





Каталог INFINEON EUPEC 2015г. продажа в Минске IGBT

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The standard work for IGBTs – Second Edition

Reference book IGBT Modules

Technologies, Driver and Application

The aim of this book is to give the reader an understanding of the specific fundamentals of IGBT in conjunction with their application. This book will provide students of power electronics with valuable information about the main contemporary power semiconductors and the applications in which they are used, while development engineers targeting power electronic converters will find all the essentials of selecting, dimensioning and applying IGBT modules laid out clearly and comprehensively.

IGBT Modules – Technologies, Driver and Applications
Andreas Volke (Author), Michael Hornkamp (Author), Jost Wendt (Translator)
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For further information please visit our website:
www.infineon.com/igbt-book

Semiconductor solutions for your power applications

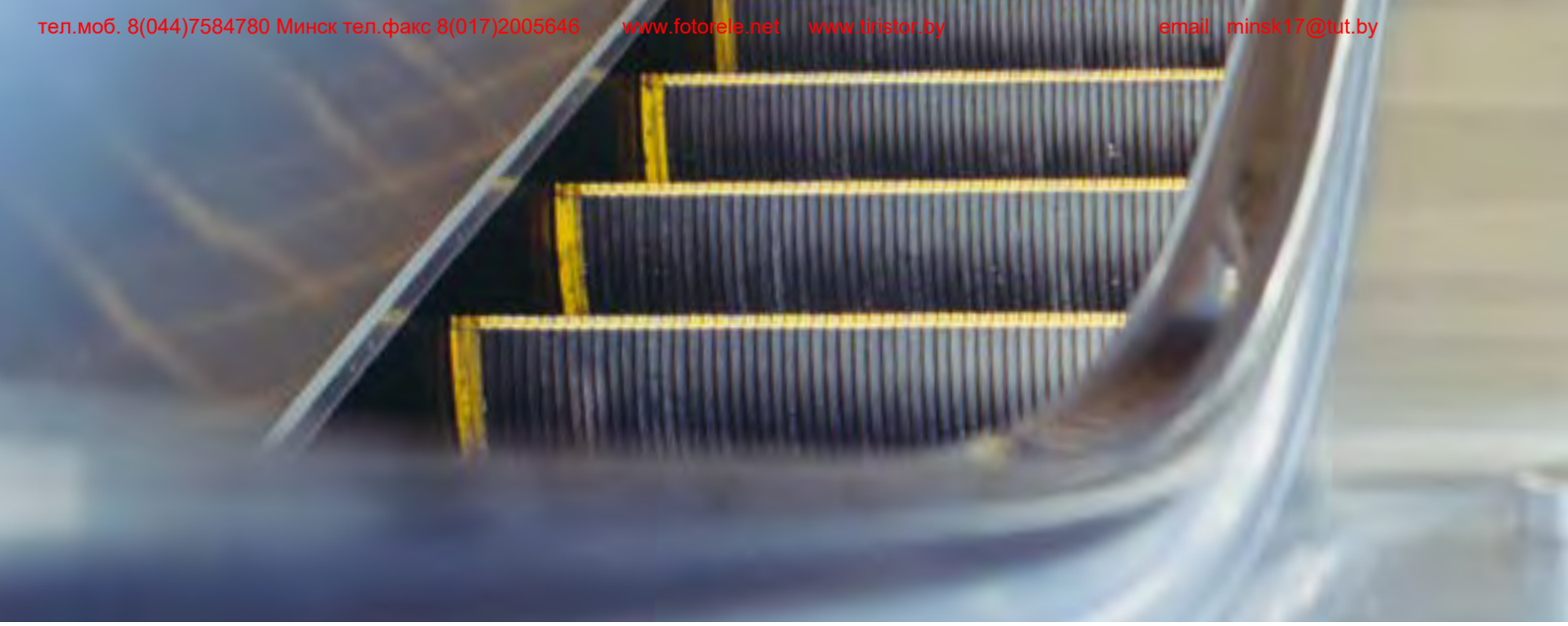
Infineon is a recognized leader in IGBT technology and offers a comprehensive portfolio in a wide variety of voltage and current classes. Our IGBT product line encompasses a broad range of Discrete Components, Power Modules and complete Stack Solutions.

Infineon supplies a broad portfolio of IGBT chips assembled in discrete plastic packages, so-called discretes IGBTs, which are available as single IGBTs or co-packaged with freewheeling diode. These power devices are suitable for applications such as General Purpose Inverters, Solar Inverters, UPS, Induction Heating, Major Home Appliances, Welding and SMPS. The major benefits of discretes IGBTs include high current density and low power dissipation which, in return, lead to higher efficiency and more effective cooling with fewer heat sinks. This translates into lower overall system costs.

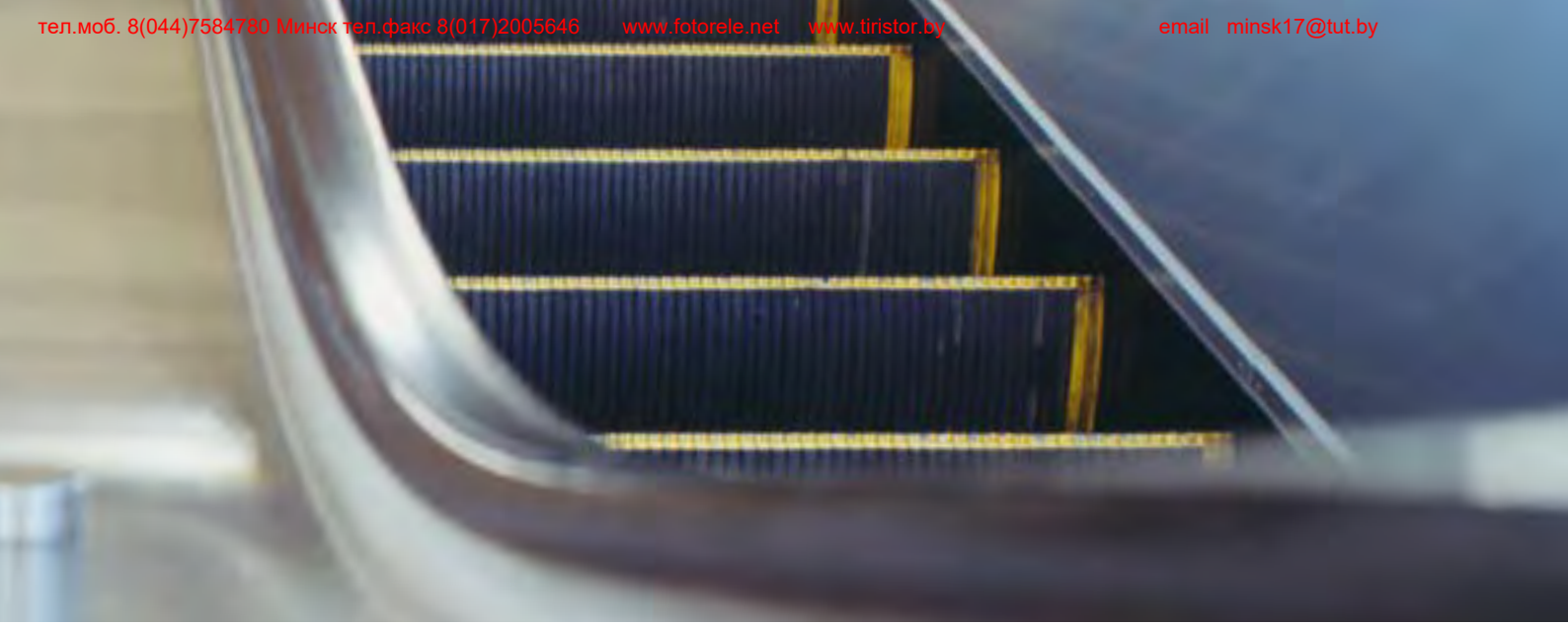
Power modules form the basic building blocks of power electronic equipment. They typically integrate IGBT and diode dies in various topologies. Ready-to-use assembled Stacks are designed to cope with the needs of the highest power applications. These Stacks, often referred to as Systems, are based on IGBT power modules or discs, depending on the field of application.

From all-in-one power integrated modules with integrated rectifier, brake chopper and inverter to highest power Stack assemblies, Infineon products cover hundreds of watts up to gigawatts. General purpose drives, servo-units and renewable energy applications like solar inverters or wind applications benefit from the outstanding performance, efficiency and longevity of these highly reliable, robust products.

