






IGBT High Power Modules

IHV Modules

3300 V _{CES}						
Type	V _{CES} V	I _C A	V _{CESat} V T _{vj} = 25°C typ.	E _{on} /E _{off} mWs T _{vj} =125°C typ.	Outline/ page	
 dual	IGBT2 Standard (IHV A)					
	FF200R33KF2C	3300	200	3.40	365 /255	H_IH9/4.13
	FF400R33KF2C	3300	400	3.40	730 /510	H_IH6/4.13
 single switches	IGBT2 Standard (IHV A)					
	FZ800R33KF2C	3300	800	3.40	1450/1000	H_IH4/4.12
	FZ1200R33KF2C	3300	1200	3.40	2200/1550	H_IH7/4.13
	High Insulation (IHV A)					
	FZ400R33KL2C_B5	3300	400	3.00	1200/600	H_IH10/4.13
 FD...	IGBT2 Standard (IHV A)					
	FD400R33KF2C	3300	400	3.40	730/510	H_IH4/4.12
	FD800R33KF2C	3300	800	3.40	1450/1000	H_IH7/4.13
	IGBT2 Standard (IHV A)					
	FD400R33KF2C-K	3300	400	3.40	730/510	H_IH4/4.12
	FD800R33KF2C-K	3300	800	3.40	1450/1000	H_IH7/4.13
	High Insulation (IHV A)					
	FD800R33KL2C-K_B5	3300	800	3.40	2250/1250	H_IH12/4.14
	IGBT3 (IHV B) ¹⁾					
	FD1000R33HE3-K	3300	1000	2.55	1700/1400	H_IH7B/4.13
FD1000R33HL3-K	3300	1000	2.40	2150/1950	H_IH7B/4.13	
 chopper	IGBT3 (IHV B) ¹⁾					
	FZ1000R33HE3	3300	1000	2.55	1700/1400	H_IH4B/4.12
	FZ1200R33HE3	3300	1200	2.7	1950/1800	H_IH7B/4.13
	FZ1500R33HE3	3300	1500	2.55	2550/2100	H_IH7B/4.13
	FZ1000R33HL3	3300	1000	2.40	2150/1950	H_IH4B/4.12
 single switches	FZ1500R33HL3	3300	1500	2.40	3200/2950	H_IH7B/4.13

¹⁾ T_{vj,op} = 150°C

..._B5: 6.5kV housing / 10.2kV insulation

Please find all High Power Diode modules on page 4.11


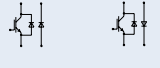
...-K: Diode is used in reverse polarity



IGBT High Power Modules

IHV Modules



4500 V _{CES}						
Type		V _{CES} V	I _C A	V _{CESat} V T _{vj} = 25°C typ.	E _{on} /E _{off} mWs T _{vj} =125°C typ.	Outline/ page
 single switches	IGBT3 (IHV B) ¹⁾					
	◆ FZ800R45HL3	4500	800	2.40	data on request	H_IH4B/4.12
	◆ FZ1200R45HL3	4500	1200	2.40	6000/5400	H_IH7B/4.13
	IGBT3 in B5 housing (IHV A)					
	FZ800R45KL3_B5	4500	800	2.50	4350/3550	H_IH11/4.14
	FZ1200R45KL3_B5	4500	1200	2.50	6500/5300	H_IH12/4.14
 FD... FD...-K chopper	IGBT3 (IHV B) ¹⁾					
	◆ FD800R45HL3-K	4500	800	data on request		H_IH7B/4.13
	IGBT3 in B5 housing (IHV A)					
	◆ FD800R45KL3-K_B5	4500	800	data on request		H_IH12/4.14



¹⁾ IHV B / IHV B: T_{vj,op} = 150°C

◆ New type

..._B5: 6.5kV housing / 10.2kV insulation

...-K: Diode is used in reverse polarity



6500 V _{CES}						
Type		V _{CES} V	I _C A	V _{CESat} V T _{vj} = 25°C typ.	E _{on} /E _{off} mWs T _{vj} =125°C typ.	Outline/ page
 single switches	IGBT3 Standard (IHV A)					
	FZ250R65KE3	6500	250	3.00	2200/1400	H_IH10/4.13
	FZ400R65KE3	6500	400	3.00	3450/2250	H_IH11/4.14
	FZ500R65KE3	6500	500	3.00	4300/2800	H_IH11/4.14
	FZ600R65KE3	6500	600	3.00	5200/3400	H_IH12/4.14
	FZ750R65KE3	6500	750	3.00	6500/4200	H_IH12/4.14
 FD...-K chopper	IGBT3 Standard (IHV A)					
	FD250R65KE3-K	6500	250	3.00	2200/1400	H_IH11/4.14
	FD500R65KE3-K	6500	500	3.00	4300/2800	H_IH12/4.14

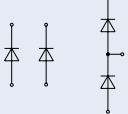

◆ New type

Please find all High Power Diode modules on page 4.11

IGBT High Power Modules

Diode Modules



Diode Modules		V_{RRM} V	I_F A	Q_r μ As $T_{vj}=125^\circ\text{C}$ typ.	Outline/ page
	IGBT4 Standard (IHM B) ¹⁾				
	◆ DD1200S12H4	1200	1200	195	H_IH4B/4.12
	◆ DD800S17H4_B2	1700	800	320	H_IH4B/4.12
	◆ DD1200S17H4_B2	1700	1200	460	H_IH4B/4.12
	IGBT 3				
	■ DZ3600S17K3_B2	1700	3600	1450	H_IH7/4.13
	Standard (IHV A)				
	DD200S33K2C	3300	200	220	H_IH9/4.13
	DD400S33K2C	3300	400	440	H_IH4/4.12
	DD800S33K2C	3300	800	900	H_IH4/4.12
	DD1200S33K2C	3300	1200	1300	H_IH4/4.12
	Low Loss (IHV A)				
	DD1200S33KL2C_B5	3300	1200	1450	H_IH11/4.14
	Standard (IHV B) ¹⁾				
	◆ DD500S33HE3	3300	500	450	H_IH4B/4.12
	◆ DD1000S33HE3	3300	1000	900	H_IH4B/4.12
	Standard (IHV B) ¹⁾				
	◆ DD800S45HL3	4500	800	data on request	H_IH4B/4.10
◆ DD1200S45HL3	4500	1200	data on request	H_IH7B/4.11	
Standard in B5 housing (IHV A)					
DD400S45KL3_B5	4500	400	data on request	H_IH11/4.14	
◆ DD1200S45KL3_B5	4500	1200	2100	H_IH11/4.14	
diode					
	Standard (IHV A)				
	◆ DD250S65K3	6500	250	540	H_IH11/4.14
	◆ DD500S65K3	6500	500	1050	H_IH11/4.14
	◆ DD600S65K3	6500	600	1300	H_IH11/4.14
	◆ DD750S65K3	6500	750	1600	H_IH11/4.14
diode					

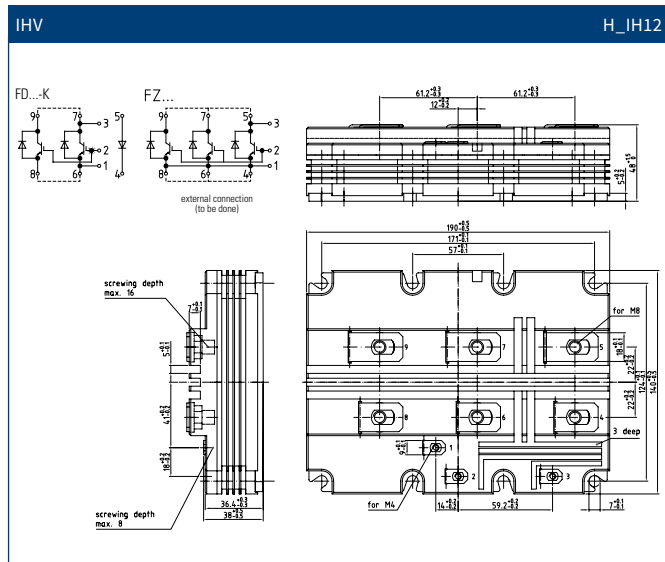
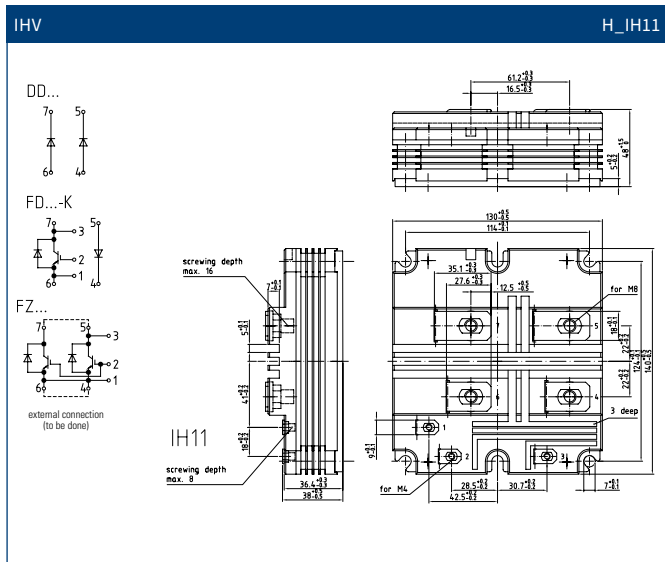
¹⁾ IHM B / IHV B: $T_{vj,op} = 150^\circ\text{C}$

■ Not recommended for new design

◆ New type

..._B2: 140x130mm AlSiC base plate

..._B5: 6.5kV housing / 10.2kV insulation



Package Units

IGBT High Power Modules

IHM Modules	Housing Size (overall)	Packing Units
IHM 73	73.0 mm x 140.0 mm	4
IHM 130	130.0 mm x 140.0 mm	2
IHM B 130	130.0 mm x 140.0 mm	2
IHM 190	190.0 mm x 140.0 mm	1
IHM B 190	190.0 mm x 140.0 mm	1

IHV Modules	Housing Size (overall)	Packing Units
IHV 73	73.0 mm x 140.0 mm	4
IHV 130	130.0 mm x 140.0 mm	2
IHV B 130	130.0 mm x 140.0 mm	2
IHV 190	190.0 mm x 140.0 mm	1
IHV B 190	190.0 mm x 140.0 mm	1

PrimePACK™ Modules	Housing Size (overall)	Packing Units
PP2	89.0 mm x 172.0 mm	3/12
PP3	89.0 mm x 250.0 mm	2/3
PP3+	89.0 mm x 250.0 mm	2

Links

Application Notes, Product Briefs, Flyers and Brochures	Type	Redirects
IHM. IHV Modules & PrimePACK™	Product Brief	www.infineon.com/ihm-ihv-primepack-product-brief
4.5kV modules in IHV portfolio	Webpage	www.infineon.com/ihv
3rd generation 6.5kV IGBT and diode modules	Webpage	www.infineon.com/6.5kV-Modules
IHM / IHV IGBT modules B-series	Webpage	www.infineon.com/ihm-b
PrimePACK™ IGBT Modules	Webpage	www.infineon.com/primepack
Application Notes		
Application Notes for all packages & technologies	Application Note Collection	www.infineon.com/igbt-modules-application-notes
Product Briefs		
Product Briefs for all packages & technologies	Product Brief Collection	www.infineon.com/igbt-modules-product-briefs

IGBT High Power



Module Systems

Today system designers are challenged to reach the targets in terms of energy efficiency, reliability as well as rapid time to market. In addition to this, costs need to be optimized. To meet these demands, industries need solutions tailored to their applications. Infineon's system expertise, broad application competence and decades of experience in industrial electronics enable us to provide innovative, reliable and energy-saving power solutions.

