



New Product Introduction

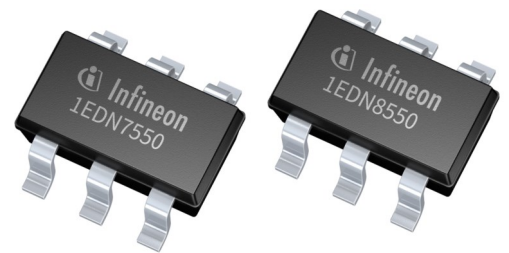
January 2019

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EiceDRIVER™ 1EDN TDI

1EDN7550 and 1EDN8550 gate driver ICs with truly differential inputs (TDI)

Infineon's low-side gate driver ICs with truly differential inputs solve ground shift challenges in Switched Mode Power Supplies and prevents false triggering of power MOSFETs in industrial, server and telecom SMPS, wireless charging applications, telecom DC-DC converters, power tools and solar micro inverters. Choosing Infineon's best-in-class and reliable low-side gate driver ICs with truly differential control inputs translates into higher power density, more robust and more efficient designs at a lower cost than traditional solutions.



Features

- > Truly differential inputs
- > 4 A source current
- > 8 A sink current
- > Separate source/sink outputs
- > Low-ohmic output stage
- > 29 ns input minimum pulse width
- > 7 ns propagation delay accuracy
- > 5 A reverse current robustness of the outputs
- > 4 V and 8 V UVLO versions
- > SOT-23 package, 6 pins

Benefits

- > Control inputs independent from gate driver GND
- > Fast Miller plateau transition
- > Fast shut-off
- > No diode voltage drop → Near zero gate voltage at turn-off
- > Low power dissipation within gate driver IC
- > Up to 15 MHz switching speed
- > Precise
- > No Schottky clamping diodes required
- > Fast and reliable MOSFET turn-off
- > Small size

Competitive advantages

- > Robustness against GND-shifts enables shorter R&D time and an increased design flexibility
- > Small 6-pin-SOT package brings a cost effective high density solution

Evaluation board

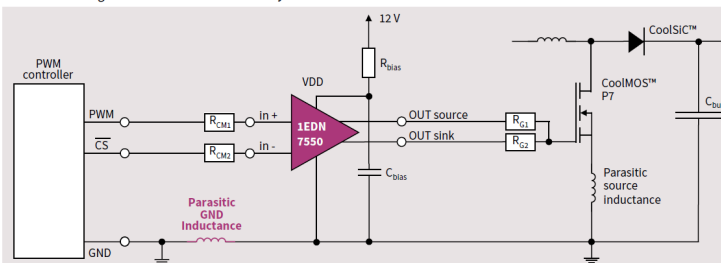
[EVAL_HB_BC_1EDN8550B](#)



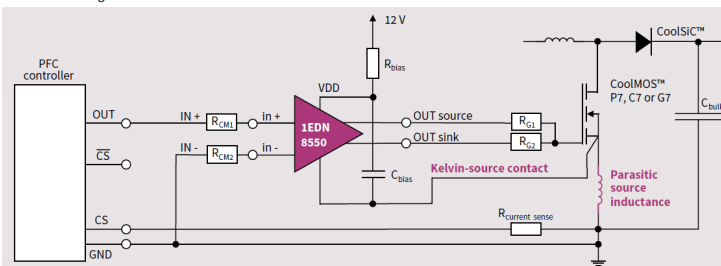
This evaluation board is intended to show the strengths of the EiceDRIVER™ 1EDN TDI, family of single-channel low-side gate drivers with innovative truly differential inputs (TDI) concept. It allows to evaluate the proper 1EDN TDI driving with AC and DC ground shifts generated on purpose. The half-bridge design using the 1EDN TDI as high-side driver is intended to provide further evidence of its DC ground shift robustness.

Application diagram

1EDN7550 driving CoolMOS™ SJ MOSFET on 1-layer PCB



1EDN8550 driving Kelvin source CoolMOS™ SJ MOSFET in boost PFC



Target applications

- > Server
- > Telecom and telecom bricks
- > DC-DC converters
- > Power tools
- > Industrial SMPS
- > Wireless charging
- > Solar micro inverter

Product collaterals / Online support

- > 1EDN7550B product [page](#)
- > 1EDN8550B product [page](#)
- > Product family [page](#)
- > Product [brief](#)
- > Application [note](#)

Product overview incl. data sheet link

OPN	SP Number	Package
1EDN7550BXTSA1	SP001690382	PG-SOT23-6
1EDN8550BXTSA1	SP001690388	PG-SOT23-6
EVALHBBC1EDN8550BTOBO1	SP003684166	Container

BGS14MPA9 — MIPI 2.0 High Linearity, High Power SP4T RF Switch

BGS14MPA9 is a Single Pole Four Throw (SP4T) high power switch in a very compact 9-pin package with very small size of only 1.1x1.1mm² and a maximum thickness of 0.65mm.

