (<200 kW)					● 1EDI60112AF ● 1ED020112-B2 ● 1EDU20112SV	● 1EDU20112SV ● 1ED020112-B2 ● 1EDI60112AF	● 1EDI60112AF ● 1ED020112-F2 ● 1EDU20112SV								
PFC			● IRS4427S ● IRS44273L ● 2EDN8524F				● IRS4427S ● IRS44273L ● 2EDN8524F								
DC-DC (1 kW - 100 kW)							● 2EDL05N06PJ ● 2EDL23N06PJ ● 1EDI20N12AF ● 1EDI60N12AF								
SMPS					● 2EDN8524F ● IR7106S ● IRS2186(4)		● IRS4427S ● IRS44273L ● 2EDN7524F								
Brake Chopper					● 1EDI05112AF ● 1EDI10112MF ● IRS44273L										
Active Bridge Rectifier							● 2ED020112-F2 ● 1ED020112-F2 ● 1ED020112-FT								

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	● 1ED020112-F2 ● 1ED110112MF ● 2ED020112-F2														
Inverter (<5 kW)		● 6EDL04106PT ● IR2136S ● IRS2103	● 6EDL04(I,N)06PT ● 2EDL23106PJ ● IR2214SS	● 6EDL04106PT ● IR2136S ● IRS2334	● 6EDL04106PT ● IR2133 ● 2EDL23106PJ		● 1EDI60112AF ● 2EDL23106PJ ● IR7106S								
Inverter (<30 kW)			● 1EDI30112MF ● 1EDI60112AF ● 1EDU20112SV		● 1EDI40112AF ● 1ED020112-BT ● 2ED020112-FI	● 1EDI60N12AF ● 2EDL23106PJ ● IRS2127(1)									
Inverter (<200 kW)					● 1EDI60112AF ● 1ED020112-B2 ● 1EDU20112SV	● 1EDU20112SV ● 1ED020112-B2 ● 1EDI60112AF	● 1EDI60112AF ● 1ED020112-F2 ● 1EDU20112SV								
PFC			● IRS4427S ● IRS44273L ● 2EDN8524F				● IRS4427S ● IRS44273L ● 2EDN8524F								
DC-DC (1 kW - 100 kW)							● 2EDL05N06PJ ● 2EDL23N06PJ ● 1EDI20N12AF ● 1EDI60N12AF								
SMPS					● 2EDN8524F ● IR7106S ● IRS2186(4)		● IRS4427S ● IRS44273L ● 2EDN7524F								
Brake Chopper					● 1EDI05112AF ● 1EDI10112MF ● IRS44273L										
Active Bridge Rectifier							● 2ED020112-F2 ● 1ED020112-F2 ● 1ED020112-FT								











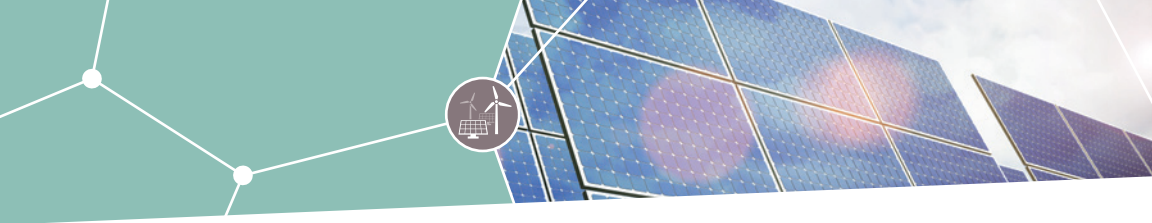
Mobility & Battery Driven

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">6EDL04N02PRIRS2334IRS2007S	<ul style="list-style-type: none">IRS2186S	<ul style="list-style-type: none">1EDI60I12AFIR2214SSIR2213		<ul style="list-style-type: none">6EDL04N02PRIR2136S2EDL05N06PFIRS2183		<ul style="list-style-type: none">6EDL04N02PR			
DC-DC		<ul style="list-style-type: none">1EDI20I12AF1EDI40I12AFIR2214SS								
PFC		<ul style="list-style-type: none">IRS4427SIRS44273L2EDN7524F								
HB (LLC)		<ul style="list-style-type: none">1EDI60I12AF1EDU20I12SV								
Sync-Buck		<ul style="list-style-type: none">IR2010S								
BLDC							<ul style="list-style-type: none">6EDL04N02PRIR2136SIRS2007S			





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 CoolMOST™, 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"> 6EDL04I06PT IR2136S 2ED2304S06F 			
Inverter (>2 kW)	<ul style="list-style-type: none"> IR2214SS IR2213 IR2235 1EDI20I12AF 			
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"> 1ED020I12-F2 IR7106S 1EDI60N12AF 		
Central Boost/SMPS		<ul style="list-style-type: none"> 2EDN8524F 1EDI60I12AF 		
Central Inverter		<ul style="list-style-type: none"> 1EDI60I12AF 1ED020I12-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	DSO-8 
	1EDC20H12AH	3.5 A	40 V	≤ 125 ns	-	8 mm creepage clearance; UL 1577 certified with $V_{ISO}=2500$ V(rms) for 1 min	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



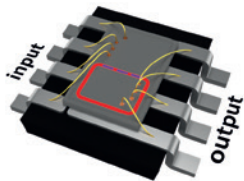
Gate Driver Support

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
- www.infineon.com/gdfinder
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- www.infineon.com/ifxdesigner

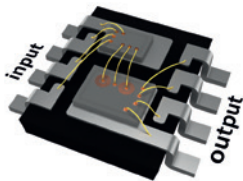


Infineon Gate Driver IC Technologies



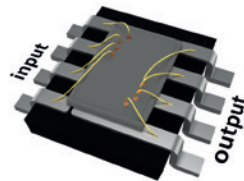
Level-shift junction isolation (JI) & silicon-on-insulator (SOI)

- › 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				●	●	● ●	●	●
	4-Channel	Half-Bridge			●	●		● ● ●	●	● ●
		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

Infiniteon distribution partners and sales offices:

www.infineon.com/WhereToBuy

Service hotline

Infiniteon 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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