With MIPAQ™ and Stacks Infineon provides end-to-end solutions at different levels of system integration covering a power range from 22 kW up to 8 MW.

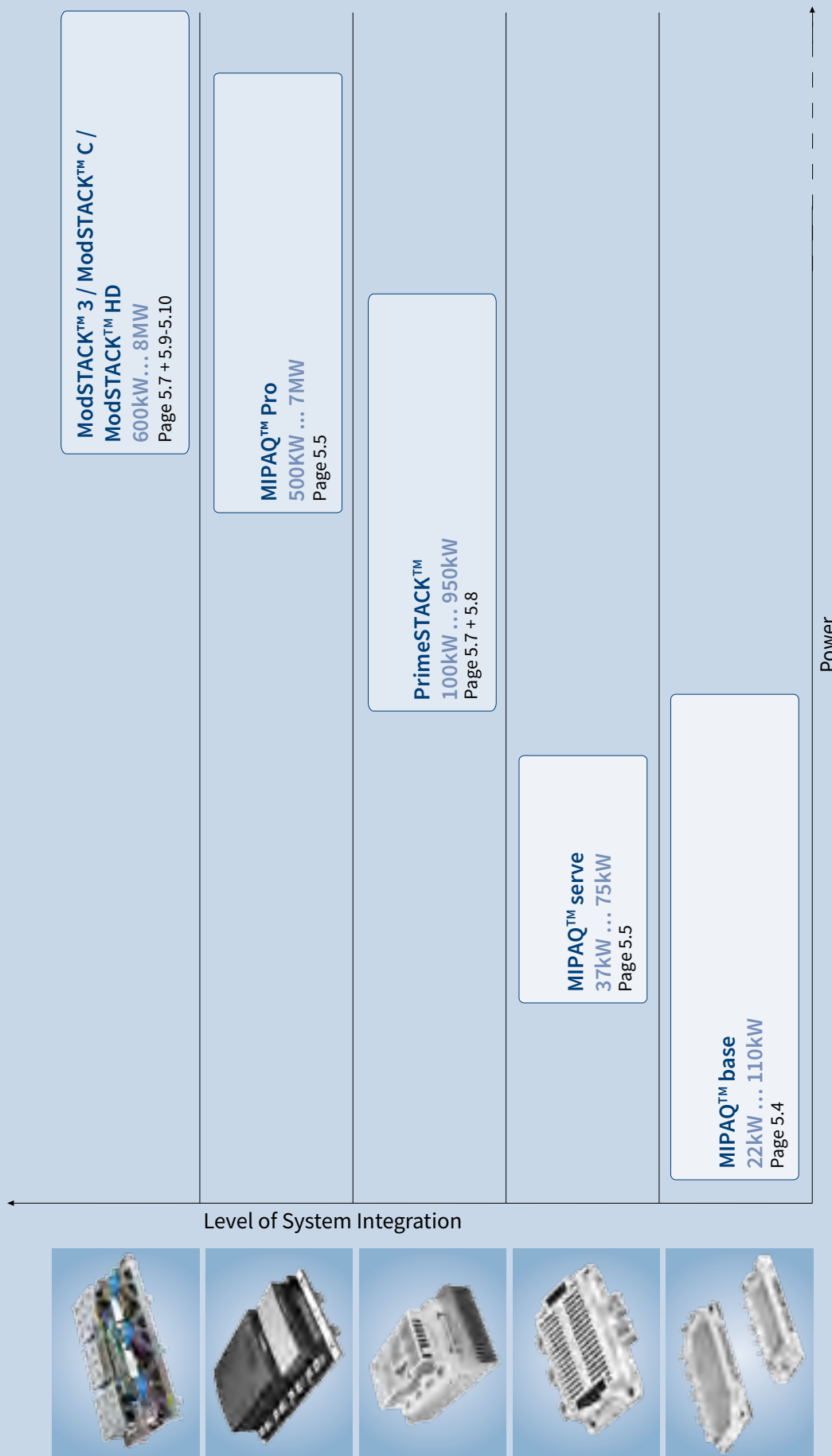
Stacks are based on Infineon's latest IGBT modules and technologies combined with thermal management, capacitors, drivers, sensors and temperature monitoring. The power section and control electronics are fully separated from each other by "reinforced isolation". Infineon's modules are developed for high efficiency, low inductance and simple paralleling of modules. In combination with specially designed high performance cooler, the modules can easily reach maximum output power. All standard and some special stack circuit topologies are available.

MIPAQ™ is Infineon's intelligent power module family (IPM) and offers a very high level of functionality. The MIPAQ™ (Modules Integrating Power, Application and Quality) products are optimized solutions in mastering the challenge of designing powerful and compact inverters with enhancements in efficiency and ruggedness.

The MIPAQ™ Pro, Infineon's latest IPM innovation, provides outstanding protection technologies. All key operating parameters are monitored closely and warning signals are issued. Amongst others, output current, DC-voltage and operating temperatures (T_{vjop}) of the IGBT and the diodes are continuously monitored. Thus, it is ensured that the IPM operates safely within the specified limits. The smart protection along with a completely new design significantly extends the uptime of the application.

The MIPAQ™ Pro is a ready-to-use IPM that provides insight and access to internal parameters like output current, DC voltage and the operation temperatures. Adaptions, e.g. of the warning levels, can be done quickly via digital bus communication and an option slot can be used to realize signal adaptations. This results into fast and smooth design-ins.

Overview Stacks and MIPAQ™





MIPAQ™

The MIPAQ™ family was developed in order to offer Modules Integrating Power, Application and Quality. It is a functional product family within Infineon's IGBT modules portfolio and as such dedicated to useful integration of electronics into power modules. The combination of an IGBT module and integrated sensing and driving electronics leads to an optimized solution in mastering the challenge of designing powerful and compact inverters for low and medium power. It eases the cost situation on the one hand and contributes to energy saving on the other hand.

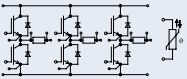




The MIPAQ™ base provides an IGBT sixpack or the new IGBT half bridge configuration with PressFIT pins including current sense shunts inside. Due to the integration of specially designed shunts, the performance with regard to system cost is excellent. MIPAQ™ base modules in sixpack configuration with NTC are available in the well-proven EconoPACK™ 3 housing with 100 A and 150 A nominal current and 1200 V / 1700 V blocking voltage. Modules in half bridge configuration are available in EconoPACK™ 2 housing with 300 A nominal current and 1200 V / 1700 V blocking voltage. MIPAQ™ base shunt

modules save space and help to manage the temperature on the PCB with very high measurement accuracy. All MIPAQ™ base modules come with PressFIT pins and Infineon Thermal Interface Material (TIM).

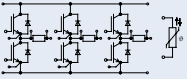




The MIPAQ™ serve consists of an IGBT sixpack plus a full set of drivers and temperature measurement on top of the IGBT module. It is a plug and play solution for high current drive applications. Inside the module, there are galvanically isolated drivers based on Infineon's Coreless Transformer Technology. The temperature measurement of the base plate inside the module offers an isolated signal as well. MIPAQ™ serve covers a range from 100 A up to 200 A at 1200 V blocking voltage and features the EconoPACK™ 4 package.

MIPAQ™ Pro is a fully qualified and tested IPM integrating IGBT, gate drivers, heat sink, sensors and digital control electronics as well as digital bus communication. It comes in a half-bridge configuration with blocking voltages of 1200 V or 1700 V. Nominal current ratings of up to 2400 A are supported. The new IPM is available with liquid- as well as forced air cooled heat sinks.

MIPAQ™ base

1200 V _{CES}							
Type		V _{CES} V	I _C A	V _{CESat} V T _{vj} = 25°C typ.	P _{tot} W	R _{shunt} mΩ T _{vj} = 25°C typ.	Outline/ page
 sixpack with shunts & NTC	IGBT 4						
	IFS100B12N3E4P_B11 	1200	100	1.75	515	1.50	M_E3m/5.6
	IFS150B12N3E4P_B11 	1200	150	1.75	750	1.00	M_E3n/5.6
 half bridge with shunts & NTC	IGBT 4						
	IFF300B12N3E4P_B11 	1200	300	1.75	1350	0.53	M_E2q/5.6



1700 V _{CES}							
Type		V _{CES} V	I _C A	V _{CESat} V T _{vj} = 25°C typ.	P _{tot} W	R _{shunt} mΩ T _{vj} = 25°C typ.	Outline/ page
 sixpack with shunts & NTC	IGBT 4						
	IFS100B17N3E4P_B11 	1700	100	1.95	600	2.40	M_E3m/5.6
	IFS150B17N3E4P_B11 	1700	150	1.95	835	1.50	M_E3o/5.6
 half bridge with shunts & NTC	IGBT 4						
	IFF300B17N3E4P_B11 	1700	300	1.95	1500	1.00	M_E2r/5.6




...B11 PressFIT modules

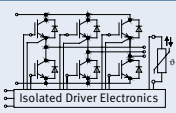
 with pre-applied Thermal Interface Material (TIM) for improved thermal performance.