Its performance is optimized for 2G / 3G / 4G and 5G cellular applications up to 6.0 GHz. With an ultra low insertion loss, high isolation, high linearity and high power handling, BGS14MPA9 is perfect for LTE 4G applications, such as Uplink-Carrier Aggregation, High Power User Equipment (HPUE Class 2) and 5G sub 6 GHz. Furthermore the BGS14MPA9 can be applied as 2G / 3G post PA RF Switch and high-band antenna switch for LTE-U / LAA or LTE band 42 and 43.

Features

- > 0.05 to 6.0 GHz coverage for FM Radio, LTE, LAA and 5G application
- > Low insertion loss and high isolation up to 6 GHz
- > Up to 37 dBm operating RF input power
- > No decoupling capacitors required if no DC applied on RF lines
- > Integrated MIPI RFFE interface
- > Software programmable MIPI RFFE USID
- > Small form factor 1.1mm x 1.1mm
- > No power supply blocking required
- > 50-Ohm termination enabling at isolation mode

Benefits

- > High linearity with ultra-low harmonic generation
- > Optimized for high-frequency applications up to 6 GHz
- > High Tx power handling capabilities up to 37 dBm
- > High system sensitivity due to low insertion loss
- > PCB and cost saving due to small form factor

Target applications

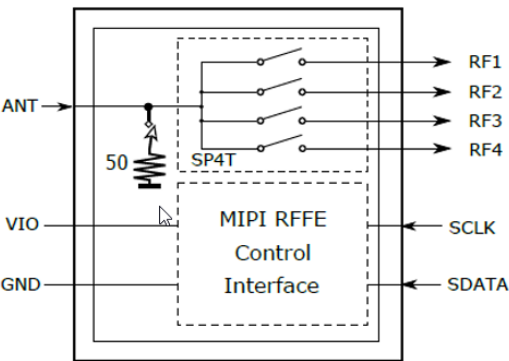
- > Multi-mode LTE and WCDMA multi antenna applications
- > 5G sub 6GHz applications

Competitive advantages

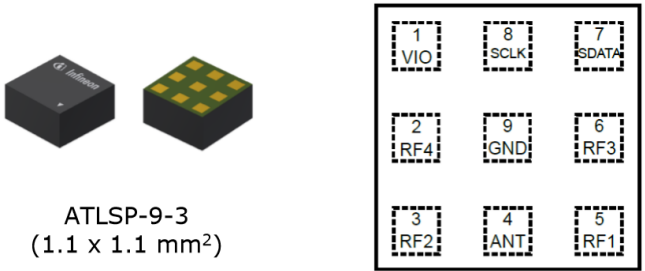
	Competitor 1	Competitor 2	Competitor 3	BGS14MPA9
Size [mm ²]	1.6 x 1.6	1.1 x 1.1	1.1 x 1.1	1.1 x 1.1
Frequency [GHz]	0.5 - 3.6	0.7 - 3.8	0.7 - 2.7	0.5 - 6.0
Input Power [dBm]	+37	+33	+36	+37
ISO [dB]*	33/27/25	40/35/30	38/32/27	47/39/35
IL [dB]*	0.27/0.35/0.41	0.25/0.4/0.5	0.3/0.4/0.5	0.2/0.24/0.3
IP3 [dBm]	83	67.5	71.5	77
Interface	MIPI	MIPI	GPIO	MIPI

* 0.9/2.1/2.7 GHz

Block diagram



Package and footprint



Product collaterals / Online support

- > Product [page](#)
- > Product family [page](#)
- > Power and sensing selection [guide](#)

Product overview incl. data sheet link

OPN	SP Number	Package
BGS14MPA9E6327XTSA1	SP001700518	PG-ATSLP-9

EconoDUAL™ 3 with integrated Shunts

Best of Januar 2018

EconoDUAL™ 3 1200 V, 450 A dual IGBT module with TRENCHSTOP™ IGBT4, Emitter Controlled 4 Diode, NTC, integrated shunts, PressFIT contact technology and pre-applied Thermal Interface Material.