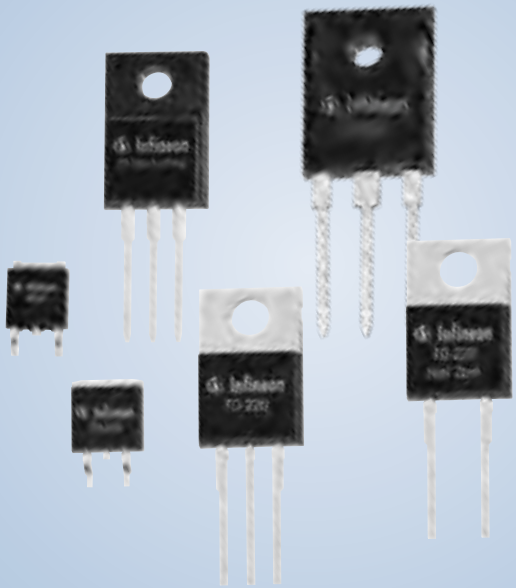
The blue icons on the right hand representing various applications will guide you through the entire catalogue and help you select the right solution for your design.
More information on our offerings can be found at:
www.infineon.com/highpower | www.infineon.com/power | www.infineon.com/service



Content



Further data sheets are available on request: IGBT-Modules, Thyristor-/Diode-Modules, Fast Thyristors, Thyristors for Phase Control, Power Rectifier Diodes, Snubber and Freewheeling Diodes Actual, extensive data can be obtained in PDF-format from our internet address: www.infineon.com/powersemiconductors



Discrete IGBTs

Infineon is famous for IGBT technology leadership and offers a comprehensive portfolio for the general purpose inverters, solar inverters, UPS, induction cooking appliances, inverterized microwave ovens, major home appliances, welding and SMPS segments. Infineon also has discrete IGBTs that are qualified according to AEC-Q101 for automotive applications.

Benefits:

- IGBTs offer much higher current density than MOSFET power switches due to bipolar action
- Insulated gate allows bipolar performance with MOSFET gate drive performance
- High efficiency = smaller heat sink which leads to lower overall system cost
- 175°C $T_{j(max)}$ leading to higher reliability

Soft Switching/Resonant and Hard Switching Topologies are comprehensively supported.

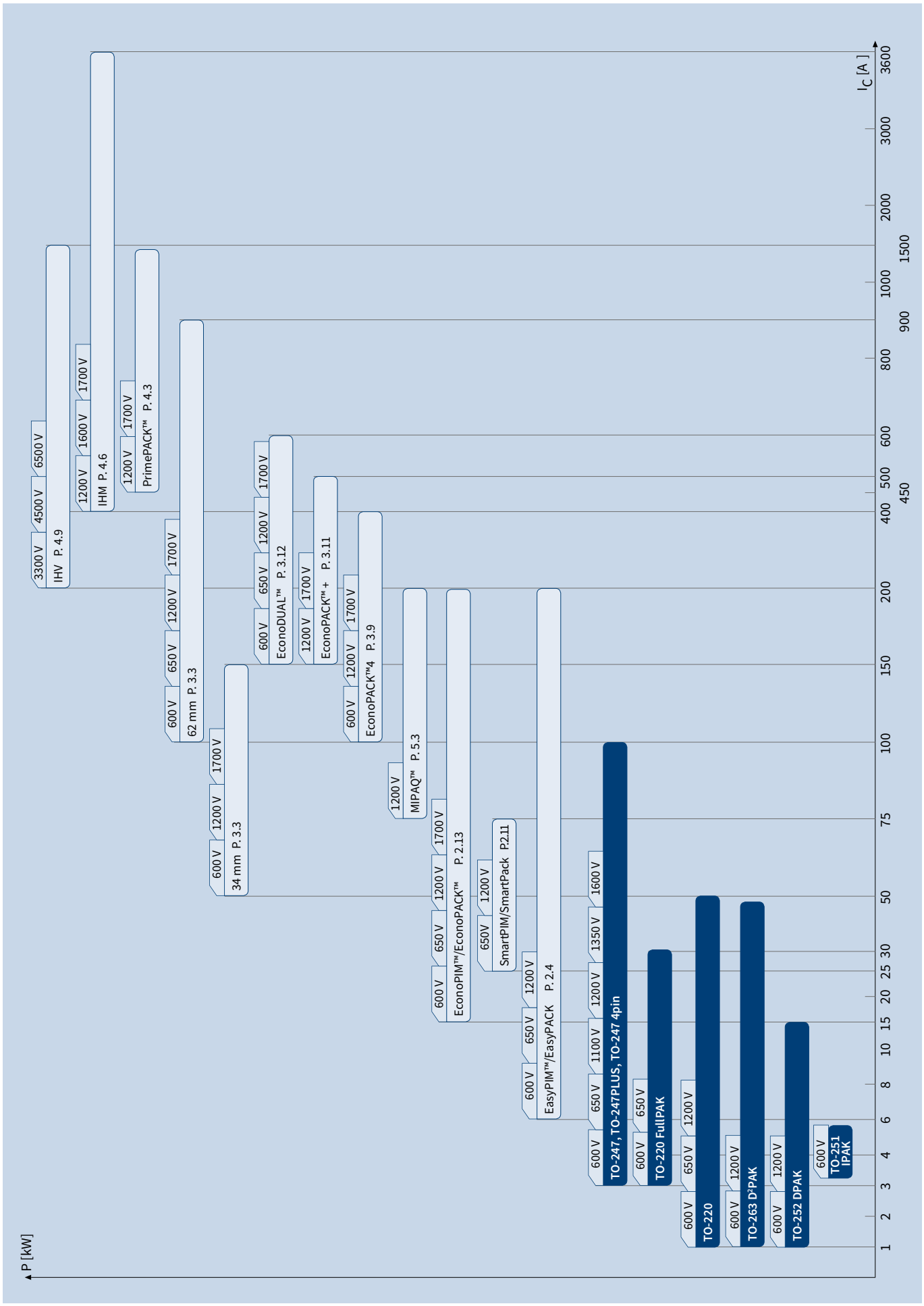
Infineon has a wide portfolio addressing the following two switching techniques:

Soft Switching/Resonant

- The world famous RC-H series IGBTs – #1 best selling family worldwide
- Available in 600 V, 650 V, 1100 V, 1200 V, 1350 V and 1600 V voltage classes
- Best-in-Class efficiency and robustness
- Introducing the newest generation of reverse conducting IGBTs, RC-H5, available in two versions with blocking voltages of 650V and 1200 V/1350 V

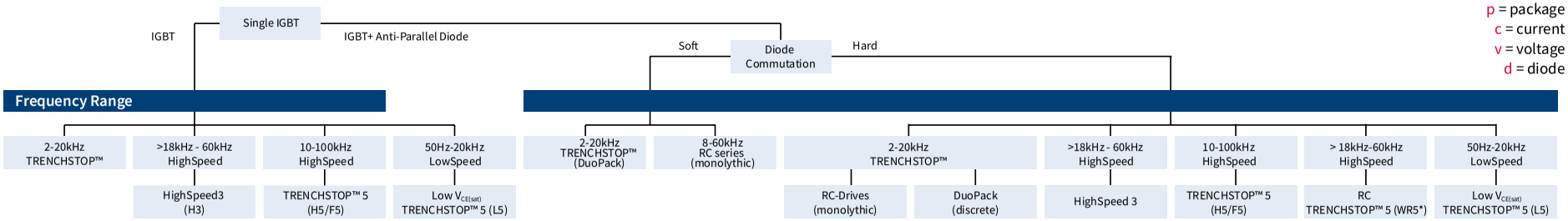
Hard Switching

- 600V RC-Drives
- 600V RC-Drives Fast
- 600V TRENCHSTOP™
- 600V/1200V HighSpeed 3
- 1200V TRENCHSTOP™ 2
- 650V TRENCHSTOP™ 5


P [kW]
I_C [A]
1 2 3 4 6 8 10 15 20 25 30 50 75 100 150 200 400 500 600 800 900 1000 1500 2000 3000 3600
450
3300 V 4500 V 6500 V
IHV P. 4.9
1200 V 1600 V 1700 V
IHM P. 4.6
1200 V 1700 V
PrimePACK™ P. 4.3
600 V 650 V 1200 V 1700 V
62 mm P. 3.3
600 V 1200 V 1700 V
34 mm P. 3.3
600 V 650 V 1200 V 1700 V
EconoDUAL™ P. 3.12
1200 V 1700 V
EconoPACK™+ P. 3.11
600 V 1200 V 1700 V
EconoPACK™4 P. 3.9
1200 V
MIPAQ™ P. 5.3
600 V 650 V 1200 V 1700 V
EconoPIM™/EconoPACK™ P. 2.13
650V 1200 V
SmartPIM/SmartPack P2.11
600 V 650 V 1200 V
EasyPIM™/EasyPACK P. 2.4
600 V 650 V 1100 V 1200 V 1350 V 1600 V
TO-247, TO-247PLUS, TO-247 4pin
600 V 650 V
TO-220 FullPAK
600 V 650 V 1200 V
TO-220
600 V 1200 V
TO-263 D²PAK
600 V 1200 V
TO-252 DPAK
600 V
TO-251 IPAK

IGBT Selection Tree

Nomenclature: IGBT
IKpccNvvvdH3
p = package
c = current
v = voltage
d = diode



Voltage Range

600V	600V, 650V, 1200V	650V	600V, 1200V	600V, 650V, 1100V 1200V, 1350V, 1600V	600V	600V, 1200V	600V, 1200V	650V	650V	650V

Part Number

IGpccN60T… IGpccT120… IGpccN120T2	IGpccN60H3 IGpccN120H3 IGpccN65H5 IGpccN65F5	IGpccN65L5	IHpccN60T IHpccT60.. IHpccT120..	IHpccNvvvR2 IHpccNvvvR3 IHpccN60R/RF IHpccNvvvR5	IKpccN60R IKpccN60RF	IKpccN60dT IKpccT120… IKpccN120dT2	IKpccN60dH3 IKpccN120dH3	IKpccN65dH5 IKpccN65dF5	IKpccN65dR5	IKpccN65dL5