Systems

MIPAQ™ serve


1200 V_{CEs}



Type	V _{CEs} V	I _c A	V _{CEsat} V T _{vj} = 25°C typ.	E _{on} +E _{off} mWs T _{vj} =125°C typ.	Outline/ page
	IGBT 4				
	IFS100V12PT4	1200	100	1.75	22 M_EP4v/5.6
	IFS150V12PT4	1200	150	1.75	34 M_EP4v/5.6
IFS200V12PT4	1200	200	1.75	40 M_EP4v/5.6	

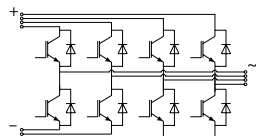
MIPAQ™ Pro

1700 V_{CEs}
V_{AC} = 690 V_{RMS}

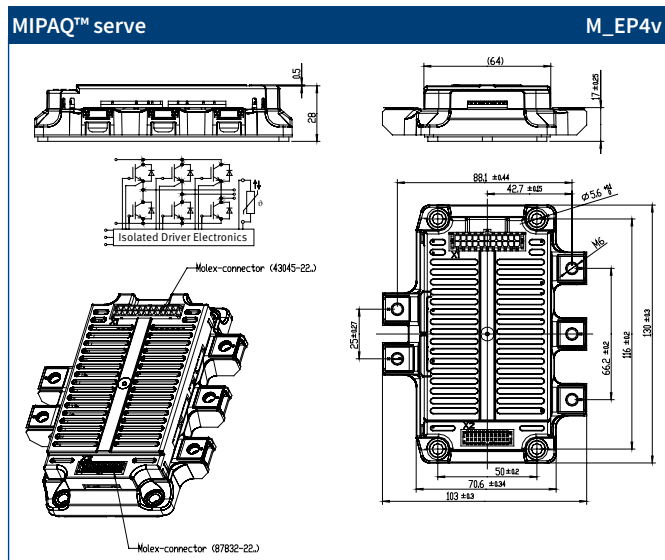
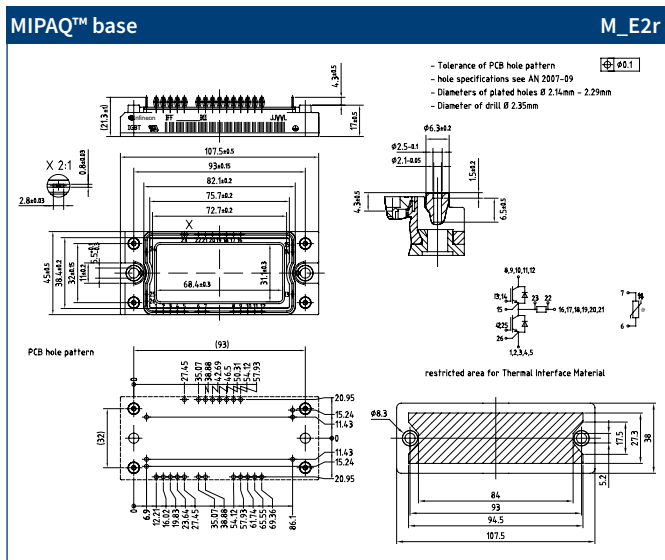
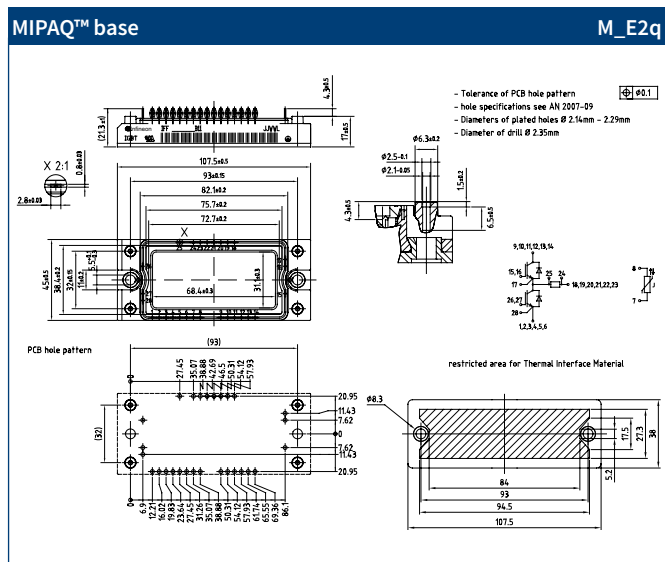
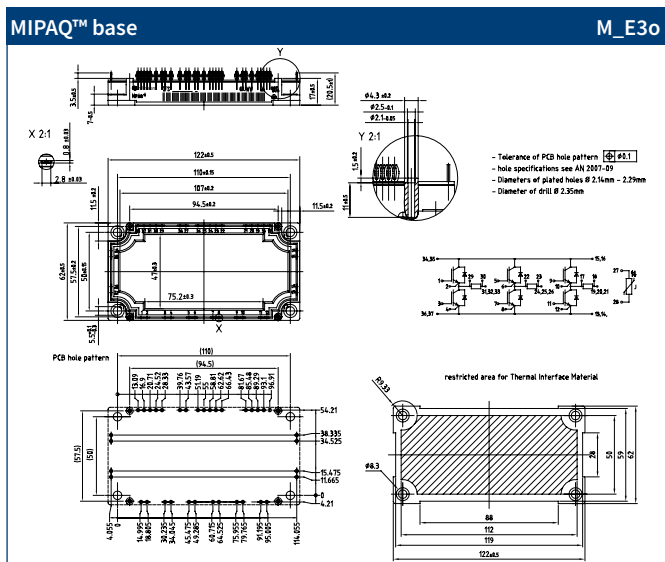
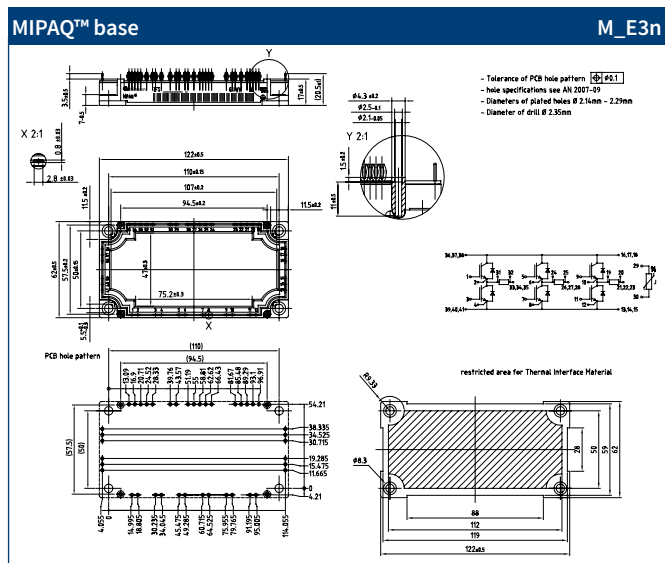
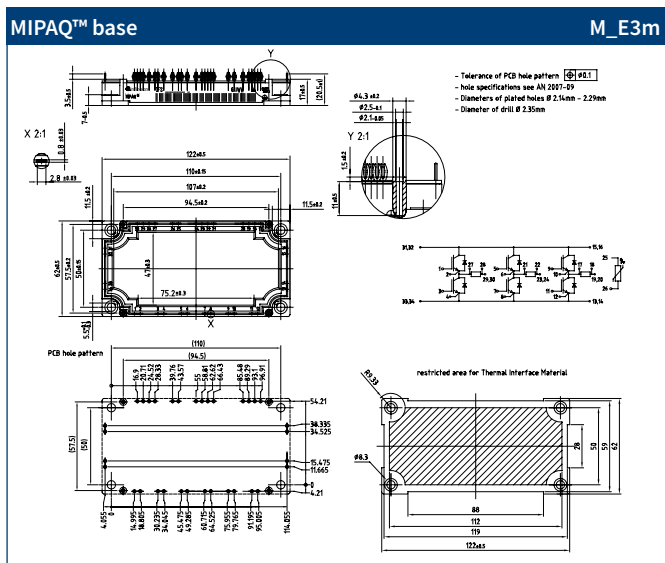


	I _c [A]	f _{swmax} [kHz]	V _{DCmax} [V]	Cooling	Topology	Voltage sensor	Current sensor	Temperature sensor	Housing	Driver signal
IFF2400P17LE4	2400	10	1350	liquid	1/2B2I	X	X	X	MIPAQ™ Pro	electrical
IFF2400P17AE4	2400	10	1350	forced air	1/2B2I	X	X	X	MIPAQ™ Pro	electrical

Available configurations

Topology	Acronym
	1/2 B2I

Outlines



Systems



PrimeSTACK™ & ModSTACK™

The **PrimeSTACK™** family is a complete switch solution for power electronic circuits containing all the necessary components for current, voltage and temperature measurements and is equipped with the well known field proved 62 mm Infineon IGBT modules.

Control electronics and the power connections are fully separated from each other by “reinforced isolation”. With several superior monitor functions, PrimeSTACK™ offers a self protecting switch function and enables the development of highly efficient and safe inverters, quickly and with a minimum effort for the designer. The product scope covers chip current ratings from 300 A up to 1400 A at 1200 V or 1700 V.

General PrimeSTACK™ features

- 1200 V or 1700 V IGBT implemented
- EiceDRIVER™ inside
- Based on Infineon standard IGBT modules
- Current sense of every output leg
- Temperature sense
- Optional DC-link voltage monitoring
- Analogue output of all sensor signals
- Reinforced isolation according to EN50178

The **ModSTACK™** family combines Infineon Technologies IGBT modules and IGBT gate-drivers to achieve current ratings from 600 A up to 1800 A at a line supply up to 690 V AC. The appropriate interfaces and thermal management are included. These solutions support customers in quickly designing single and three phase inverters.