Features

- > 1200V state of the art IGBT4 technology
- > ED3 with integrated shunts for current measurement
- > 1200V: 300A, 450A and 600A Modules
- > PressFIT control pins and screw power terminals
- > TIM – pre-applied thermal interface material to achieve longest lifetime
- > Compact and robust design with molded terminals
- > Tvjop 150°C
- > Low V(CEsat)
- > V(CEsat) with positive Temperature Coefficient
- > Isolated Base Plate

Value proposition

- > Highest efficiency and power density
- > Reduced system costs
- > High system reliability
- > Easy design in Flexible PWM control and/or freewheeling from high or low side

Benefits

- > Reliable EconoDual™ 3 package with long-term stable TIM and integrated shunt
- > Higher Inverter Power Density
- > Increased current measurement accuracy
- > Reduced system costs
- > PressFIT reduces mounting effort and increases the interconnection reliability

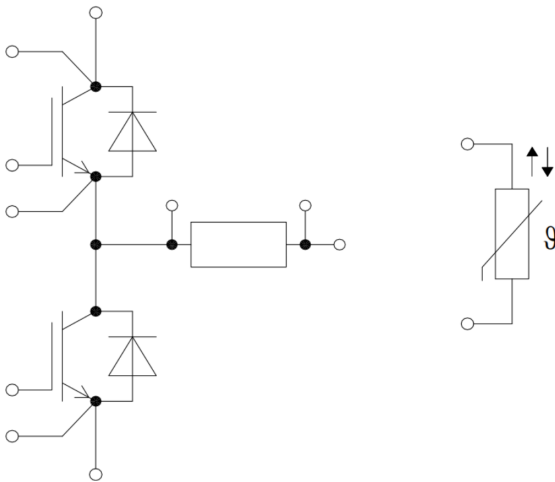
Target applications

- > GPD
- > Servo Drives
- > CAV/E-Bus
- > UPS
- > Solar

Product collaterals / Online support

- > Product family [page](#)
- > [Webinar](#) „How IGBT power modules with shunts reduce system costs and simplify inverter design“

Circuit diagram



Product overview incl. data sheet link

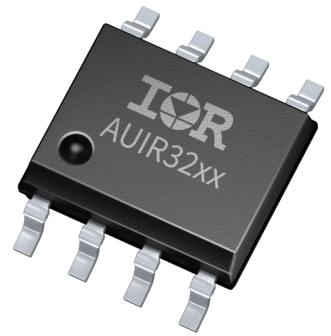
OPN	SP Number	Package
IFF450B12ME4PB11BPSA1	SP001377612	AG-ECONOD-6
IFF600B12ME4PB11BPSA1	SP001377694	AG-ECONOD-5

AUIR324x family— High side gate driver for 12V power distribution applications

Best of March 2018

The AUIR3242S is a high side Mosfet driver for back to back topology targeting back to back switch. It features a very low quiescent current both on and off state. The AUIR3242S is a combination of a boost DC/DC converter using an external inductor and a gate driver. It drives standard level Mosfet even at low battery voltage. The input controls the gate voltage. The AUIR3242S integrates an under voltage lock out protection to prevent to drive the Mosfet in linear mode.

AUIR3241S and AUIR3242S are basically identical, only difference is the operating level of the input pin. For instance, due to the active low level of input the AUIR3242S makes relay replacement very easy. The AUIR3241S can be driven directly from the battery voltage.solution for LLCs.



Features

- > Idle Mode (<50µA quiescent current) - on and off state
- > Support for LV124 cold cranking standards
- > Standard level gate voltage
- > Input active high and 3.3V compatible
- > Wide operating voltage 3-36V

Qualification

- > Automotive

Competitive advantages

- > Super low consumption during idle
- > Small footprint (8-pin package)
- > Fast design in with available demo boards
- > Low leakage current

Benefits

- > Boost converter with integrated diode
- > Support for back to back and Q-diode applications
- > Under voltage lockout with diagnostics
- > Loss of ground protection
- > Gate current monitoring via frequency
- > Over-temperature protection via NTC

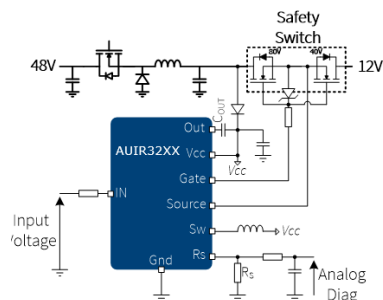
Target applications

- > The Infineon AUIR32xx gate driver family provides a solution for high-current (> 40 A) load switching applications where conduction resistance of less than 1 mΩ is required
- > AUIR3241S and AUIR3242S are perfect for applications that require very low on state operation current to support key-off loads

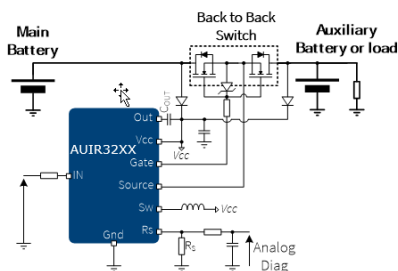
Application examples:

- > Q-diode, back to back battery switch, safety switch, relay replacement, start stop applications, DC/DC safety switch, board net stabilization

Application diagram safety switch



Application diagram back to back switch



Evaluation board

[AUIR3241S DEMOBOARD](#)

The demo board features the AUIR3241S connected to 3 sets of MOSFETs in a typical back to back configuration. In the circuit shown above, the Input Signal controls the gate voltage.