Application

Conduction Loss Optimized, Hard Switching Topologies without Anti-parallel Diode	**DC/DC:** **Welding Inverter** Full Bridge Two Transistor Forward Solar Inverter **AC/DC:** **PFC** Welding UPS Solar Boost Stage AirCon	**UPS** 3 level NPC topology, inner switches **Solar** 3 level NPC topology, inner switches **Welding** AC Output (Al/Mag welding)	**Induction Heating** Half Bridge Stoves Inverterized Microwave Ovens Multi-Function Printers Half Bridge Resonant (Current resonance – 600/650V) **Single Switch Cookers** (Voltage resonance – >650V)	Conduction Loss Optimized **Solar Inverter** Asymmetrical Bridge Symmetrical Full Bridge Three level type I or Three level type II Converter **Motor Control** Three Phase Inverter Full Bridge Inverter **Uninterruptable Power Supply** UPS Bridge Three level type II Converter **Major Home Appliances** Symmetrical Full Bridge	Switching Loss Optimized **Solar Inverter** Asymmetrical Bridge Symmetrical Full Bridge Three level type I or Three level type II Converter **Motor Control** Three Phase Inverter Full Bridge Inverter **Uninterruptable Power Supply** Three level type II Converter **Major Home Appliances** Symmetrical Full Bridge **Welding Inverter** Full Brigde Half Bridge Two Transistor Forward **AC/DC:** **PFC** Welding UPS Solar Boost Stage Battery Charger SMPS HVDC (Telecom/Data Centers)	**AC/DC:** **PFC** Welding UPS Solar Boost Stage Battery Charger SMPS HVDC (Telecom/Data Centers) AirCon Washing Machine **DC/DC:** **Welding Inverter** Full Brigde Half Bridge Two Transistor Forward	**UPS** 3 level NPC topology, inner switches **Solar** 3 level NPC topology, inner switches **Welding** AC Output (Al/Mag welding)

Automotive IGBT (AECQ101)

Frequency range	Voltage range	Part Number		Application	
2kHz - 100kHz RC-Drives, RC-Drives Fast TRENCHSTOP™ 60TA, TRENCHSTOP™ 5 AUTO	600V 650V	IKpccN60RA IKpccN60RFA IHpccN60RA IKpccN60TA	IKcppN65H5A IKcppN65F5A IGcppN65H5A IGcppN65F5A	HID Piezo Injection Small Motor Drives PowerTrain AUX Inverter	AirCon Compressor PTC Heater OnBoard Charger (OBC) DC/DC Converter DC/AC Converter

*Optimized for zero current switching (ZCS) applications

TRENCHSTOP™ 5

650V Product Spectrum

Continuous Current I_C T_C=100°C		TO-220	TO-220FP FullPAK	TO-247	TO-247 4pin
Single IGBT	20 A	IGP20N65F5/H5			
	30 A	IGP30N65F5/H5			
	40 A	IGP40N65F5/H5		IGW40N65F5/H5 IGW40N65F5A IGW40N65H5A	
	50 A			IGW50N65F5/H5 IGW50N65F5A IGW50N65H5A	IGZ50N65H5
	75 A				IGZ75N65H5
	100 A				IGZ100N65H5
DuoPack	8 A	IKP08N65F5/H5	IKA08N65F5/H5		
	15 A	IKP15N65F5/H5	IKA15N65F5/H5		
	20 A	IKP20N65F5/H5			
	30 A	IKP30N65F5/H5		IKW30N65H5	
	40 A	IKP40N65F5/H5		IKW40N65F5/H5 IKW40N65F5A IKW40N65H5A	
	50 A			IKW50N65F5/H5 IKW50N65F5A IKW50N65H5A	IKZ50N65EH5 IKZ50N65NH5
	75 A				IKZ75N65EH5 IKZ75N65NH5

Induction Cooking Series Portfolio

600V, 650V, 1100V, 1200V, 1350V and 1600V

Revolutionary reverse conducting IGBTs with monolithic diode for resonant switching applications

Continuous Current I_C T_C=100°C

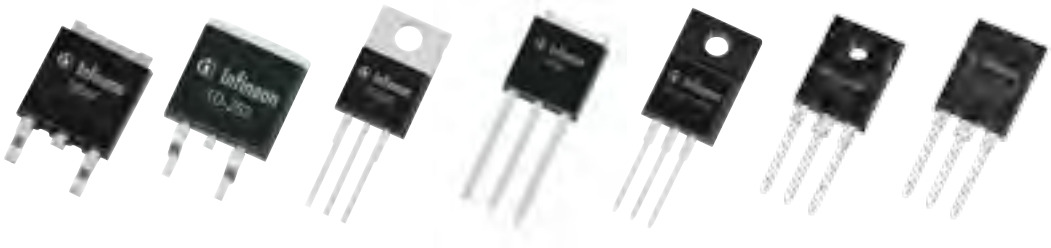
TO-247

	I_C	600V/650V	1100V	1200V	1350V	1600V
IGBT and Monolithic Diode	15A			IHW15N120R3		
	20A	IHW20N65R5		IHW20N120R3 IHW20N120R5	IHW20N135R3 IHW20N135R5	
	25A			IHW25N120R2		
	30A	IHW30N65R5	IHW30N110R3	IHW30N120R3	IHW30N135R3	IHW30N160R2
	40A	IHW40N65R5 IHW40N60R IHW40N60RF		IHW40N120R3	IHW40N135R3	
	50A	IHW50N65R5				

TRENCHSTOP™ and RC-Drives IGBT

600 V Product Family

TRENCHSTOP™, RC-Drives and RC-Drives Fast IGBTs

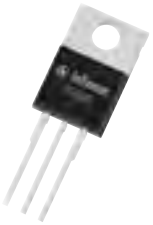
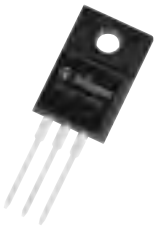


Continuous Current I_C T_C=100°C		TO-252 DPAK	TO-263 D^2PAK	TO-220	TO-251	TO-220FP FullPAK	TO-247	TO-247PLUS
Single IGBT	4A				IGU04N60T			
	6A	IGD06N60T		IGP06N60T				
	10A		IGB10N60T	IGP10N60T				
	15A		IGB15N60T	IGP15N60T				
	30A		IGB30N60T				IGW30N60T	
	50A		IGB50N60T	IGP50N60T			IGW50N60T	
	75A						IGW75N60T	
IGBT and Diode	3A	IKD03N60RF IKD03N60RFA						
	4A	IKD04N60R IKD04N60RF IKD04N60RA IKD04N60RFA		IKP04N60T				
	6A	IKD06N60R IKD06N60RF IKD06N60RA IKD06N60RFA	IKB06N60T	IKP06N60T		IKA06N60T		
	10A	IKD10N60R IKD10N60RF IKD10N60RA IKD10N60RFA	IKB10N60T	IKP10N60T		IKA10N60T		
	15A	IKD15N60R IKD15N60RF IKD15N60RA IKD10N60RFA	IKB15N60T	IKP15N60T		IKA15N60T		
	20A		IKB20N60T IKB20N60TA	IKP20N60T IKP20N60TA			IKW20N60T IKW20N60TA	
	30A						IKW30N60T IKW30N60TA	
	50A						IKW50N60T IKW50N60TA	
	75A						IKW75N60T IKW75N60TA	
	100A							IKQ100N60T IKQ100N60TA
	120A							IKQ120N60T IKQ120N60TA

HighSpeed 3 – Single IGBT & DuoPack

600V / 1200V Product family

High Speed 3 - Single IGBT & DuoPack™

Continuous Current I_C T_C=100°C		TO-263 D²PAK	TO-220	TO-220FP FullPAK	TO-247	TO-247
						
		600V				1200V
Single IGBT	15A					IGW15N120H3
	20A	IGB20N60H3	IGP20N60H3		IGW20N60H3	
	25A					IGW25N120H3
	30A	IGB30N60H3	IGP30N60H3	IGA30N60H3	IGW30N60H3	
	40A				IGW40N60H3	IGW40N120H3
	50A				IGW50N60H3	
	60A				IGW60N60H3	
	75A				IGW75N60H3	
	100A				IGW100N60H3	
IGBT and Diode	20A	IKB20N60H3	IKP20N60H3		IKW20N60H3	IKW15N120H3
	30A				IKW30N60H3	IKW25N120H3
	60A				IKW40N60H3	IKW40N120H3
	50A				IKW50N60H3	
	60A				IKW60N60H3	
	75A				IKW75N60H3	

TRENCHSTOP™ IGBT and DuoPack

1200V Product Family

TO-247

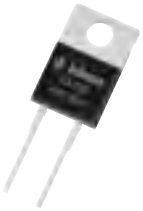
Continuous Current I_C T_C=100°C

		TRENCHSTOP™	TRENCHSTOP™2
Single IGBT	8A	IGW08T120	
	15A	IGW15T120	
	25A	IGW25T120	
	40A	IGW40T120	
	60A	IGW60T120	

DuoPack	8A	IKW08T120	
	15A	IKW15T120	IKW15N120T2
	25A	IKW25T120	IKW25N120T2
	40A	IKW40T120	IKW40N120T2

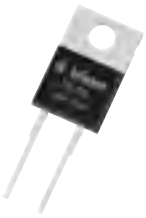
Discrete Emitter Controlled Diodes

Product Family 600 V & 1200 V

Continuous Current I_C T_C=100°C		TO-252 DPAK	TO-263 D^2PAK	TO-220 Real 2pin	TO-247
					