General ModSTACK™ features

- Modular stack system designed for industrial approved cabinets
- Low inductance DC link with polypropylene or electrolytic capacitors
- Integrated IGBT driver
- Voltage signals for control and monitoring (currents, voltages, short circuit, heat sink temperature, failure signals)
- Liquid or forced air cooling available
- Electrical or optical interface for digital control signals available
- Up to 4 units can be operated in parallel

PrimeSTACK™

1200 V _{CES} V _{AC} = 400 V _{RMS}											
	I _{rms} ¹⁾ [A]	f _{swmax} [kHz]	V _{DCmax} [V]	Cooling	Topology	Voltage sensor	Current sensor	Temperature sensor	DC link Capacitor	Housing ³⁾	Driver signal
6PS04512E43G37986	250	14	850	forced air	B6I	X	X	X	X	C3 (216 x 280 x 167)	electrical
6PS04512E43W39693	290	14	850	liquid	B6I	X	X	X	X	C3 (216 x 280 x 167)	electrical
2PS18012E44G40113	770	3	1000	forced air	1/2B2I	X	X	X	X	C4 (216 x 360 x 167)	electrical
6PS18012E4FG35689	800	6	850	forced air	B6I	X	X	X	X	3 x C4 (645 x 438 x 167)	electrical
6PS18012E4FG38393	800	3	1000	forced air	B6I		X	X	X	3 x C4 (645 x 438 x 167)	electrical

¹⁾ simulated at 2kHz, all other parameters refer to datasheet conditions

³⁾ Width x depth x height [mm] including heatsink, but excluding optional parts like DC-Link capacitor box



1700 V _{CES} V _{AC} = 690 V _{RMS}											
	I _{rms} ²⁾ [A]	f _{swmax} [kHz]	V _{DCmax} [V]	Cooling	Topology	Voltage sensor	Current sensor	Temperature sensor	DC link Capacitor	Housing ³⁾	Driver signal
2PS12017E44G35911	574	7	1200	forced air	1/2B2I		X	X	X	C4 (216 x 360 x 167)	electrical

²⁾ simulated at 3kHz, all other parameters refer to datasheet conditions

³⁾ Width x depth x height [mm] including heatsink, but excluding optional parts like DC-Link capacitor box



Available configurations

Topology	Acronym
	1/2B2I

Topology	Acronym
	B6I

Systems

ModSTACK™ 3

1700 V_{CES}
V_{AC} = 690 V_{RMS}



	I _{rms} ²⁾ [A]	f _{swmax} [kHz]	V _{DC max} [V]	Cooling	Topology	Voltage sensor	Current sensor	Temperature sensor	DC link Capacitor	Housing ⁴⁾	Driver signal
6MS16017P43W40382	880	5	1250	liquid	B6I	X	X	X	X	MS 3 (1090 x 496 x 345)	electrical
6MS24017E33W32859	816	2,5	1200	forced air	B6I	X	X	X	X	MS 3 (1090 x 596 x 345)	optical
6MS24017E33W32780	1120	3,5	1216	liquid	B6I	X	X	X	X	MS 3 (1090 x 596 x 345)	electrical

²⁾ simulated at 3kHz, all other parameters refer to datasheet conditions

⁴⁾ Width x depth x height [mm] including heatsink and DC-Link capacitor box

Available configurations

Topology	Acronym
	B6I

ModSTACK™ C

1700 V _{CES} V _{AC} = 690 V _{RMS}											
	I _{rms} ²⁾ [A]	f _{swmax} [kHz]	V _{DCmax} [V]	Cooling	Topology	Voltage sensor	Current sensor	Temperature sensor	DC link Capacitor	Housing ³⁾	Driver signal
2LS20017E42W36702	1520	4	1216	liquid	1/2B2I		X	X		MS C2 (205 x 399 x 118)	electrical



²⁾ simulated at 3kHz, all other parameters refer to datasheet conditions

³⁾ Width x depth x height [mm] including heatsink, but excluding optional parts like DC-Link capacitor box

Available configurations

Topology	Acronym
	1/2B2I

ModSTACK™ HD

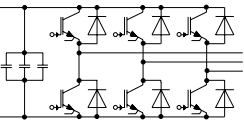
1700 V _{CES} V _{AC} = 690 V _{RMS}											
	I _{rms} ²⁾ [A]	f _{swmax} [kHz]	V _{DCmax} [V]	Cooling	Topology	Voltage sensor	Current sensor	Temperature sensor	DC link Capacitor	Housing ⁴⁾	Driver signal
6MS10017E41W36460	700	5	1216	liquid	B6I	X	X	X	X	MS HD1 (338 x 590 x 375)	electrical
6MS20017E43W38170	1200	4	1216	liquid	B6I	X	X	X	X	MS HD3 (1090 x 596 x 366)	electrical
6MS30017E43W38169	1800	3	1216	liquid	B6I	X	X	X	X	MS HD3 (1090 x 596 x 366)	electrical



²⁾ simulated at 3kHz, all other parameters refer to datasheet conditions

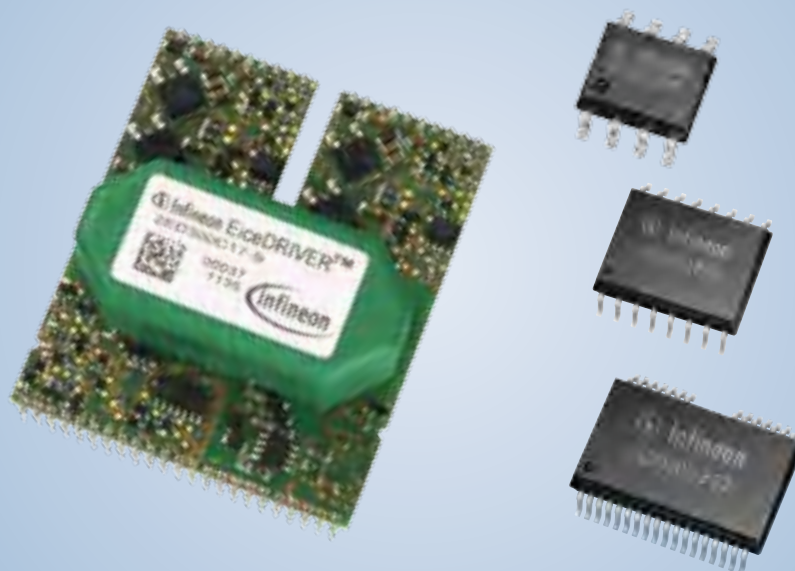
⁴⁾ Width x depth x height [mm] including heatsink and DC-Link capacitor box

Available configurations

Topology	Acronym
	B6I

Links

Application Notes, Product Briefs, Flyers and Brochures	Type	Redirects
MIPAQ™	Webpage	www.infineon.com/mipaq
MIPAQ™ Pro	Product Brief	www.infineon.com/MIPAQ-Pro
MIPAQ™ – More Than You Expect!	Brochure	www.infineon.com/mipaq-brochure
MIPAQ™ serve	Application Note	www.infineon.com/mipaq-serve-appnote
MIPAQ™ base	Application Note	www.infineon.com/mipaq-base-appnote
STACKs - We are the experts for power solutions	Product Information	www.infineon.com/stacks-product-information
STACKs – Productpage	Webpage	www.infineon.com/stacks
ModSTACK™ HD	Product Brief	www.infineon.com/modstack-hd-product-brief



EiceDRIVER™ high voltage gate driver solutions

EiceDRIVER™ solutions from Infineon are the expert's choice. With its HV gate driver boards and HV gate driver ICs, Infineon provides a broad spectrum of solutions for reliable and efficient controls for Infineon's IGBT and MOSFET products.

EiceDRIVER™ C

All EiceDRIVER™ Compact driver ICs share small package sizes (DSO-8/DSO-14/TSSOP-28) and optimized features such as UVLO for higher power density and ease of use. These highly reliable 200 V, 600 V, and 1200 V high voltage driver ICs provide functional isolation with Infineon's coreless transformer (CLT) and silicon-on-insulator (SOI) level-shifting technologies.

EiceDRIVER™ E

EiceDRIVER™ Enhanced driver ICs extend the portfolio of highly reliable 1200 V gate drivers for IGBTs and MOSFETs in discrete packages or modules supporting functional or basic isolation using Infineon's coreless transformer technology. Enhanced features such as desaturation detection, two-level turn-off, and undervoltage lockout boost demanding industrial applications and provide safety, protection, and higher integration.

EiceDRIVER™ S

The portfolio is complemented by EiceDRIVER™ Safe high voltage gate driver boards for IGBT modules up to 1700 V. They provide reinforced isolation and outstanding protection features. With the help of additional carrier hardware they can be used along with half-bridge, full-bridge, and other high-power modules. Integrated protection features and fault management provide safe operation even in strong noisy industrial environments.

HV Gate Driver ICs

EiceDRIVER™ ICs

Infineon's EiceDRIVER™ high voltage driver IC family covers a wide power range and enables customers to build reliable and efficient applications.

The coreless transformer technology (CLT) allows the integration of a pulse transformer into an IC, combining the advantages of HVIC technology with the capabilities of inductive couplers. This results in an extremely rugged IC with high insulation capabilities and long-term reliability over the projected lifetime.

Thin-film silicon-on-insulator (SOI) technology is an advanced technique for MOS/CMOS fabrications. It differs from the conventional bulk process by placing the active transistor layer on the top of an insulator. This leads to outstanding robustness against latch-up when exposed to extreme temperatures and voltage conditions.

EiceDRIVER™ Enhanced products such as the single channel drivers 1ED020I12-F2 and 1ED020I12-B2 or the dual channel driver 2ED020I12-F2 provide desaturation detection (DESAT), active Miller clamp, undervoltage lockout (UVLO), and shut-down in functional or basic isolation. The 1ED020I12-FT and 1ED020I12-BT allow safe overcurrent shutdown with additional two-level turn-off.

Infineon's new single channel EiceDRIVER™ Compact drivers with strong driving capabilities at 6 A minimum peak output current are now available for IGBTs (1EDI60I12AF) and MOSFETs (1EDI60N12AF). Their rugged new CLT designs enable undisturbed operation at a CMTI of up to 100kV/μs. Half bridge EiceDRIVER™ ICs using CLT (2ED020I12-FI or 2ED020I06-FI) or SOI level-shifting technology (2EDL family) are cost efficient solutions with UVLO and additional protection features. Infineon's three-phase driver ICs for low power drive applications include 6ED003L06-F2, 6ED003L02-F2 and the 6EDL members in 600 V and 200 V. They provide basic functionality like undervoltage lockout for IGBT or MOSFET levels, overcurrent shut down (ITRIP), interlocking, and enable (EN). The 6EDL family also has high-speed bootstrap circuitry for each individual high-side driver stage.