Product collaterals / Online support

- > Automotive gate driver IC [page](#)
- > AUIR3242STR [page](#)
- > AUIR3241STR [page](#)
- > Product family [brief](#)

Product overview incl. data sheet link

OPN	SP Number	Package
AUIR3240STR	SP001515326	SOIC 8N
AUIR3242STRXUMA1	SP002725578	PG-DSO-8
AUIR3241STR	SP001512946	SOIC 8N
AUIR3241SDEMOBOARDTOBO1	SP001949476	Container

The new High Current PROFET™ family offers 12V high side switches in the range from 8mΩ down to 2mΩ with advanced protection and diagnosis features for heating and power distribution applications. The pin and function compatible scalable family concept enables benchmark design flexibility. The family gives very high power density on small footprint (TSDSO-14).

The BTS7004-1EPP is the lead type of the family and offers a typ. Rds(on) of 4mΩ.



Features

- > Typical Rds(on) of 4mΩ @ 25°C in small TSDSO-14 package
- > Nominal load current 15A (DC)
- > Capable for inrush currents up to 107A
- > Proportional load current sense with high accuracy (+/-5% calibrated)
- > Minimum operating voltage 3.1V (cranking)
- > Overcurrent protection (tripping) with Intelligent Latch
- > Absolute and dynamic temperature limitation with controlled reactivation
- > ReverSave™ for low power dissipation in Reverse Polarity
- > Overvoltage protection with external components
- > Open Load in ON and OFF state
- > Short circuit to ground and battery detection

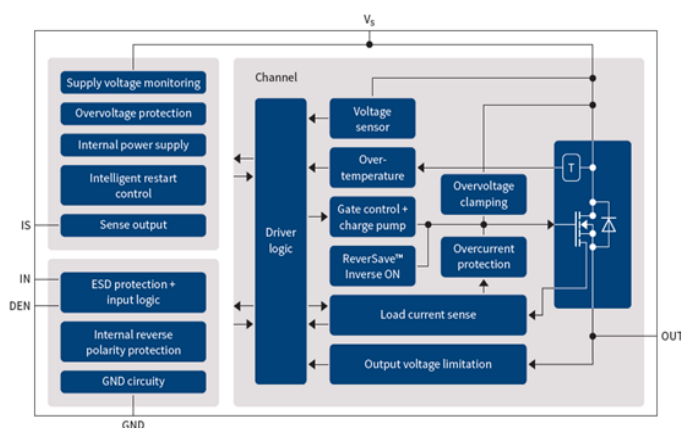
Qualification

- > Automotive AECQ 100

Value proposition & competitive advantage

- > Low power losses reduce effort for cooling on module level
- > High current sense accuracy enables high system protection for high reliability
- > Highest power density on very small footprint enables compact and cost effective module design
- > State of the art load current sense accuracy for advanced load control and system protection

Block diagram



Benefits

- > Pin and function compatibility over the whole family (2 – 8mΩ)
- > Switching of high current loads on small PCB area
- > Less effort for heatsinks due to low power losses
- > Very high short circuit robustness
- > Advanced load control for high system reliability
- > High design flexibility for cost optimized system
- > Highest efficiency and power density
- > Enables very compact and cost optimized system design
- > Reduces module and housing costs
- > Protection of load and wiring harness

Qualification

- > Automotive AECQ 100

Target applications

- > Suitable for driving 15 A resistive, inductive and capacitive loads
- > Replaces electromechanical relays, fuses and discrete circuits
- > Suitable for driving heating loads, like seat heating and glow plugs, for DC motors and for general power distribution applications
- > Seat heating
- > PTC heater
- > Glow plug driver
- > Urea heater
- > Auxiliary power outlet,
- > Switchable power feed
- > Relay replacement

Product collaterals / Online support

- > Product [page](#)
- > Automotive smart high-side switches [page](#)
- > Product [brief](#)
- > [Thermal behavior](#)
- > [Sense accuracy and calibration](#)

Product overview incl. data sheet link

OPN	SP Number	Package
BTS70041EPPXUMA1	SP001403858	PG-TSDSO-14

OptiMOS™ 5 80V — now in TOLG package: The perfect match for 48V applications

Best of May 2018

Infineon's new portfolio of 80/100V TOLL and TOLG addresses power requirements of 48V applications offering compact form factor without compromising on thermal and switching performances.

It combines Best-in-Class OptiMOS™-5 frontend technology with a leadless TOLL (PCB) or as alternative the TOLG package targeting AI core isolated metal substrates (IMS), both offering the highest current capability on a 10x11mm² footprint.