600 V	6 A	IDD06E60			
	15 A	IDD15E60			
	30 A		IDB30E60	IDP30E60	IDW30E60
	45 A			IDP45E60	
	50 A				IDW50E60
	75 A				IDW75E60
	100 A				IDW100E60
1200 V	12 A			IDP12E120	
	18 A			IDP18E120	
	30 A		IDB30E120	IDP30E120	

Rapid 1 Diodes

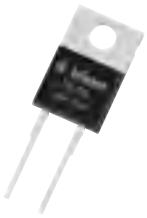
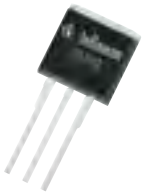
650V Product Family

Continuous Current I_C T_C=100°C	TO-220 Real 2pin	TO-220 Full-PAK Real 2pin	TO-247	TO-247 Common Cathode, 3pin
				
8A	IDP08E65D1			
15A	IDP15E65D1			
20A		IDV20E65D1		
30A	IDP30E65D1		IDW30E65D1	IDW30C65D1
40A			IDW40E65D1	
60A				IDW60C65D1
75A				IDW75D65D1*
80A				IDW80C65D1

*) Dual Anode

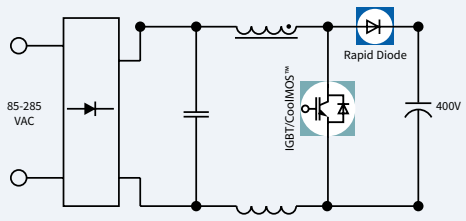
Rapid 2 Diodes

650 V Product Family

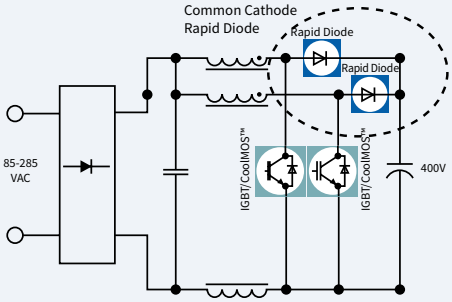
Continuous Current I_C T_C=100°C	TO-220 Real 2pin	TO-220 Full-PAK Real 2pin	TO-262 Common Cathode, 3pin	TO-247	TO-247 Common Cathode, 3pin
					
8A	IDP08E65D2	IDV08E65D2			
15A	IDP15E65D2	IDV15E65D2		IDW15E65D2	
20A	IDP20E65D2		IDP20C65D2		IDW20C65D2
30A	IDP30E65D2	IDV30E65D2	IDP30C65D2		IDW30C65D2
40A	IDP40E65D2			IDW40E65D2	
80A					IDW80C65D2

Common Silicon Power Diode Topologies

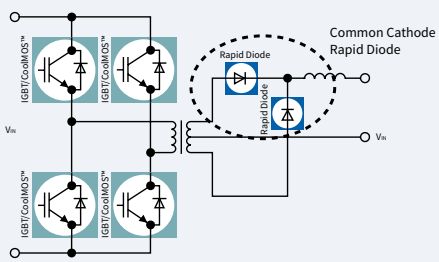
Boost PFC



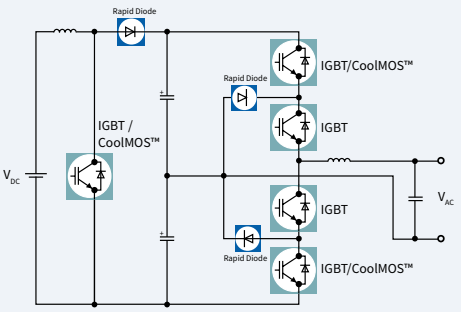
Interleaved PFC



Full Bridge



3 Level Inverter



IGBT Discretes

HighSpeed 3 Single IGBT

600V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IGA30N60H3	600	30	120	1.95	0.73	0.44	n/a				PG-TO220-3 FP
IGB20N60H3	600	20	80	1.95	0.45	0.24	n/a				PG-TO263-3
IGB30N60H3	600	30	120	1.95	0.73	0.44	n/a				PG-TO263-3
IGP20N60H3	600	20	80	1.95	0.45	0.24	n/a				PG-TO220-3
IGP30N60H3	600	30	120	1.95	0.73	0.44	n/a				PG-TO220-3
IGW20N60H3	600	20	80	1.95	0.56	0.24	n/a				PG-TO247-3
IGW30N60H3	600	30	120	1.95	0.94	0.44	n/a				PG-TO247-3
IGW40N60H3	600	40	160	1.95	1.10	0.58	n/a				PG-TO247-3
IGW50N60H3	600	50	200	1.85	1.45	0.91	n/a				PG-TO247-3
IGW60N60H3	600	60	180	1.85	2.10	1.13	n/a				PG-TO247-3
IGW75N60H3	600	75	225	1.85	3.00	1.70	n/a				PG-TO247-3
IGW100N60H3	600	100	300	1.85	3.70	1.90	n/a				PG-TO247-3

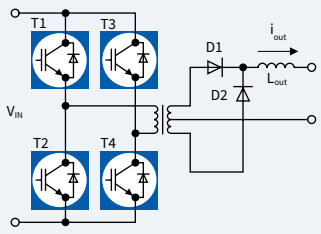
1200V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IGW15N120H3	1200	15	60	2.05	1.10	0.45	n/a				PG-TO247-3
IGW25N120H3	1200	25	100	2.05	1.80	0.85	n/a				PG-TO247-3
IGW40N120H3	1200	40	160	2.05	1.93	1.23	n/a				PG-TO247-3

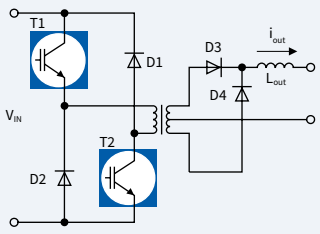
* I_C and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

Common Topologies for High Speed Switching IGBT – HighSpeed3 and TRENCHSTOP™ 5

Full Bridge / Two Transistor Forward:
Welding Inverter



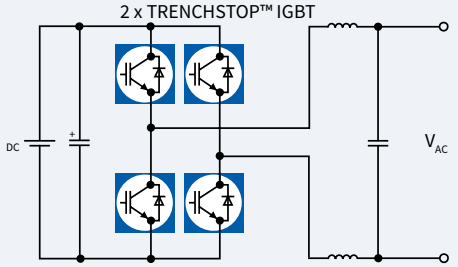
IKpccNvvvH3 Series
IKpccNvvvH5 Series
600V, 650V & 1200V



IGpccNvvvH3 Series
600V & 1200V

Symmetrical Full Bridge:
Solar Inverter (Symmetrical Full Bridge)

IKpccNvvvT Series
600V & 1200V
2 x TRENCHSTOP™ IGBT



2 x TRENCHSTOP™ IGBT / 2 x CoolMOS™

IKpccNvvvT Series
600V & 1200V

IPpvvRrrrCFD Series
600V & 650V

IGBT Discretes

HighSpeed 3 DuoPack

600 V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IKB20N60H3	600	20	80	1.95	0.45	0.24	10	1.65	390	11	PG-TO263-3
IKP20N60H3	600	20	80	1.95	0.45	0.24	10	1.65	390	11	PG-TO220-3
IKW20N60H3	600	20	80	1.95	0.56	0.24	10	1.65	390	11	PG-TO247-3
IKW30N60H3	600	30	120	1.95	0.94	0.44	15	1.65	320	12	PG-TO247-3
IKW40N60H3	600	40	160	1.95	1.1	0.58	20	1.65	810	13.6	PG-TO247-3
IKW50N60H3	600	50	200	1.85	1.45	0.91	30	1.65	880	16.9	PG-TO247-3
IKW60N60H3	600	60	180	1.85	2.1	1.13	30	1.65	1200	13	PG-TO247-3
IKW75N60H3	600	75	225	1.85	3	1.7	50	1.65	1800	19	PG-TO247-3

1200 V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IKW15N120H3	1200	15	60	2.05	1.1	0.45	7.5	1.8	800	7.7	PG-TO247-3
IKW25N120H3	1200	25	100	2.05	1.8	0.85	12.5	1.8	1200	10.4	PG-TO247-3
IKW40N120H3	1200	40	160	2.05	3.2	1.2	20	1.8	1900	12.8	PG-TO247-3

