

Product brief

1200 V level shift gate driver product portfolio

Now including Silicon-On-Insulator (SOI) and Junction Isolation (JI) offerings

Infineon provides a comprehensive portfolio of 1200 V level shift gate drivers which includes 3-phase, half-bridge, and high and low side drivers suitable for driving IGBTs or MOSFETs.

The new 6ED2230S12T 3-phase 1200 V SOI driver with integrated Bootstrap Diode (BSD) and overcurrent protection is the latest addition to the 1200 V product family and utilizes Infineon's unique Silicon-on-Insulator(SOI) level shift technology. It provides functional isolation with industry leading negative V_s robustness and reduced level shift losses with the integrated bootstrap diode enabling a lower bill of material cost and smaller PCB footprint.

The junction isolated level-shift gate drivers are available in simpler half-bridge solution and high and low side solution to full featured half-bridge and three-phase solutions offering integrated de-saturation, overcurrent protection, 'soft' or 'hard' shutdown, programmable dead-time, two stage turn on, matched delay outputs, and brake chopper function enable complete system level solutions.

Available in industrial temperature grade and various package options.

Applications

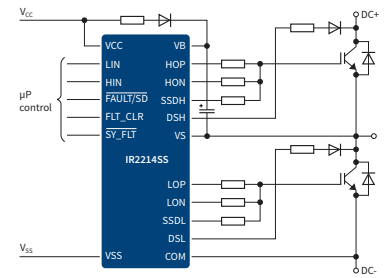
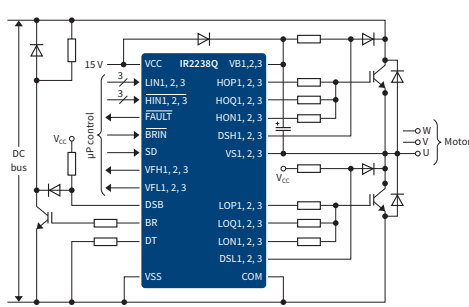
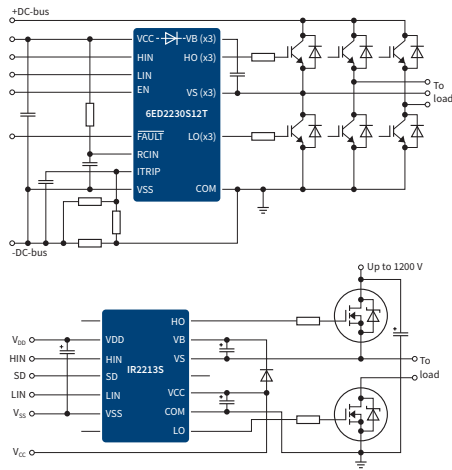
- > Industrial drives
- > General purpose drives
- > Motor control
- > General purpose inverters
- > Commercial air-conditioning
- > Residential air-conditioning

Product features

- > Integrated, fast bootstrap diode (6ED2230S12T)
- > Overcurrent protection (OCP) with $\pm 5\%$ reference threshold
- > Best-in-class negative V_s transient tolerance (6ED2230S12T)
- > Fully operational to +1200 V offset voltage
- > Tolerate to negative transient voltage, dV/dt immune
- > V_{CC} and V_{BS} Undervoltage Lockout (UVLO) protection
- > Integrated dead-time and cross-conduction prevention logic
- > Various input options; matched propagation delay outputs
- > Standard pin-out and packages
- > Various integrated features and functions
 - Desaturation, soft/hard shutdown, programmable dead-time, fault reporting with enable and clear; two stage turn-on; two stage turn-on, and brake chopper

Benefits

- > Reduced BOM and system level cost; smaller PCB
- > Higher reliability – reduced high voltage component count
- > Consistent and reliable operation under abnormal conditions with increased robustness and headroom
- > Increased system reliability, operational headroom, and noise immunity
- > Fast and reliable switching
- > Protection under abnormal operation
- > Easy-to-use, straight-forward design
- > Fast time to market
- > Easy-to-use, straight-forward simplified design
- > Fast time to market
- > Reduced bill of material, PCB size, and system cost



Product portfolio

Part number	Configuration	Voltage class [V]	Output current source/sink [A]	Switch type	Package name	Turn on/off propagation delay [ns]	Features
6ED2230S12T ¹⁾	Three phase	1200	0.35/0.65	IGBT	DSO-24 (DSO-28 without 4 pins)	600/600	<ul style="list-style-type: none"> > Infineon Thin-Film-SOI technology > Integrated Bootstrap Diode (BSD) > Tolerant to negative transient voltage up to -100 V > Overcurrent protection (OCP)-ITRIP ±5% reference > Fault reporting, automatic fault clear and enable function on the same pin (RFE) > Programmable deadtime > Shoot through protection
IR2238	Three phase	1200	0.35/0.54	IGBT	MQFP-64L	550/550	<ul style="list-style-type: none"> > Brake chopper, desaturation protection > Enable, fault reporting > Overcurrent protection (ITRIP) > Programmable deadtime, shutdown > Soft overcurrent shutdown > Separate pin for logic ground > Shoot through protection
IR2233	Three phase	1200	0.25/0.50	IGBT MOSFET	PLCC44; SOIC 28W; PDIP28	750/700	<ul style="list-style-type: none"> > Enable, fault reporting, shutdown > Operational amplifier > Overcurrent protection (ITRIP) > Separate pin for logic ground > Shoot through protection
IR2235	Three phase	1200	0.25/0.50	IGBT	SOIC 28W; PLCC44; PDIP28	750/700	<ul style="list-style-type: none"> > Enable, fault reporting, shutdown > Operational amplifier > Overcurrent protection (ITRIP) > Separate pin for logic ground > Shoot through protection
IR2214	Half bridge	1200	2.00/3.00	IGBT MOSFET	SSOP24	440/440	<ul style="list-style-type: none"> > Desaturation protection > Fault reporting > Separate pin for logic ground > Shoot through protection > Soft overcurrent shutdown
IR2213	High-side and low-side	1200	2.00/2.50	IGBT MOSFET	SOIC 16W PDIP14	280/280	<ul style="list-style-type: none"> > Enable, shutdown > Separate pin for logic ground
IR2277(1)	Gate-driver support ICs	1200	n/a	IGBT MOSFET	SOIC 16W	n/a	<ul style="list-style-type: none"> > Current sense > Overcurrent protection (ITRIP) > Separate pin for logic ground

1) Coming soon

Published by
Infineon Technologies AG
81726 Munich, Germany

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