Features

- > Highest current capability per footprint
- > N-channel - Enhancement mode
- > Ultra low $R_{DS(on)}$
- > 100% Avalanche tested
- > Low package resistance and inductance
- > Industry's lowest
- > $R_{DS(on)}$, FOM

Qualification

- > AEC qualified
- > MSL1 up to 260°C peak reflow
- > 175°C operating temperature
- > Green product (RoHS compliant)

Competitive advantages

- > Compact design / Higher power density / Reduced system cost
- > Best in class efficiency / Highest reliability
- > Best-in-class front-end technology
- > Leadless package -> low profile, low package resistance, low package inductance
- > TOLG for improved TCOB performance

Demonstrator: Power stage of 48V BSG inverter

- > The power stage was developed to support during the first steps in designing 48V inverter for Belt-driven Starter Generator (BSG) application in Mild Hybrid Electrical Vehicles.
- The document provides a detailed description of the main components and their functionality.

[48VBSGINVERTERTOBO1](#)

Product overview incl. data sheet link

OPN	SP Number	Package
IAUT300N08S5N012ATMA2	SP001585160	PG-HSOF-8
IAUT300N08S5N014ATMA1	SP001688336	PG-HSOF-8
IAUT240N08S5N019ATMA1	SP001685094	PG-HSOF-8
IAUT200N08S5N023ATMA1	SP001688332	PG-HSOF-8
IAUT165N08S5N029ATMA2	SP001585162	PG-HSOF-8
IAUT300N10S5N015ATMA1	SP001416130	PG-HSOF-8
IAUT260N10S5N019ATMA1	SP001676336	PG-HSOF-8
IAUT150N10S5N035ATMA1	SP001416126	PG-HSOF-8
IAUS300N08S5N012ATMA1	SP001643336	PG-HSOG-8
IAUS165N08S5N029ATMA1	SP001643350	PG-HSOG-8

Benefits

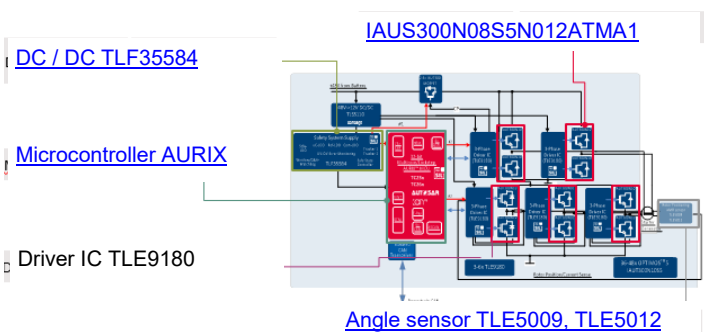
- > Higher current capability
- > Excellent thermal performance in compact form factor
- > Minimized conduction losses
- > Lowest switching losses
- > Less device paralleling
- > TOLG package for Aluminium core IMS

Target applications

- > 48 V application -> OptiMOS-5TM 80/100V in TOLL and TOLG package — Highest current capability in 10x11mm² footprint

Application examples: integrated starter generator, self starter generator, battery disconnect, suspension, engine cooling fan, 48V/12V DC/DC, pumps, eTurbo, HVAC blower, eClimate compressor

Application example: 48 V starter generator



Product collaterals / Online support

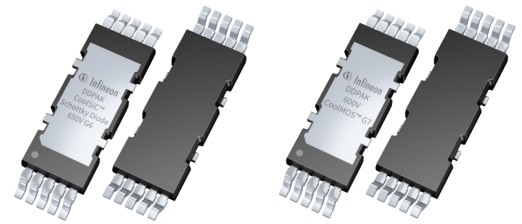
- > Product family [page](#)
- > OptiMOS™ 5 80V [PSPICE](#)
- > PCB design [data](#)

CoolMOS™ G7 and CoolSiC™ Gen 6 in Double DPAK (DDPAK) package

Best of June 2018

Innovative top-side cooled SMD solution for high power applications

The benefits of the already existing high voltage technologies 600 V CoolMOS™ G7 superjunction (SJ) MOSFET and CoolSiC™ Schottky diode 650 V G6 get combined with the innovative concept of top-side cooling, providing a system solution of high current hard switching topologies and a high-end efficiency solution for LLCs.



Features

- > First top side cooled SMD solution/innovative cooling concept
- > Inbuilt 4th pin Kelvin source configuration and low parasitic inductance
- > TCOB capability of >> 2.000 cycles, MSL1 compliant and total Pb free

CoolMOS™ G7 and CoolSiC™ Gen 6 related features

- > CoolMOS™ G7 offers BiC FOM $R_{DS(on)} \times E_{OSS}$ and $R_{DS(on)} \times Q_g$
- > CoolSiC™ Gen 6 offers BiC V_F and FOM $Q_G \times V_F$
- > CoolMOS™ G7 and CoolSiC™ Gen 6 as effective combination of the high-end efficiency market segment

Competitive advantages

- > DDPACK enables innovative cooling concept
- > DDPACK further shapes the trend of using SMD packages in high power SMPS applications, highest efficiency and power density

Evaluation board

EVAL_1K6W_PSU_G7_DD

This Infineon evaluation board (EVAL_1K6W_PSU_G7_DD) represents a complete system solution for a 1600 W server power supply (PSU) which achieves the 80Plus® Titanium® standard. The power supply is composed of a continuous conduction mode (CCM) bridgeless power factor corrector (PFC) using a bi-directional switch and a half-bridge LLC DC-DC resonant converter.