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

IGBT Discretes

RC Drives Fast Series monolythically integrated diode

600V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IKD03N60RF	600	2.5	7.5	2.2	0.05	0.04	2.5	2.1	60	3.8	PG-TO252-3
IKD04N60RF	600	4	12	2.2	0.06	0.05	4	2.1	90	4.6	PG-TO252-3
IKD06N60RF	600	6	18	2.2	0.09	0.09	6	2.1	160	7.4	PG-TO252-3
IKD10N60RF	600	10	30	2.2	0.19	0.16	10	2.1	270	9.1	PG-TO252-3
IKD15N60RF	600	15	45	2.2	0.27	0.25	15	2.1	420	13.2	PG-TO252-3
IKD03N60RFA	600	2.5	7.5	2.2	0.05	0.04	2.5	2.1	60	3.8	PG-TO252-3
IKD04N60RFA	600	4	12	2.2	0.06	0.05	4	2.1	90	4.6	PG-TO252-3
IKD06N60RFA	600	6	18	2.2	0.09	0.09	6	2.1	160	7.4	PG-TO252-3
IKD10N60RFA	600	10	30	2.2	0.19	0.16	10	2.1	270	9.1	PG-TO252-3
IKD15N60RFA	600	15	45	2.2	0.27	0.25	15	2.1	420	13.2	PG-TO252-3

IGBT Discretes

RC Drives Series monolythically integrated diode

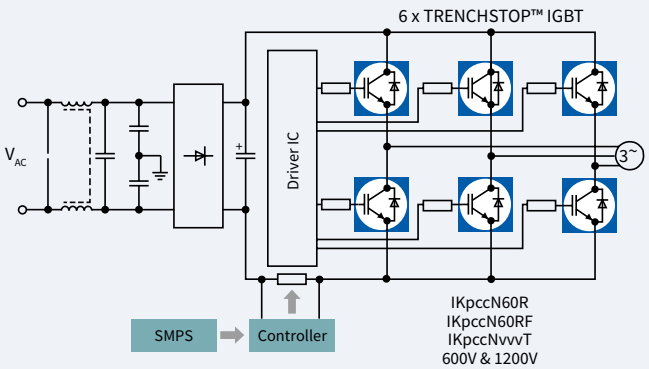
600V

Product*		V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
	IKD04N60R	600	4	12	1.65	0.09	0.15	4	1.7	220	7.6	PG-TO252-3
	IKD06N60R	600	6	18	1.65	0.11	0.22	6	1.7	370	12	PG-TO252-3
	IKD10N60R	600	10	30	1.65	0.21	0.38	10	1.7	560	20.3	PG-TO252-3
	IKD15N60R	600	15	45	1.65	0.37	0.53	15	1.7	760	20.5	PG-TO252-3
	IKD04N60RA	600	4	12	1.65	0.09	0.15	4	1.7	220	7.6	PG-TO252-3
	IKD06N60RA	600	6	18	1.65	0.11	0.22	6	1.7	370	12	PG-TO252-3
	IKD10N60RA	600	10	30	1.65	0.21	0.38	10	1.7	560	20.3	PG-TO252-3
	IKD15N60RA	600	15	45	1.65	0.37	0.53	15	1.7	760	20.5	PG-TO252-3

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

Common RC Drives Topology and Application for RC drives and TRENCHSTOP™ IGBT

Motor Control: 3-Phase Motor Control



IGBT Discretes

RC-H Soft Switching Series

600V/650V

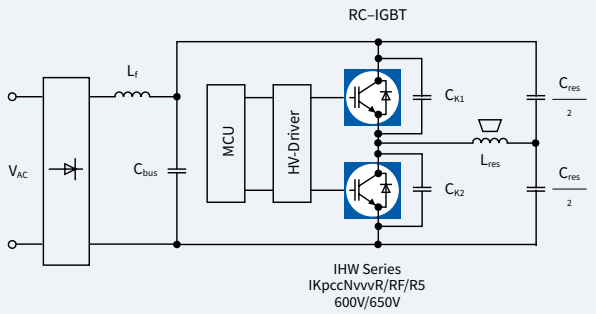
	Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
Half Bridge	RC-H/RC-H Fast Series											
	IHW40N60RF	600	40	120	1.85		0.56	40	1.75			PG-TO247-3
	IHW40N60R	600	40	120	1.65		0.75	40	1.65			PG-TO247-3
	RC-H5 Series											
	IHW20N65R5	650	20	60	1.35	0.54	0.16	10	1.7	1.55	29	PG-TO247-3
	IHW30N65R5	650	30	90	1.35			14	1.7			PG-TO247-3
	IHW40N65R5	650	40	120	1.35	1.10	0.37	19	1.7	2.75	37.2	PG-TO247-3
	IHW50N65R5	650	50	150	1.35	1.50	0.45	22	1.7	2.75	37	PG-TO247-3

1100V/1200V

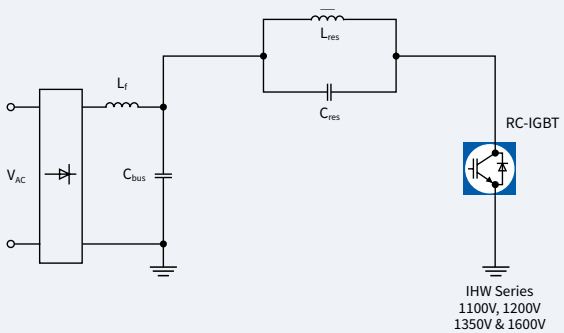
	Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
Single Switch	RC-H2 Series											
	IHW25N120R2	1200	25	75	1.6		1.59	25	1.5			PG-TO247-3
	RC-H3 Series											
	IHW30N110R3	1100	30	90	1.55		1.15	30	1.35			PG-TO247-3
	IHW15N120R3	1200	15	45	1.48		0.7	15	1.55			PG-TO247-3
	IHW20N120R3	1200	20	60	1.48		0.95	20	1.55			PG-TO247-3
	IHW30N120R3	1200	30	90	1.55		1.47	30	1.6			PG-TO247-3
	IHW40N120R3	1200	40	120	1.55		2.02	40	1.6			PG-TO247-3
	RC-H5 Series											
	IHW20N120R5	1200	20	60	1.55		0.75	20	1.6			PG-TO247-3

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

Half Brigde: Induction Heating Inverter (Current Resonance)



Single switch: Induction Heating Inverter (Voltage Resonance)



IGBT Discretes

RC-H Soft Switching Series

1350V

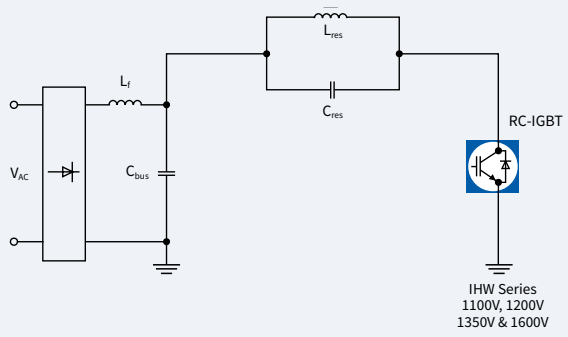
	Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
Single Switch	RC-H3 Series											
	IHW20N135R3	1350	20	60	1.6		1.3	20	1.6			PG-TO247-3
	IHW30N135R3	1350	30	90	1.65		1.93	30	1.65			PG-TO247-3
	IHW40N135R3	1350	40	120	1.65		2.5	40	1.65			PG-TO247-3
	RC-H5 Series											
	IHW20N135R5	1350	20	60	1.65		0.95	20	1.65			PG-TO247-3

1600V

	Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
Single Switch	RC-H2 Series											
	IHW30N160R2	1600	30	90	1.8		2.53	30	1.65			PG-TO247-3

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

Single switch: Induction Heating Inverter (Voltage Resonance)



IGBT Discretes

TRENCHSTOP™ Single IGBT and DuoPack

600V

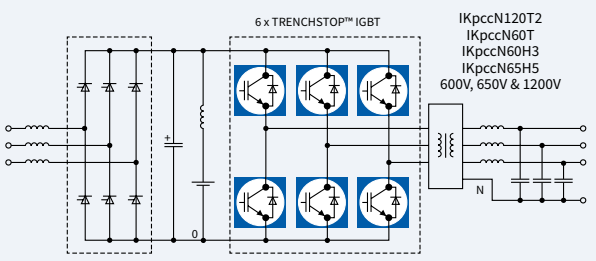
Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IGB10N60T	600	10	30	1.5	0.16	0.27	n/a				PG-TO263-3
IGB15N60T	600	15	45	1.5	0.22	0.35	n/a				PG-TO263-3
IGB30N60T	600	30	90	1.5	0.69	0.77	n/a				PG-TO263-3
IGB50N60T	600	50	150	1.5	1.2	1.4	n/a				PG-TO263-3
IGD06N60T	600	6	18	1.5	0.09	0.11	n/a				PG-TO252-3
IGP06N60T	600	6	18	1.5	0.09	0.11	n/a				PG-TO220-3
IGP10N60T	600	10	30	1.5	0.16	0.27	n/a				PG-TO220-3
IGP15N60T	600	15	45	1.5	0.22	0.35	n/a				PG-TO220-3
IGP50N60T	600	50	150	1.5	1.2	1.4	n/a				PG-TO220-3
IGU04N60T	600	4	12	1.5	0.061	0.084	n/a				PG-TO251-3
IGW30N60T	600	30	90	1.5	0.69	0.77	n/a				PG-TO247-3
IGW50N60T	600	50	150	1.5	1.2	1.4	n/a				PG-TO247-3
IGW75N60T	600	75	225	1.5	2	2.5	n/a				PG-TO247-3
IHW30N60T	600	30	90	1.5	n/a	0.77	13	1.1	n/a		PG-TO247-3
IHW40T60	600	40	120	1.55	n/a	0.92	30	1.65	920	16.3	PG-TO247-3