HV Gate Driver ICs

EiceDRIVER™ ICs

1ED020I12-B2 EiceDRIVER™ E

Single Channel isolated gate driver

- Basic isolation according to EN60747-5-2, recognized under UL1577
- Fully functional at transient +/- 1420V and static voltages of +/- 1200V
- High voltage side status feedback
- 2A sink and source rail-to-rail output
- Max. TJ = 150 °C
- Package SO16 300 mil
- Protection functions:
 - Enhanced desaturation detection
 - Active Miller clamp
 - Under voltage lockout
 - Shut down
 - Watchdog timer

1ED020I12-F2 EiceDRIVER™ E

Single Channel isolated gate driver

- Same functions and features as 1ED020I12-B2
- Functional Isolation of 1200V

1ED020I12-BT EiceDRIVER™ E

Single channel isolated gate driver

- Same functions and features as 1ED020I12-F2
- Basic isolation according to EN60747-5-2, recognized under UL1577
- Adjustable two level turn-off function
- Desaturation detection with 500 μA

1ED020I12-FT EiceDRIVER™ E

Single channel isolated gate driver

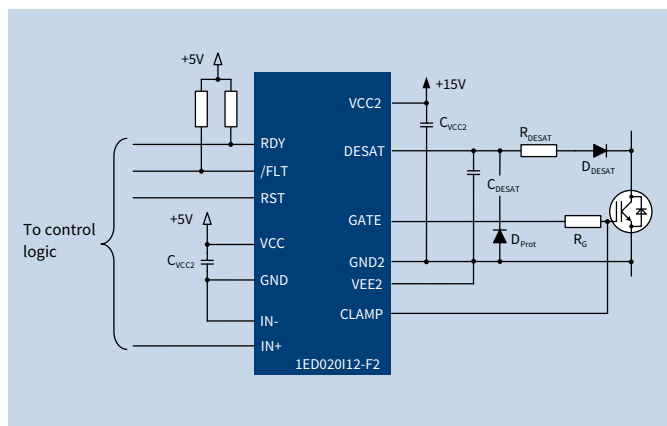
- Same functions and features as 1ED020I12-BT
- Functional isolation of 1200V

2ED020I12-F2 EiceDRIVER™ E

Dual channel isolated gate driver

- Same functions and features as two times 1ED020I12-F2
- Package SO36 300mil

Typical application 1ED020I12-F2



HV Gate Driver ICs

EiceDRIVER™ ICs

2ED020I12-FI

1200 V Isolated high side half bridge gate driver

- Galvanic isolation of high side driver
- 2A sink current, 1 A source current
- Fully functional at transient and static voltages of +/-1200V
- Integrated operational amplifier and comparator
- Matched delay times of high side and low side
- Max. T_j = 150 °C
- Package SO18 300 mil
- Protection function:
 - Hardware input interlocking
 - Under voltage lockout
 - Shut down function

2ED020I06-FI

650 V isolated high side half bridge gate driver

- Galvanic isolation of high side driver
- 2A sink current, 1 A source current
- Fully functional at transient and static voltages of +/-650V
- Matched delay times of high side and low side
- Max. T_j = 150 °C
- Package SO18 300 mil
- Protection function:
 - Hardware input interlocking
 - Under voltage lockout

HV Gate Driver ICs Product Type

Products	Packages	Topology	Voltage Class	Source/Sink Current Io+/-	Turn On Propagation Delay (max)	T _j (max)	
	1EDI05I12AF	PG-DSO-8	Single	1200 V	0.5 / -0.5 A	330.0 ns	150.0 degC
	1EDI10I12MF	PG-DSO-8	Single	1200 V	1.0 / -1.0 A	330.0 ns	150.0 degC
	1EDI20I12AF	PG-DSO-8	Single	1200 V	2.0 / -2.0 A	330.0 ns	150.0 degC
	1EDI20N12AF	PG-DSO-8	Single	1200 V	2.0 / -2.0 A	115.0 ns	150.0 degC
	1EDI20I12MF	PG-DSO-8	Single	1200 V	2.0 / -2.0 A	330.0 ns	150.0 degC
	1EDI30I12MF	PG-DSO-8	Single	1200 V	3.0 / -3.0 A	330.0 ns	150.0 degC
	1EDI40I12AF	PG-DSO-8	Single	1200 V	4.0 / -4.0 A	330.0 ns	150.0 degC
	1EDI60I12AF	PG-DSO-8	Single	1200 V	6.0 / 6.0 A	330.0 ns	150.0 degC
	1EDI60N12AF	PG-DSO-8	Single	1200 V	6.0 / 6.0 A	115.0 ns	150.0 degC
	2EDL05I06BF	PG-DSO-8	Half Bridge	600 V	0.25 / -0.5 A	600.0 ns	150.0 degC
	2EDL05I06PF	PG-DSO-8	Half Bridge	600 V	0.25 / -0.5 A	600.0 ns	150.0 degC
	2EDL05I06PJ	PG-DSO-14	Half Bridge	600 V	0.25 / -0.5 A	600.0 ns	150.0 degC
	2EDL05N06PF	PG-DSO-8	Half Bridge	600 V	0.25 / -0.5 A	450.0 ns	150.0 degC
	2EDL05N06PJ	PG-DSO-14	Half Bridge	600 V	0.25 / -0.5 A	450.0 ns	150.0 degC
	2EDL23I06PJ	PG-DSO-14	Half Bridge	600 V	1.5 / -2.3 A	600.0 ns	150.0 degC
	2EDL23N06PJ	PG-DSO-14	Half Bridge	600 V	1.5 / -2.3 A	450.0 ns	150.0 degC
	6ED003L02-F2	PG-TSSOP-28	3-Phase	200V	180 / -380 mA	800.0 ns	125.0 degC
	6ED003L06-F2	PG-DSO-28	3-Phase	600 V	180 / -380 mA	800.0 ns	125.0 degC
6EDL04I06NT	PG-DSO-28	3-Phase	600 V	180 / -380 mA	800.0 ns	125.0 degC	
6EDL04I06PT	PG-DSO-28	3-Phase	600 V	180 / -380 mA	800.0 ns	125.0 degC	
6EDL04N02PR	PG-TSSOP-28	3-Phase	200V	180 / -380 mA	800.0 ns	125.0 degC	
6EDL04N06PT	PG-DSO-28	3-Phase	600 V	180 / -380 mA	800.0 ns	125.0 degC	
	1ED020I12-B2	PG-DSO-16	Single	1200 V	2.0 / -2.0 A	195.0 ns	150.0 degC
	1ED020I12-BT	PG-DSO-16	Single	1200 V	2.0 / -2.0 A	2,000.0 ns	150.0 degC
	1ED020I12-F2	PG-DSO-16	Single	1200 V	2.0 / -2.0 A	195.0 ns	150.0 degC
	1ED020I12-FT	PG-DSO-16	Single	1200 V	2.0 / -2.0 A	2,000.0 ns	150.0 degC
	2ED020I06-FI	PG-DSO-18	Half Bridge	650 V	1.0 / -2.0 A	105.0 ns	150.0 degC
	2ED020I12-F2	PG-DSO-36	Dual	1200 V	2.0 / -2.0 A	195.0 ns	150.0 degC
2ED020I12-FI	PG-DSO-18	Half Bridge	1200 V	1.0 / -2.0 A	105.0 ns	150.0 degC	

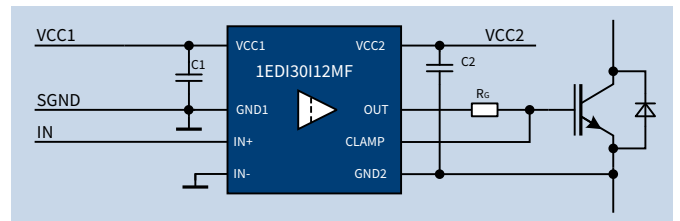
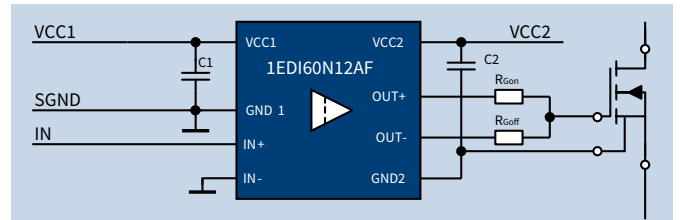
* Certified according to DIN EN 60747-5-2

1EDI Compact Family

Single Channel isolated gate driver

- Fully functional at static voltages of +/- 1200V
- High CMTI rating $dV/dt = 100V/ns$
- Up to 6A min. output peak current
- Separated source / sink output or single output with Active Miller clamp
- Short propagation delay of 100ns or 240ns input filter time for noise suppression
- Compact SO8 150mil package

Typical circuit 1EDI



	Safety Isolation Type*	UVLO ON,max	Fault Reporting	Shutdown /Enable	Input Logic Type	Interlock	Two Level Turn Off	Package Outline
-	-	12.7 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	12.7 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	12.7 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	10.0 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	12.7 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	12.7 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	12.7 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	12.7 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	10.0 V	-	-	pos/neg	-	no	PG-DSO-8-51 / 6.9
-	-	12.4 V	-	EN	pos	-	no	PG-DSO-8-53 / 6.9
-	-	12.4 V	-	EN	pos	yes	no	PG-DSO-8-53 / 6.9
-	-	12.4 V	-	EN	pos	yes	no	PG-DSO-14-49 / 6.9
-	-	9.9V	-	EN	pos	yes	no	PG-DSO-8-53 / 6.9
-	-	9.9V	-	EN	pos	yes	no	PG-DSO-14-49 / 6.9
-	-	12.4 V	OCP	EN	pos	yes	no	PG-DSO-14-49 / 6.9
-	-	9.9V	OCP	EN	pos	yes	no	PG-DSO-14-49 / 6.9
-	-	12.5 V	ITRIP	EN	neg	yes	no	PG-TSSOP-28-1 / 6.9
-	-	12.5 V	ITRIP	EN	neg	yes	no	PG-DSO-28-17 / 6.9
-	-	12.5 V	ITRIP	EN	neg	yes	no	PG-DSO-28-17 / 6.9
-	-	12.5 V	ITRIP	EN	pos	yes	no	PG-DSO-28-17 / 6.9
-	-	9.8V	ITRIP	EN	pos	yes	no	PG-TSSOP-28-1 / 6.9
-	-	9.8V	ITRIP	EN	pos	yes	no	PG-DSO-28-17 / 6.9
-	Basic	12.6 V	DESAT	/RST	pos/neg	-	no	PG-DSO-16-15 / 6.8
-	Basic	12.6 V	DESAT	/RST	pos/neg	-	yes	PG-DSO-16-15 / 6.8
-	-	12.6 V	DESAT	/RST	pos/neg	-	no	PG-DSO-16-15 / 6.8
-	-	12.6 V	DESAT	/RST	pos/neg	-	yes	PG-DSO-16-15 / 6.8
-	-	13.5 V	-	/SD	pos	yes	no	PG-DSO-18-2 / 6.8
-	-	12.6 V	DESAT	/RST	pos/neg	no	no	PG-DSO-36-58 / 6.8
-	-	13.5 V	OCP	/SD	pos	yes	no	PG-DSO-18-2 / 6.8