Benefits

- > Thermal decoupling of board and semiconductor allows to overcome thermal PCB limits
- > Reduced parasitic source inductance improves efficiency and ease-of-use
- > Enables higher power density solutions
- > Exceeding the highest quality standards

Target applications

- > Industrial SMPS
- > Server
- > Telecom
- > PC Power
- > Solar

Completing products

- > 1EDN TDI EiceDriver™ www.infineon.com/1EDN-TDI
- > 1END7550 and 1 EDN8550

Product collaterals / Online support

- > Product family [page](#)
- > CoolMOS™ [selection guide](#)
- > Product [brief](#)
- > [Simulation models](#)

Product overview incl. data sheet link

OPN	SP Number	Package
IDDD04G65C6XTMA1	SP001679784	PG-HDSOP-10
IDDD06G65C6XTMA1	SP001679786	PG-HDSOP-10
IDDD08G65C6XTMA1	SP001679788	PG-HDSOP-10
IDDD10G65C6XTMA1	SP001679790	PG-HDSOP-10
IDDD12G65C6XTMA1	SP001679792	PG-HDSOP-10
IDDD16G65C6XTMA1	SP001679794	PG-HDSOP-10
IDDD20G65C6XTMA1	SP001679796	PG-HDSOP-10
IPDD60R050G7XTMA1	SP001632818	PG-HDSOP-10
IPDD60R080G7XTMA1	SP001632824	PG-HDSOP-10
IPDD60R102G7XTMA1	SP001632832	PG-HDSOP-10
IPDD60R125G7XTMA1	SP001632876	PG-HDSOP-10
IPDD60R150G7XTMA1	SP001632838	PG-HDSOP-10
IPDD60R190G7XTMA1	SP001632844	PG-HDSOP-10
EVAL1K6WPSUG7DDTOBO1	SP002594296	Container

New generation 1200 V TRENCHSTOP™ IGBT6

Best of July 2018

Next generation 1200 V IGBT technology – next level efficiency by improvement both conduction and switching losses.

The TRENCHSTOP™ IGBT6 is released in two product families – low conduction losses optimized S6 series and improved switching losses H6 series.



Features

- > Low conduction losses with 1.85V $V_{ce(sat)}$ for S6 series
- > Best combination of switching and conduction losses for switching frequency 15 – 40 kHz
- > Highest current of 75 A 1200 V IGBT co-packed with 75 A diode in TO-247 footprint
- > High R_g controllability
- > Full rated, soft and robust freewheeling diode

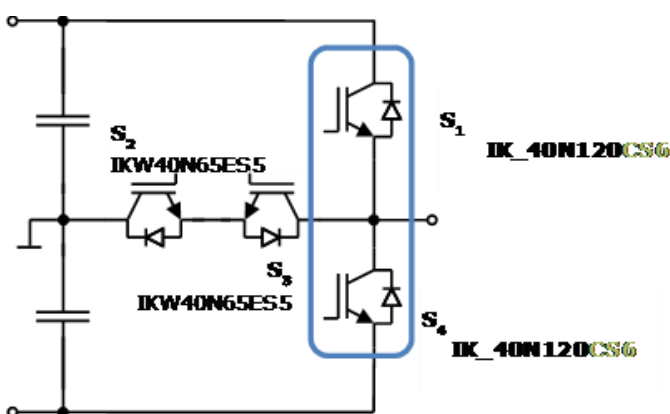
Competitive advantages & value proposition

- > Easy replacement of the predecessor Highspeed3 IGBT – upgrade of available designs for higher efficiency or higher power output
- > Highest current in 75 A 1200 V duo-pack IGBT as alternative to design > 20 kW using low power IGBT modules
- > Unique highest current density 75 A 1200 V IGBT in TO-247 footprint – extends use of discrete IGBT in high power designs above 20 kW with low paralleling

Completing products

- Gate driver: [EiceDRIVER™ 1ED Compact gate driver ICs](#)
- > 1ED Compact isolated gate-driver IC [1EDI60I12AH](#)

Block diagram



Benefits

- > Easy, plug & play replacement of predecessor HighSpeed3 H3 IGBT
- > 0.15% system efficiency improvement when changing from H3 to S6 in TO-247-31
- > 0.20% system efficiency improvement when changing from H3 to S6 in TO-247PLUS 4pin
- > Suitable for high power designs above 20 kW with less paralleling