1200V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IGW08T120	1200	8	24	1.7	0.67	0.7	n/a				PG-TO247-3
IGW15T120	1200	15	45	1.7	1.3	1.4	n/a				PG-TO247-3
IGW25T120	1200	25	75	1.7	2	2.2	n/a				PG-TO247-3
IGW40T120	1200	40	105	1.7	3.3	3.2	n/a				PG-TO247-3
IGW60T120	1200	60	150	1.7	4.3	5.2	n/a				PG-TO247-3
IKW08T120	1200	8	24	1.7	0.67	0.7	8	1.7	1000	13	PG-TO247-3
IKW15T120	1200	15	45	1.7	1.3	1.4	15	1.7	1900	17	PG-TO247-3
IKW25T120	1200	25	75	1.7	2	2.2	25	1.7	2300	21	PG-TO247-3
IKW40T120	1200	40	105	1.7	3.3	3.2	40	1.75	3800	28	PG-TO247-3

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

Uninterrruptable Power Supply:
Universal Power Supply b6-Bridge



IGBT Discretes

TRENCHSTOP™ Duo Pack

600V

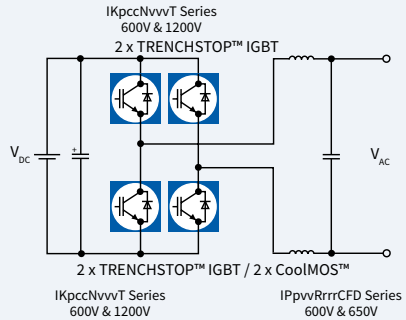
Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IKA06N60T	600	6	18	1.5	0.09	0.11	6.5	1.6	190	5.3	PG-TO220-3 FP
IKA10N60T	600	10	30	1.5	0.16	0.27	7.4	1.6	380	10	PG-TO220-3 FP
IKA15N60T	600	15	45	1.5	0.22	0.35	9	1.65	240	10.4	PG-TO220-3 FP
IKB06N60T	600	6	18	1.5	0.09	0.11	6	1.6	190	5.3	PG-TO263-3
IKB10N60T	600	10	30	1.5	0.16	0.27	10	1.6	380	10	PG-TO263-3
IKB15N60T	600	15	45	1.5	0.22	0.35	15	1.65	240	10.4	PG-TO263-3
IKB20N60T	600	20	60	1.5	0.31	0.46	20	1.65	310	13.3	PG-TO263-3
IKP04N60T	600	4	12	1.5	0.061	0.084	4	1.65	79	5.3	PG-TO220-3
IKP06N60T	600	6	18	1.5	0.09	0.11	6	1.6	190	5.3	PG-TO220-3
IKP10N60T	600	10	30	1.5	0.16	0.27	10	1.6	380	10	PG-TO220-3
IKP15N60T	600	15	45	1.5	0.22	0.35	15	1.65	240	10.4	PG-TO220-3
IKP20N60T	600	20	60	1.5	0.31	0.46	20	1.65	310	13.3	PG-TO220-3
IKW20N60T	600	20	60	1.5	0.31	0.46	20	1.65	310	13.3	PG-TO247-3
IKW30N60T	600	30	90	1.5	0.69	0.77	30	1.65	920	16.3	PG-TO247-3
IKW50N60T	600	50	150	1.5	1.2	1.4	50	1.65	1800	27.7	PG-TO247-3
IKW75N60T	600	75	225	1.5	2	2.5	75	1.65	2400	38.5	PG-TO247-3
IKQ100N60T	600	100	400	1.5	3.1	2.5	100	1.65	2800	23	PG-TO247PLUS
IKQ120N60T	600	120	480	1.5	4.1	2.8	120	1.65	3500	25	PG-TO247PLUS
IKB20N60TA	600	20	60	1.5	0.31	0.46	20	1.65	310	13.3	PG-TO263-3
IKP20N60TA	600	20	60	1.5	0.31	0.46	20	1.65	310	13.3	PG-TO220-3
IKW20N60TA	600	20	60	1.5	0.31	0.46	20	1.65	310	13.3	PG-TO247-3
IKW30N60TA	600	30	90	1.5	0.69	0.77	30	1.65	920	16.3	PG-TO247-3
IKW50N60TA	600	50	150	1.5	1.2	1.4	50	1.65	1800	27.7	PG-TO247-3
IKW75N60TA	600	75	225	1.5	2	2.5	75	1.65	2400	38.5	PG-TO247-3
IKQ100N60TA	600	100	400	1.5	3.1	2.5	100	1.65	2800	23	PG-TO247PLUS
IKQ120N60TA	600	120	480	1.5	4.1	2.8	120	1.65	3500	25	PG-TO247PLUS

900V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{off} [mJ]	I_F [A]	V_F [V]	Package
IHW30N90T	900	30	90	1.5	1.8	13	1.1	PG-TO247-3

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

Symmetrical Full Bridge: Solar Inverter



IGBT Discretes

TRENCHSTOP™ F5 Single IGBT

650V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IGP20N65F5	650	20	60	1.6	0.16	0.06	n/a				PG-TO220-3
IGP30N65F5	650	30	90	1.6	0.09	0.02	n/a				PG-TO220-3
IGP40N65F5	650	40	120	1.6	0.36	0.10	n/a				PG-TO220-3
IGW40N65F5	650	40	120	1.6	0.36	0.10	n/a				PG-TO247-3
IGW50N65F5	650	50	150	1.6	0.49	0.16	n/a				PG-TO247-3
IGW40N65F5A	650	40	120	1.6	0.36	0.1	n/a				PG-TO247-3
IGW50N65F5A	650	50	150	1.6	0.49	0.16	n/a				PG-TO247-3

IGBT Discretes

TRENCHSTOP™ F5 DuoPack

650V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IKA08N65F5	650	8	24	1.6	0.07	0.02	7.3	1.45	140	6.6	PG-TO220-3 FP
IKA15N65F5	650	15	45	1.6	0.13	0.04	7.3	1.45	190	8	PG-TO220-3 FP
IKP08N65F5	650	8	24	1.6	0.07	0.02	12	1.45	140	6.6	PG-TO220-3
IKP15N65F5	650	15	45	1.6	0.13	0.04	12	1.45	190	8	PG-TO220-3
IKP20N65F5	650	20	60	1.6	0.16	0.06	10	1.45	280	10.5	PG-TO220-3
IKP30N65F5	650	30	90	1.6	0.28	0.07	21	1.35	410	14.4	PG-TO220-3
IKW40N65F5	650	40	120	1.6	0.36	0.10	21	1.45	450	12.4	PG-TO247-3
IKW50N65F5	650	50	150	1.6	0.49	0.16	27	1.45	550	16.5	PG-TO247-3
IKW40N65F5A	650	40	120	1.6	0.36	0.10	21	1.45	450	12.4	PG-TO247-3
IKW50N65F5A	650	50	150	1.6	0.49	0.16	27	1.45	550	16.5	PG-TO247-3

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

IGBT Discretes

TRENCHSTOP™ H5 single IGBT

650V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IGP20N65H5	650	20	60	1.65	0.17	0.06	n/a				PG-TO220-3
IGP30N65H5	650	30	90	1.65	0.28	0.10	n/a				PG-TO220-3
IGP40N65H5	650	40	120	1.65	0.39	0.12	n/a				PG-TO220-3
IGW40N65H5	650	40	120	1.65	0.39	0.12	n/a				PG-TO247-3
IGW50N65H5	650	50	150	1.65	0.52	0.18	n/a				PG-TO247-3
IGZ50N65H5	650	50	200	1.65	0.41	0.19	n/a				PG-TO247-4
IGZ75N65H5	650	75	300	1.65	0.68	0.43	n/a				PG-TO247-4
IGZ100N65H5	650	100	400	1.65	0.85	0.77	n/a				PG-TO247-4
IGW40N65H5A	650	40	120	1.65	0.39	0.12	n/a				PG-TO247-3
IGW50N65H5A	650	50	150	1.65	0.52	0.18	n/a				PG-TO247-3