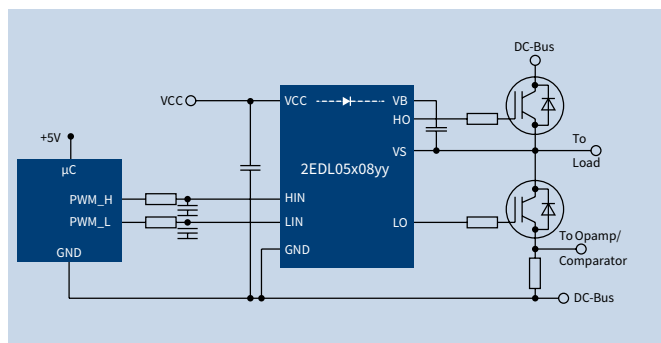
HV Gate Driver ICs

EiceDRIVER™ ICs

2EDL Compact Family EiceDRIVER™ C

- Ultra fast integrated bootstrap diode
- SO8 and SO14 package
- Enable function (2EDL23x only)
- Fault indication (2EDL23x only)
- Protection function:
 - Asymmetric undervoltage lockout
 - Active shut down
 - Undervoltage lockout levels for MOSFET and IGBT
 - Over current protection (2EDL23x only)
 - Interlock optional
 - Fixed hardware dead time optional

Typical application 2EDL05x06yy



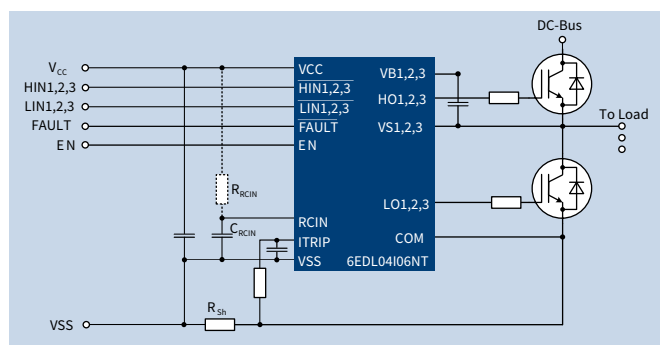
6EDL Compact Family



Typical application 6EDL04I06NT

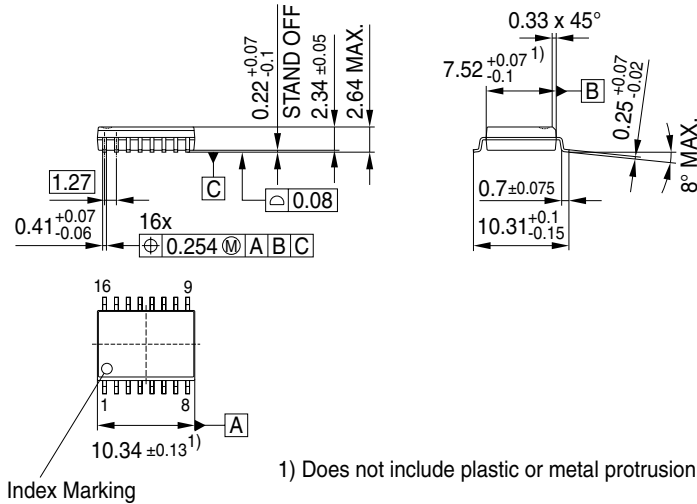
200V and 600V 3-phase gate driver

- Ultra fast integrated bootstrap diode
- Fully functional at neg. transient voltages down to -50V (500 ns)
- Programmable restart after over current protection
- Shut down of all outputs in case of UVLO, OCP
- Package SO28 300 mil (600V) and
- package TSSOP28 (200V)
- Protection functions:
 - Over current protection (OCP)
 - Hard ware input interlocking
 - Under voltage lockout (UVLO)
 - Fixed hardware dead time of high side and low side
 - Enable function



Package Outlines

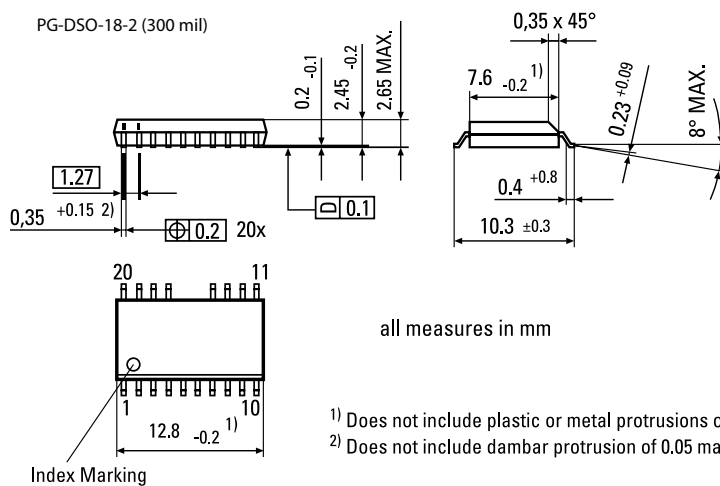
PG-DSO-16-15



1) Does not include plastic or metal protrusion of 0.15 max. per side

PG-DSO-16-4, -15-PO V06

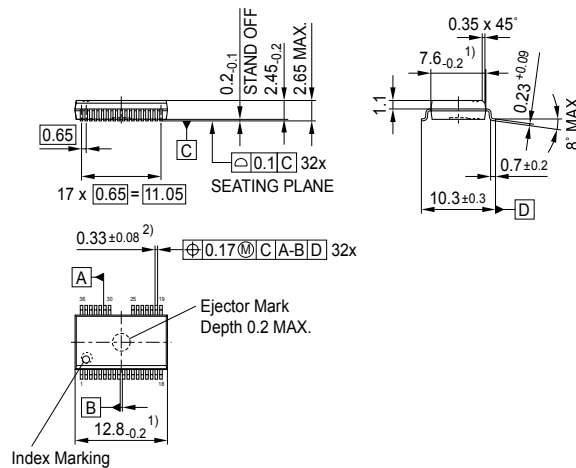
PG-DSO-18-2



all measures in mm

1) Does not include plastic or metal protrusions of 0.15 max. per side
2) Does not include dambar protrusion of 0.05 max. per side

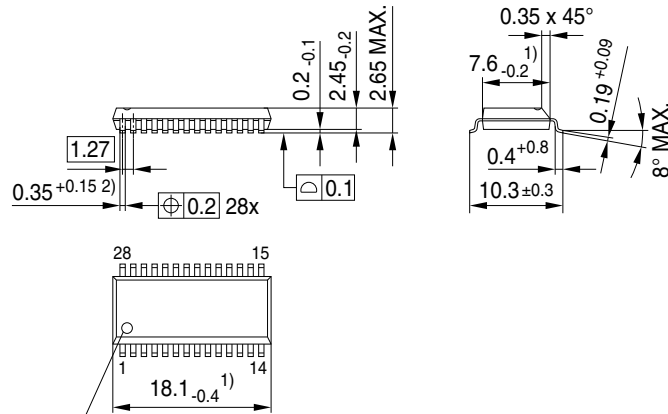
PG-DSO-36-58



1) Does not include plastic or metal protrusion of 0.15 max. per side
2) Does not include dambar protrusion of 0.05 max. per side

Package Outlines

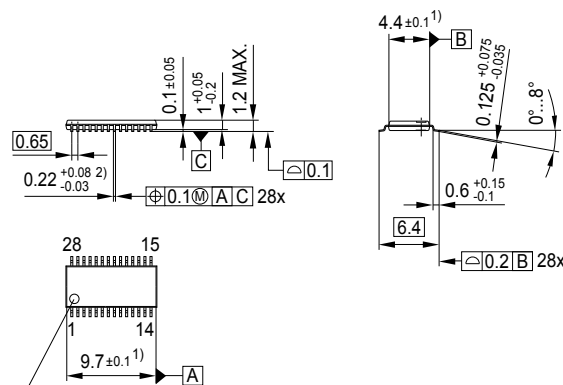
PG-DSO-28-17



Index Marking

- 1) Does not include plastic or metal protrusion of 0.15 max. per side
- 2) Does not include dambar protrusion of 0.05 max. per side

PG-TSSOP-28-1

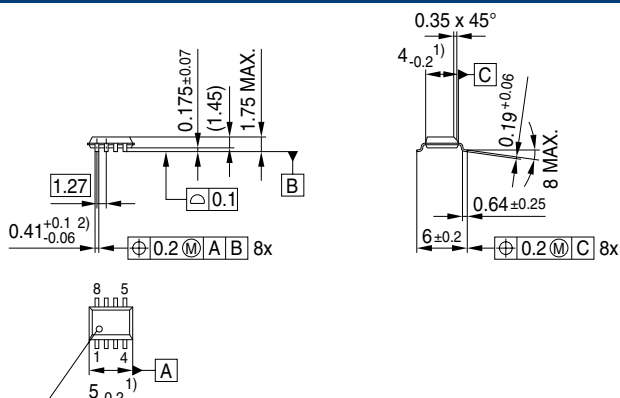


Index Marking

- 1) Does not include plastic or metal protrusion of 0.15 max. per side
- 2) Does not include dambar protrusion

GPS05867

PG-DSO-8-51/PG-DSO-8-53

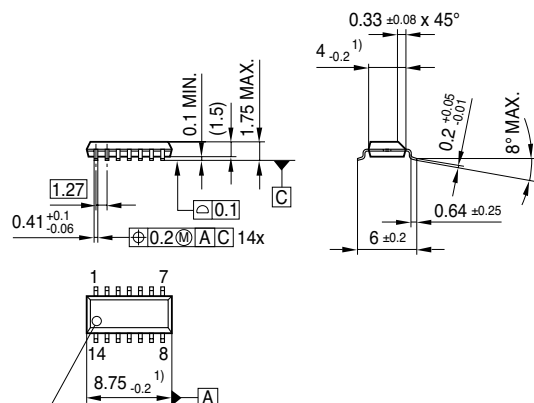


Index Marking

- 1) Does not include plastic or metal protrusion of 0.15 max. per side
- 2) Lead width can be 0.61 max. in dambar area