Target applications

- > Welding
- > UPS
- > Battery chargers
- > Solar
- > Drives

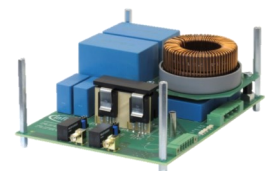
Application examples:

Welding machine inverter (HB or FB topology), UPS main inverter T-type (B6 topology), Solar Boost and main inverter, Motor drive (B6 topology), PFC, Boost

Evaluation board

[EVAL-IGBT-1200V-247](#)

- > Complete setup for evaluation of the IGBT switching behavior
- > Configurable for continuous operation as a buck or boost converter
- > Test 3pin and 4pin variants of TO-247 and TO-247PLUS



Product collaterals / Online support

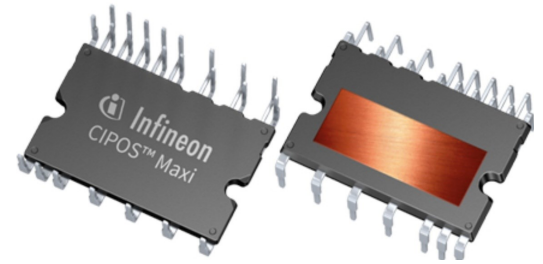
- > Product family [page](#)
- > Product [brief](#)
- > [Simulation](#)

Product overview incl. data sheet link

OPN	SP Number	Package
IKW15N120BH6XKSA1	SP001666618	PG-TO247-3
IKY40N120CS6XKSA1	SP001666620	PG-TO247-4
IKW40N120CS6XKSA1	SP001666622	PG-TO247-3
IKQ75N120CS6XKSA1	SP001666624	PG-TO247-3

The high performance CIPOS™ Maxi Intelligent Power Modules (IPMs) integrate various power and control components to increase reliability, optimize PCB size and system costs. It is designed to control three-phase AC motors and permanent magnet motors in variable speed drives applications. The existing portfolio offers 5 A and 10 A in 1200 V class up to 1.8 kW power rating. The smallest package in 1200 V IPM class offers highest power density and best performance in its class.

IM818 is the first 1200 V IPM that integrated an optimized 6-channel SOI gate driver to provide built-in deadtime that prevents damage from transients. The product concept is especially adapted to power applications, which require excellent thermal performance and electrical isolation as well as meeting EMI requirements and overload protection.



Features

- > Optimized thermal design
- > Industrial standard package
- > Electrically insulated base plate

Benefits

- > Increased power density
- > Predictably high performance and lifetime due to 100% x-ray monitoring
- > Solid base plate for fast and easy mounting
- > Optimized for less performant heat sinks

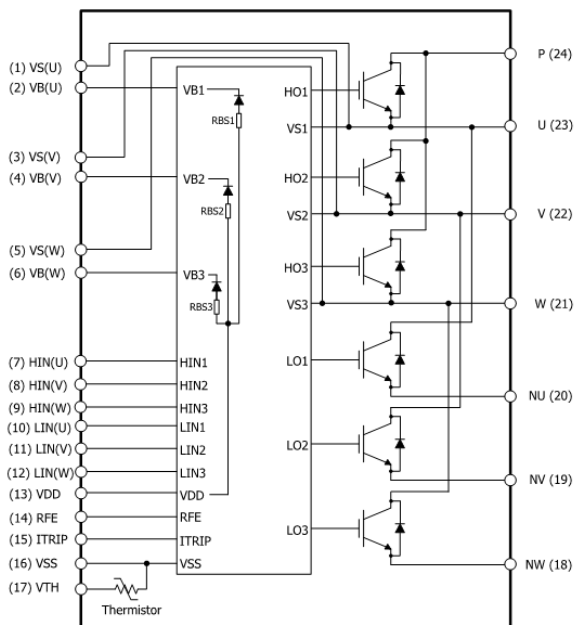
Value proposition



- > Reduced system costs – compact and smallest package
- > Fast time to market – fast design in based on higher integration level to use/layout easily
- > Product performance – high system efficiency, high power density
- > Flexibility – various selectivity for switching speed and topologies

Target applications

- > Commercial air conditioners, Active filter (Active power factor correction) for [HVAC](#)
- > [Low power motor drives](#)
- > [Pumps](#)
- > [Fans](#)
- > [Blowers](#)

Block diagram



Applications			IPM Current rating	CIPOS™ Maxi
	CAC	Active Filter	10A	IM818-MCC
		Fan	5A 10A	IM818-SCC IM818-MCC
	Low power motor drives	Fan Pump GPI	10A	IM818-MCC

Product collaterals / Online support

- > Product family [page](#)
- > Product [brief](#)
- > CIPOS™ [selection guide](#)
- > Application [note](#)

Product overview incl. data sheet link

OPN	SP Number	Package
IM818SCCXKMA1	SP001648550	PG-MDIP-24
IM818MCCXKMA1	SP001648554	PG-MDIP-24

IFX007T – high power motor driver for industrial & consumer applications

Best of November 2018

The IFX007T is an integrated high current half bridge for motor drive applications. It is part of the Industrial & Multi Purpose NovalithIC™ family containing one p-channel high-side MOSFET and one n-channel low-side MOSFET with an integrated driver IC in one package. Due to the p-channel high-side switch the need for a charge pump is eliminated thus minimizing EMI. Interfacing to a microcontroller is made easy by the integrated driver IC which features logic level inputs, diagnosis with current sense, slew rate adjustment, dead time generation and protection against overtemperature, undervoltage, overcurrent and short circuit.