IGBT Discretes

TRENCHSTOP™ H5 DuoPack

650V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IKA08N65H5	650	8	24	1.65	0.07	0.03	7.3	1.45	130	6.8	PG-TO220-3 FP
IKA15N65H5	650	15	45	1.65	0.12	0.05	7.3	1.45	200	8	PG-TO220-3 FP
IKP08N65H5	650	8	24	1.65	0.07	0.03	12	1.45	130	6.8	PG-TO220-3
IKP15N65H5	650	15	45	1.65	0.12	0.05	12	1.45	200	8.0	PG-TO220-3
IKP20N65H5	650	20	60	1.65	0.17	0.06	10	1.45	270	10.4	PG-TO220-3
IKP30N65H5	650	30	90	1.65	0.28	0.10	21	1.35	410	14.3	PG-TO220-3
IKW30N65H5	650	30	90	1.65	0.28	0.10	30	1.55	410	11.5	PG-TO247-3
IKW40N65H5	650	40	120	1.65	0.39	0.12	21	1.45	450	12.5	PG-TO247-3
IKW50N65H5	650	50	150	1.65	0.52	0.18	27	1.45	570	16.7	PG-TO247-3
IKW40N65H5A	650	40	120	1.65	0.39	0.12	21	1.45	450	12.5	PG-TO247-3
IKW50N65H5A	650	50	150	1.65	0.52	0.18	27	1.45	570	16.7	PG-TO247-3
IKZ50N65EH5	650	50	200	1.65	0.41	0.19	75	1.35	820	24	PG-TO247-4
IKZ50N65NH5	650	50	200	1.65	0.35	0.2	54	1.60	490	22	PG-TO247-4
IKZ75N65EH5	650	75	300	1.65	0.68	0.43	85	1.35	1020	29	PG-TO247-4
IKZ75N65NH5	650	75	300	1.65	0.88	0.52	73	1.60	570	26	PG-TO247-4

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

IGBT Discretes

TRENCHSTOP™ H5 - RC WR5 DuoPack

650V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IKW30N65WR5	650	30	90	1.4			14.0	1.40			PG-TO247-3
IKW40N65WR5	650	40	120	1.4	1.40	0.42	19.0	1.70	2410	33	PG-TO247-3
IKW50N65WR5	650	50	150	1.4	1.85	0.70	22.0	1.70	2420	33	PG-TO247-3

IGBT Discretes

TRENCHSTOP™ 2 DuoPack

1200V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IKW15N120T2	1200	15	60	1.7	1.25	0.8	15	1.75	1300	10	PG-TO247-3
IKW25N120T2	1200	25	100	1.7	1.55	1.35	25	1.65	2050	20	PG-TO247-3
IKW40N120T2	1200	40	160	1.75	3.2	2.05	40	1.75	3300	23	PG-TO247-3

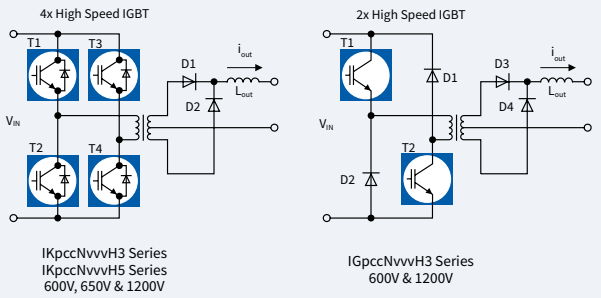
650V

Product*	V_{CE} [V]	I_C [A]	I_{Cpuls} [A]	V_{CEsat} [V]	E_{on} [mJ]	E_{off} [mJ]	I_F [A]	V_F [V]	Q_{rr} [nC]	I_{rrm} [A]	Package
IGW30N65L5	650	30	120	1.05	0.47	1.35	n/a				PG-TO247-3
IKW30N65EL5	650	30	120	1.05	0.47	1.35	41	1.35	910	21	PG-TO247-3
IKW30N65NL5	650	30	120	1.05	0.56	1.35	34	1.65	480	18	PG-TO247-3
IKW75N65EL5	650	75	300	1.1	1.61	3.20	89	1.40	1370	29	PG-TO247-3
IKZ75N65EL5	650	75	300	1.1	1.57	3.2	89	1.40	1300	37	PG-TO247-4

* I_c and I_F is specified at T_c=100°C, all other parameters are specified at T_{vj}= 25°C

Common IGBT Applications and Topologies

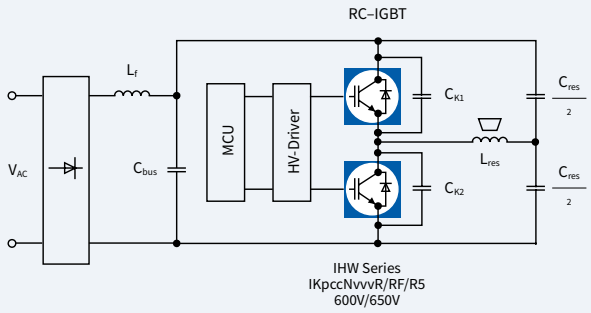
Full Bridge / Two Transistor Forward: Welding Inverter



IKpccNvvvH3 Series
IKpccNvvvH5 Series
600V, 650V & 1200V

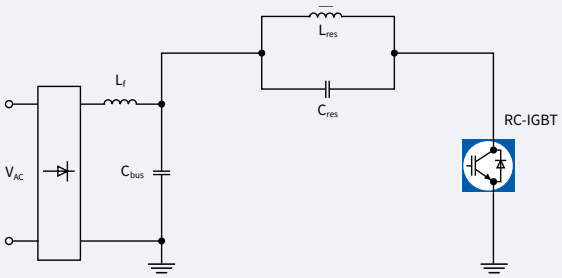
IGpccNvvvH3 Series
600V & 1200V

Half Bridge: Induction Heating Inverter (Current Resonance)



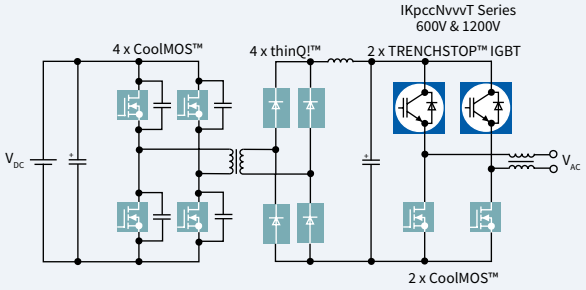
IHW Series
IKpccNvvvR/RF/R5
600V/650V

Single switch: Induction Heating Inverter (Voltage Resonance)



IHW Series
1100V, 1200V
1350V & 1600V

Asymmetrical Full Bridge: Solar Inverter (Phase-Shift & Asymmetrical Full Bridge)

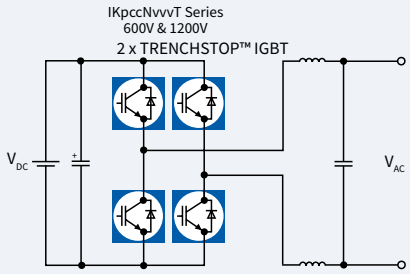


IPpvvRrrrCFD Series
600V & 650V

IDpccSGvvC Series
600V & 1200V

IPpvvRrrrC6 Series
600V & 650V

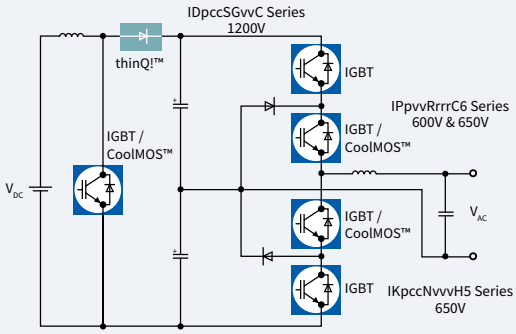
Symmetrical Full Bridge: Solar Inverter (Symmetrical Full Bridge)



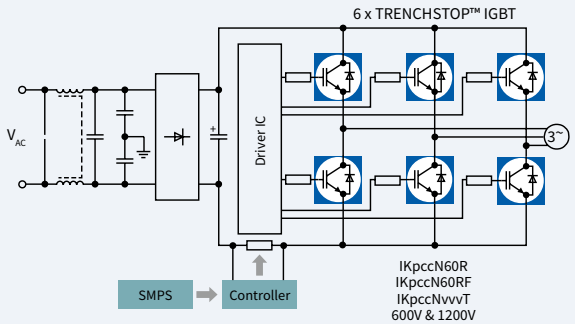
IKpccNvvvT Series
600V & 1200V

IPpvvRrrrCFD Series
600V & 650V

Three Level Inverter Type II: Three-Level Inverter Type II (Solar, UPS)