GPS01181

PG-DSO-14-49




Index Marking

- 1) Does not include plastic or metal protrusion of 0.15 max. per side

HV Gate Driver Boards

EiceDRIVER™ Boards



	Type	Channels	Control Interface	IGBT max V _{CE} V	V _{ISO} kV	I _{GM} A	P _{OUT} W	T _{OP} °C	size mm x mm	mounting by	for modules	Outline/page
	2ED300C17-S	2	15V CMOS logic	1700	5	±30	8	-25/85	60,5 x 72	soldering	EconoPACK™+, 62 mm, IHM, EconoDUAL™, PrimePACK™	6.11
	2ED300C17-ST	2	15V CMOS logic	1700	5	±30	8	-40/85	60,5 x 72	soldering	EconoPACK™+, 62 mm, IHM, EconoDUAL™, PrimePACK™	6.11

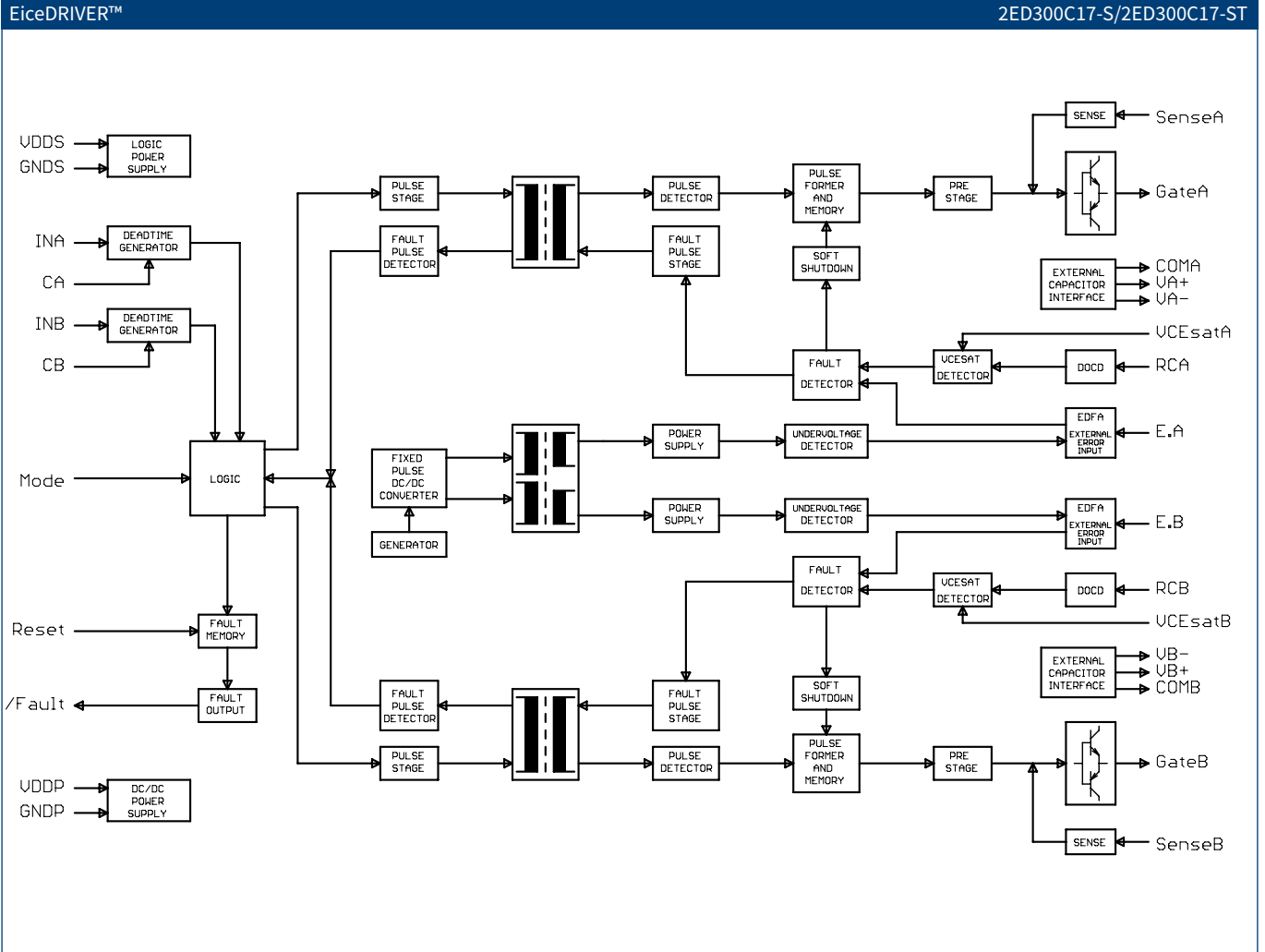
Datasheets available under www.infineon.com/eicedriver-boards

Technical features

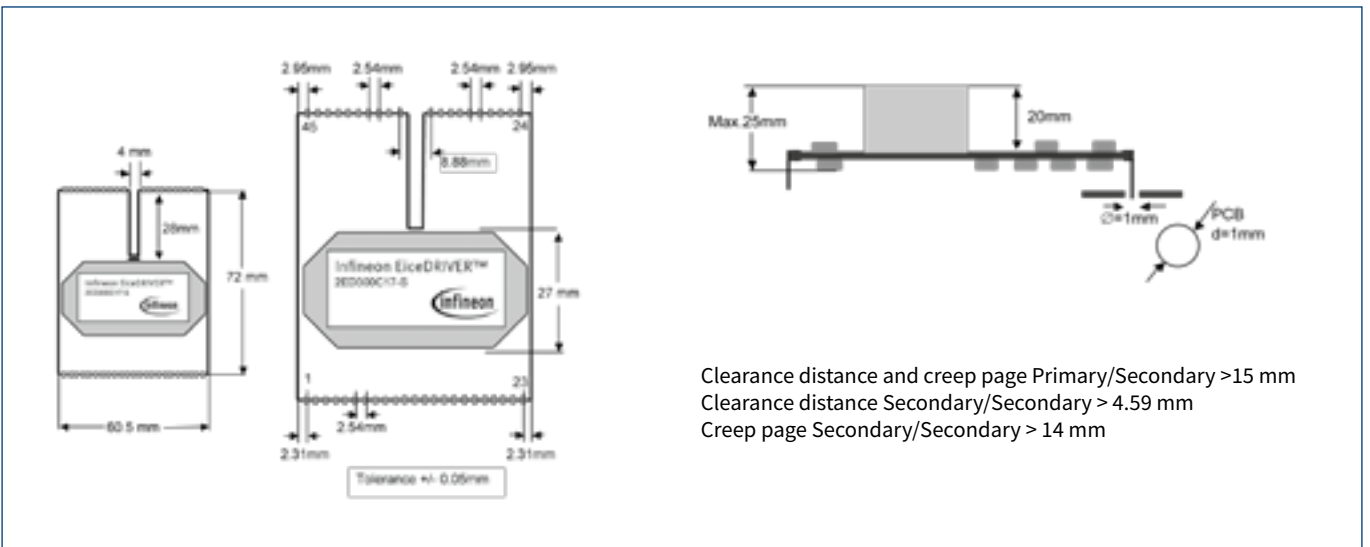
2ED300C17-S / 2ED300C17-ST

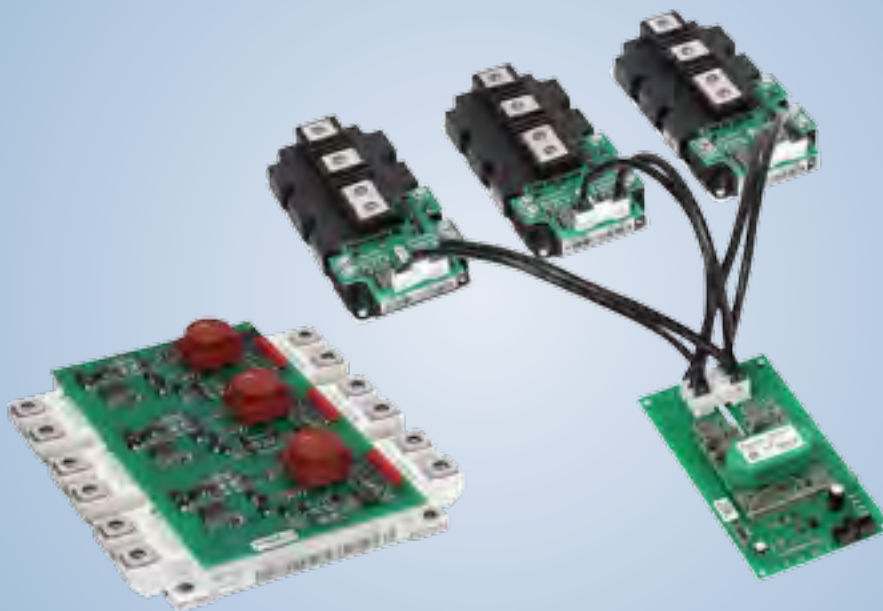


- Half-bridge or direct mode
- Symmetric ±15 V output gate drive voltage
- 15V CMOS level signal processing
- Low-resistance and therefore noise immune 15V PWM signal input
- Minimum pulse suppression 400ns
- Interlocking and dead time generation in half-bridge mode included
- Dynamic over-current detection by monitoring the saturation voltage
- Soft shutdown in case of failure shutdown
- Failure output
- Reset input and PWM reset
- External detected failure analysis
- Additional ±16V supply outputs
- 2ED300C17-S: temperature range -25°C/85°C
- 2ED300C17-ST: temperature range -40°C/85°C



Drivers





Evaluation and Adapter Boards

Infineon’s evaluation boards have been designed in several configurations to drive IGBT modules. These boards are using specially designed transformers for driving power modules as well as coreless driver ICs like the 1ED020 I 12-F from Infineon.