The IFX007T provides a cost optimized solution for protected high current PWM motor drives with very low board space consumption.



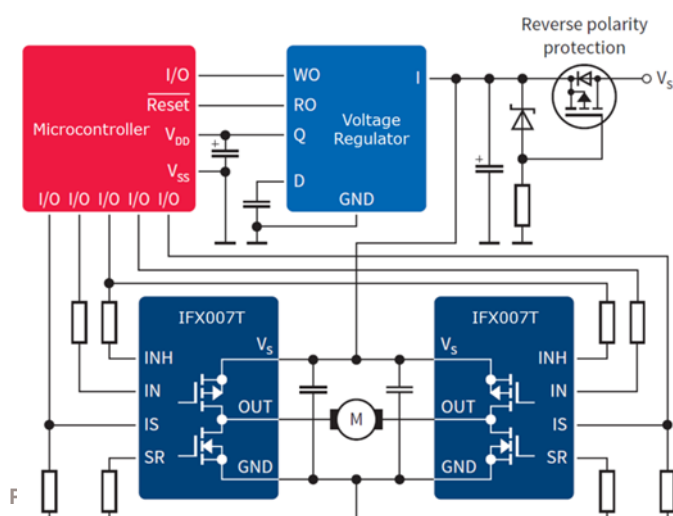
Features

- > Path resistance of max. 12.8 mΩ @ 25°C (typ. 10.0 mΩ @ 25°C)
 - > High side: max. 6.5 mΩ @ 25°C (typ. 5.3 mΩ @ 25°C)
 - > Low side: max. 6.3 mΩ @ 25°C (typ. 4.7mΩ @ 25°C)
- > Enhanced switching speed for reduced switching losses
- > Capable for high PWM frequency combined with active freewheeling
- > Switched mode current limitation for reduced power dissipation in overcurrent
- > Current limitation level of 55 A min.
- > Status flag diagnosis with current sense capability
- > Overtemperature shutdown with latch behavior
- > Undervoltage shutdown
- > Driver circuit with logic level inputs
- > Adjustable slew rates for optimized EMI
- > Operation up to 40 V
- > JESD47I Qualified

Competitive advantages

- > Easy to use and manufacture, with only a few I/O connected directly to the microcontroller and with high integration reducing component count
- > Enables functional safety with integrated self-protection, dead time management and logic redundancy
- > Flexible PWM control and/or freewheeling from high or low side

Application diagram — high current H-bridge



Product overview incl. data sheet link

OPN	SP Number	Package
IFX007TAUMA1	SP001658846	PG-TO263-7

Benefits

- > Easy to use
 - > Only 3 general purpose I/O needed to control full H-bridge,
 - > Logic-Level inputs enable direct connection to µC,
 - > Integrated approach saves layout and manufacturing effort while reducing stray inductances and external components
- > Enables functional safety
 - > Integrated self-protection, including over temperature, even if the microcontroller is lost
 - > Built-in cross-current protection offloads the microcontroller
 - > Half-bridge approach provides logic redundancy – if one device fails, the other can stop the motor
- > Flexible motor control
 - > PWM capability ≤25kHz enables motor speed control, from either high side or low side
 - > Active freewheeling from either high side or low side reduces PDISS
- > Cost optimized through system level savings
 - > Compared to a discrete solution, the NovalithIC™ saves PCB-area and pick & place costs, requiring less passive external components via integrated diagnosis and protection functions

Target applications

- > Industrial & consumer motor drives for automation, home appliances, robotics, and medical applications up to 40 V

Application examples:

Pumps & Fans, Health care (e.g., medical beds), Power tools, Multi-copter, CAV, eSkateboards, Vacuum cleaners and vacuum robots, Home & garden appliances, Industrial automation, 3D printer

Product collaterals / Online support

- > Product [page](#)
- > Product [family page](#)
- > Product [brief](#)
- > Application [note](#)
- > [24 V DC motor control simulation](#)



Dear NPI Community Member

We wish you and your family all the best for this holiday season and a happy and healthy New Year.

Thanks a lot for following and driving our new products!
We have very much enjoyed working with you throughout this year, and we look forward to do so in 2019!

- You Infineon NPI Team