Module selection chart for Evaluation Boards and driver circuitry

Driver families Product families	EiceDRIVER™ 2ED300C17-S	1ED (CLT chip)	2ED (CLT chip)	Other
IHM	2ED300E17-SFO MA401E17 MA401E12 MA400E17 MA400E12			
PrimePACK™	2ED300E17-SFO MA300E12 MA300E17	2ED250E12-F		
EconoPACK™+		6ED100E12-F2		
EconoDUAL™ 3	MA200E17 MA200E12	2ED100E12-F2		
62mm modules	MA070E12 MA070E17			
EconoPACK™ 4 3-level		F3L020E07-F-P MA3L080E07 F3L2020E07-F-P MA3L120E07 F3L2020E12-F-P MA3L120E12		
SmartPIM 1			7ED020E12_FI_U1	
EasyPACK 2B 3-level		F3L030E07-F-W2		
EasyPIM™ 2B			7ED020E12-FI-W2	
MIPAQ™				MA3AE12 MA040E12

Evaluation Boards

	Name of Evaluation Board	Supported Products	Description
	7ED020E12-FI-W2	EasyPIM™ 2B 2ED020I12-FI	<ul style="list-style-type: none"> ■ Evaluation Driver Board for EasyPIM™ ■ Designed for Easy PressFIT ■ Designed with 2ED020I12-FI
	F3L030E07-F-W2	EasyPACK 2B 3-level	<ul style="list-style-type: none"> ■ Evaluation Board for EasyPACK 2B 3-level NPC1-Topology ■ Designed with 1ED020I12-F
	7ED020E12_FI_U1	SmartPIM 1	<ul style="list-style-type: none"> ■ Evaluation Board for SmartPIM 1 ■ Designed with 2ED020I12-FI
	MA3AE12	MIPAQ™ base	<ul style="list-style-type: none"> ■ Isolating amplifier for current measurement with MIPAQ™ base
	MA040E12	MIPAQ™ serve	<ul style="list-style-type: none"> ■ Isolated gate driver power supply and logic interface for MIPAQ™ serve
	F3L020E07-F-P	EconoPACK™ 4 3-Level	<ul style="list-style-type: none"> ■ Evaluation Driver Board for EconoPACK™ 4 3-Level modules in NPC1-Topology (650V) ■ Designed with 1ED020I12-F
	F3L2020E07-F-P	EconoPACK™ 4 3-Level	<ul style="list-style-type: none"> ■ Evaluation Driver Board for EconoPACK™ 4 3-Level modules in NPC2-Topology (650V) ■ Designed with 1ED020I12-F
	F3L2020E12-F-P	EconoPACK™ 4 3-Level	<ul style="list-style-type: none"> ■ Evaluation Driver Board for EconoPACK™ 4 3-Level modules in NPC-2-topology (1200V) ■ Designed with 1ED020I12-F
	2ED100E12-F2	EconoDUAL™ 3 EiceDRIVER™ 1ED020I12-F	<ul style="list-style-type: none"> ■ Evaluation Driver Board for EconoDUAL™ 3 modules ■ Designed with 1ED020I12-F ■ Suitable for 600V & 1200V
	6ED100E12-F2	EconoPACK™ + EiceDRIVER™ 1ED020I12-F	<ul style="list-style-type: none"> ■ Evaluation Driver Boards for EconoPACK™ + modules ■ Designed with 1ED020I12-F ■ Suitable for 600V & 1200V
	2ED250E12-F	PrimePACK™ 1200V EiceDRIVER™	<ul style="list-style-type: none"> ■ Evaluation Driver Board for 1200V PrimePACK™ modules
	MA300E12	PrimePACK™ Adapter Board	<ul style="list-style-type: none"> ■ PrimePACK™ - Adapter Board for 1200V modules
	MA300E17	PrimePACK™ Adapter Board	<ul style="list-style-type: none"> ■ PrimePACK™ - Adapter Board for 1700V modules

Power portion not included.

Evaluation Boards

	Name of Evaluation Boardw	Supported Products	Description
	MA3L080E07	EconoPACK™ 4 3-Level	■ EconoPACK™ 4 3-Level Adapter Board for 650 V modules in NPC1-Topology
	MA3L120E07	EconoPACK™ 4 3-Level	■ EconoPACK™ 4 3-Level Adapter Board for 650 V modules in NPC2-Topology
	MA3L120E12	EconoPACK™ 4 3-Level	■ EconoPACK™ 4 3-Level Adapter Board for 1200V modules in NPC2-topology
	MA070E12	62mm Modules	■ Adapter Board for 62mm Modules (1200V)
	MA070E17	62mm Modules	■ Adapter Board for 62mm Modules (1700V)
	MA200E12	EconoDUAL™ 3	■ EconoDUAL™ 3 Adapter Board for 1200 V modules
	MA200E17	EconoDUAL™ 3	■ EconoDUAL™ 3 Adapter Board for 1700 V modules
	MA400E12	IHM 130 mm x 140 mm	■ IH4 Adapter Board for 1200V modules
	MA400E17	IHM 130 mm x 140 mm	■ IH4 Adapter Board for 1700V modules
	MA401E12	IHM 140 mm x 190 mm	■ IH7 Adapter Board for 1200V modules
	MA401E17	IHM 140 mm x 190 mm	■ IH7 Adapter Board for 1700V modules
	2ED300E17-SFO	EiceDRIVER™ 2ED300C17-S / -ST	■ Evaluation Board for EiceDRIVER™ 2ED300C17-S / -ST

Power portion not included.

Evaluation Boards

	Name of Evaluation Board	Supported Products	Description
	EVAL-1ED020I12-B2	1ED020I12-B2, 1ED020I12-F2 Easy 1B power module e.g. FS25R12W1T4	<ul style="list-style-type: none"> ■ Single half-bridge configuration ■ Desaturation detection ■ Bootstrap supply
	EVAL-1ED020I12-BT	1ED020I12-BT, 1ED020I12-FT Highspeed 3 IGBT e.g. IKW25N120H3	<ul style="list-style-type: none"> ■ Single half-bridge configuration ■ Two level turn-off and desaturation detection ■ Isolated supply
	EVAL-1EDI60I12AF	1EDI60I12AF, 1EDI40I12AF, 1EDI20I12AF, 1EDI05I12AF Trenchstop™ 5 IGBT e.g. IKW50N65F5	<ul style="list-style-type: none"> ■ Single resonant half-bridge configuration ■ Short circuit detection ■ Bootstrap supply
	EVAL-2ED020I12-F2	2ED020I12-F2 Highspeed 3 IGBT e.g. IKP20N60H3	<ul style="list-style-type: none"> ■ Single half-bridge configuration ■ Desaturation detection ■ Bootstrap supply
	EVAL-2EDL05I06PF	2EDL05I06PF, 2EDL05N06PF RC-D IGBT e.g. IKD04N60RF	<ul style="list-style-type: none"> ■ Single half-bridge configuration ■ Short circuit detection ■ Integrated ultrafast bootstrap circuit
	EVAL-2EDL23I06PJ	2EDL23I06PJ Highspeed 3 IGBT e.g. IKP20N60H3	<ul style="list-style-type: none"> ■ Single half-bridge configuration ■ Short circuit detection ■ Integrated ultrafast bootstrap circuit
	EVAL-2EDL23N06PJ	2EDL23N06PJ CoolMOS™ e.g. IPL60R199CP	<ul style="list-style-type: none"> ■ Single half-bridge configuration ■ Short circuit detection ■ Integrated ultrafast bootstrap circuit
	EVAL-6EDL04I06PT	6EDL04I06PT, 6EDL04I06NT RC-D IGBT e.g. IKD04N60RF	<ul style="list-style-type: none"> ■ 3phase configuration ■ Short circuit detection ■ Integrated ultrafast bootstrap circuit
	EVAL-6EDL04N02PR	6EDL04N02PR OptiMOS™ e.g. BSB044N08NN3G	<ul style="list-style-type: none"> ■ 3phase configuration ■ Short circuit detection ■ Integrated ultrafast bootstrap circuit

Links

Application Notes, Product Briefs, Flyers and Brochures	Type	Redirects
Technical Description 1ED Family	Application Note	www.infineon.com/tech-descript-1ED-family
Technical Description 6ED Family	Application Note	www.infineon.com/tech-descript-6ED-family
Evaluation Boards	Product Information	www.infineon.com/evaluation-boards-product-information
EiceDRIVER™ Overview	Webpage	www.infineon.com/eicedriver
EiceDRIVER™ Boards	Webpage	www.infineon.com/eicedriver-boards
Evaluation & Driver Boards - Productpage	Webpage	www.infineon.com/evaluation-boards
Products Driver IC	Webpage	www.infineon.com/gatedriver


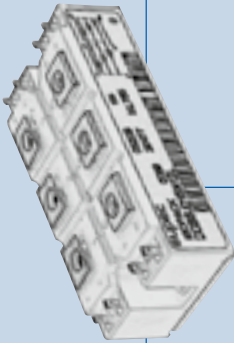
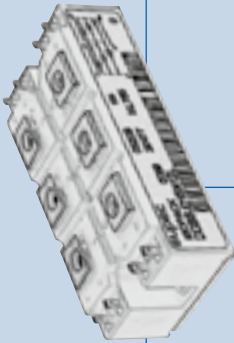
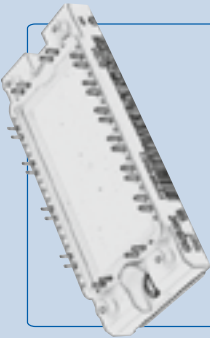



Bridge Rectifier & AC-Switches

We offer bridge rectifier modules in solder- and PressFIT pin design like EasyBRIDGE or eupec™ EconoBRIDGE™ modules. The available configurations are un- and half controlled rectifiers with brake IGBT and optional NTC resistor. They cover the current range from 25 A up to 360 A at 800 V and 1600 V.

The IsoPACK™ family with screwable load terminals are fully-, half- and uncontrolled rectifier modules. The three phase AC Switches complete the IsoPACK™ product family. The current range covers 85 A up to 205 A at 1600 V.

Overview Bridge Rectifier, AC-Switches

2000		EasyBRIDGE	$I_d = 25 - 75 \text{ A}$	Configuration B2U B6U
1800		eupec™ IsoPACK™ Bridge	$I_d = 85 - 205 \text{ A}$	Configuration B6 U/HK/C
1600		eupec™ IsoPACK™ AC-Switch	$I_{RMS} = 85 - 145 \text{ A}$	Configuration W3C
		eupec™ EconoBRIDGE™ 2	$I_d = 104 - 180 \text{ A}$	Configuration B6U B6HK
		eupec™ EconoBRIDGE™ 4	$I_d = 240 - 360 \text{ A}$	Configuration B6HK
V_{RRM}				