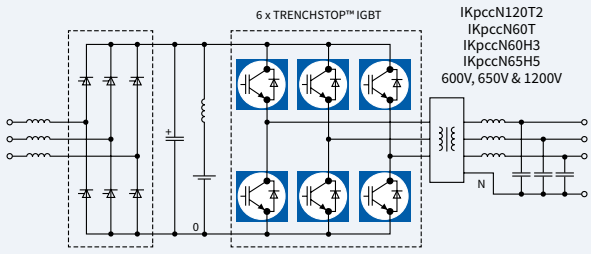


Motor Control: 3-Phase Motor Control



IKpccN60R
IKpccN60RF
IKpccNvvvT
600V & 1200V

Uninterrruptable Power Supply: Universal Power Supply b6-Bridge



IKpccN120T2
IKpccN60T
IKpccN60H3
IKpccN65H5
600V, 650V & 1200V

Links

Application Notes, Product Briefs, Flyers and Brochures	Type	Redirects
HighSpeed 3 600V	Application Note	www.infineon.com/highspeed3-600V-appnote
HighSpeed 3 1200V	Application Note	www.infineon.com/highspeed3-1200V-appnote
TRENCHSTOP™ 5 650V	Application Note	www.infineon.com/trenchstop5-appnote
RC Drives and RC Drives Fast	Application Note	www.infineon.com/rc-drives-fast-appnote
IGBT Selection Guide	IGBT Selection Guide	www.infineon.com/igbt-selection-guide
HighSpeed 3 1200V 600V	Product Brief	www.infineon.com/highspeed3-product-brief
TRENCHSTOP™ 5	Product Brief	www.infineon.com/trenchstop5-product-brief
RC Drives and RC Drives Fast	Product Brief	www.infineon.com/rc-drives-fast-product-brief
TRENCHSTOP™ 5	Selection Guide	www.infineon.com/trenchstop5-selectiontree
Infineon's 600V RC-Drive portfolio for switching frequencies up to 30kHz	Video	www.infineon.com/rcdf
TRENCHSTOP™ 5	Video	www.infineon.com/highspeed5-video
TRENCHSTOP™ 5 Portfolio and Summary	Video	www.infineon.com/highspeed5-portfolio-video
TRENCHSTOP™ 5 Target Application	Video	www.infineon.com/highspeed5-targetapplications-video
HighSpeed 3 1200V 600V	Webpage	www.infineon.com/highspeed3
TRENCHSTOP™ IGBT for Hard Switching	Webpage	www.infineon.com/trenchstop-hard-switching
TRENCHSTOP™ IGBT for Soft Switching - 3rd Generation Reverse Conducting IGBT	Webpage	www.infineon.com/trenchstop-reverse-conducting
100A & 120A 600V TRENCHSTOP™ in TO-247PLUS	Webpage	www.infineon.com/TO-247PLUS
TRENCHSTOP™ 5	Webpage	www.infineon.com/trenchstop5
TRENCHSTOP™ 5 in TO-247 4pin Package	Webpage	www.infineon.com/to-247-4
L5 -ow $V_{ce(sat)}$ TRENCHSTOP™ 5	Webpage	www.infineon.com/trenchstop5-L5
Evaluation Board TO-247 4pin	Webpage	www.infineon.com/to-247-4
RC Drives and RC Drives Fast	Webpage	www.infineon.com/rc-drives-fast
Next Generation Reverse Conducting IGBT	Webpage, Application Note, Product Brief, Video	www.infineon.com/rch5
Automotive (AEC-Q) qualified discrete IGBTS	Webpage	www.infineon.com/Discrete-Automotive-IGBT
Application Notes + Product Briefs for all packages & technologies	Application Note Collection + Product Brief Collection	www.infineon.com/discrete-igbts

Low Power Modules

Our Easy, Smart and Econo modules are designed for cost effective and compact inverters as well as a simplified and reliable mounting. The Easy and Econo product families are available with the well known solder pins or the new state-of-the-art PressFIT connections.

The new Smart modules combine the PressFIT technology with a sophisticated housing concept. Its new duplex-frame reaches a very high level of reliability during the mounting process and operation. Here the PressFIT pin is connected to the PCB, the PCB is stabilized and the module is mounted on the heat sink in one single step.

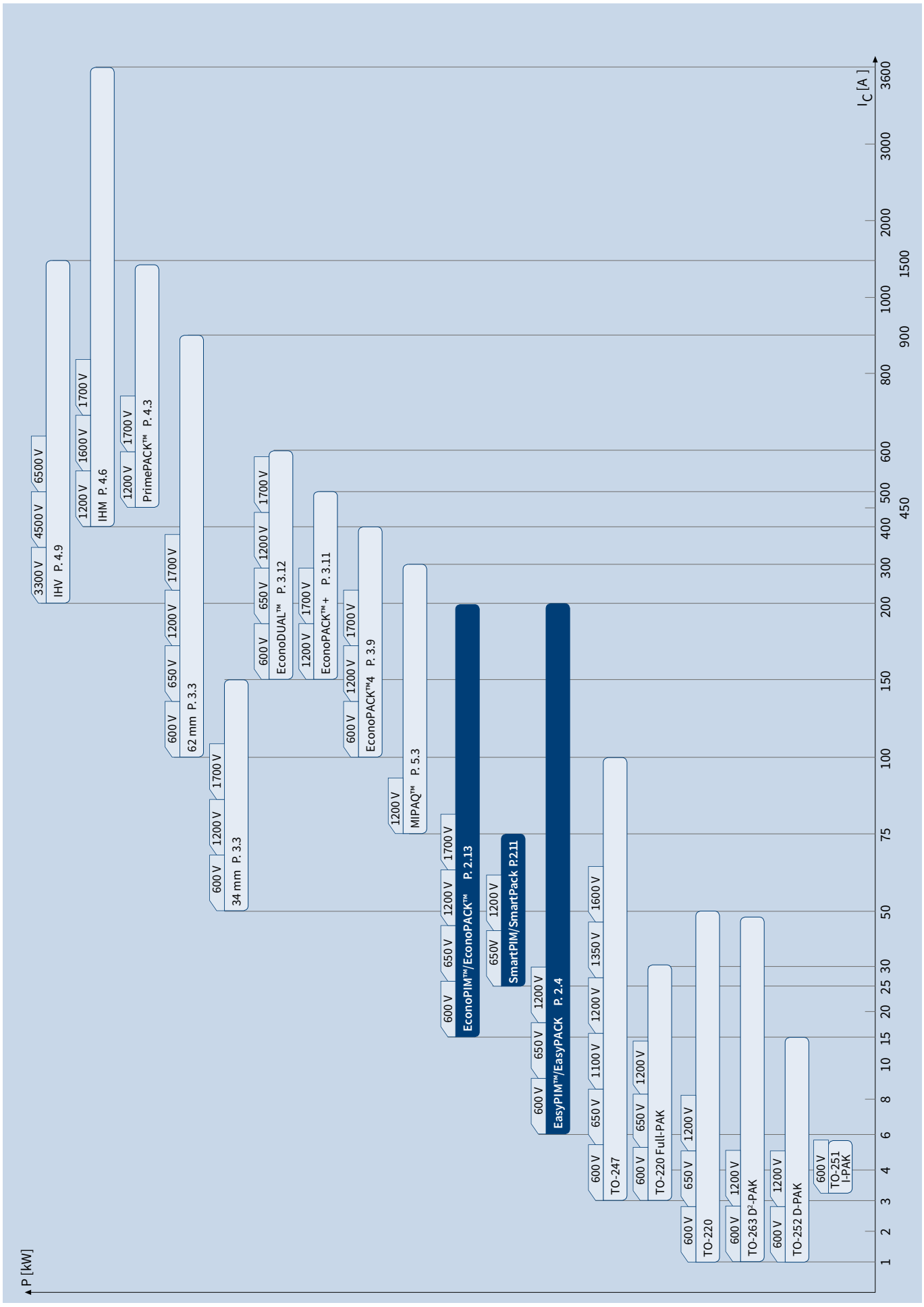
The Easy family with different configurations like EasyPIM™, EasyPACK and EasyDUAL covers a full product scope in the power range from nominal current 6A up to 200A at 600 V/1200 V. These modules without base plates are equipped with screw clamps for a new, fast, reliable and low cost mounting concept. With reduced height from 17mm to 12mm and injected mounting screw clamps, the new Easy1B and Easy2B housings are the optimal choice.

Easy 3-Level modules provide a complete full bridge from 15 A up to 50 A or a complete phase leg from 30 A up to 200 A. The solution offers the significant advantage for designing highly efficient UPS and Solar inverters. New modules for photovoltaic string and multi-string inverters are available.

In the Smart1 package the possible current range is up to 75 A in PACK and 50 A in PIM configurations at 650 V/1200 V. With it's Self-Acting PressFIT assembly a new generation of cost saving modules is born.

The Econo family extends the range from 15 A up to 200 A at 600 V/650 V/1200 V/1700 V. The available configurations are the well known EconoPIM™ and EconoPACK™ series. The Econo housing comes with a copper base plate for optimized heat spread and includes a thermistor (NTC).

All module families are also available with the optimized newest IGBT4 technology.


P [kW]
I_C [A]
1 2 3 4 6 8 10 15 20 25 30 50 75 100 150 200 300 400 500 600 800 900 1000 1500 2000 3000 3600
450
3300 V 4500 V 6500 V
IHV P. 4.9
1200 V 1600 V 1700 V
IHM P. 4.6
1200 V 1700 V
PrimePACK™ P. 4.3
600 V 650 V 1200 V 1700 V
62 mm P. 3.3
600 V 1200 V 1700 V
34 mm P. 3.3
600 V 650 V 1200 V 1700 V
EconoDUAL™ P. 3.12
1200 V 1700 V
EconoPACK™+ P. 3.11
600 V 1200 V 1700 V
EconoPACK™4 P. 3.9
1200 V
MIPAQ™ P. 5.3
600 V 650 V 1200 V 1700 V
EconoPIM™/EconoPACK™ P. 2.13
650 V 1200 V
SmartPIM/SmartPack P.2.11
600 V 650 V 1200 V
EasyPIM™/EasyPACK P. 2.4
600 V 650 V 1100 V 1200 V 1350 V 1600 V
TO-247
600 V 650 V 1200 V
TO-220 Full-PAK
600 V 650 V 1200 V
TO-220
600 V 1200 V
TO-263 D²-PAK
600 V 1200 V
TO-252 D-PAK
600 V
TO-251
I-PAK

Easy 1B & 2B Product Portfolio

600 V & 1200 V

I_C	Power Integrated Module		sixpack	
	600 V	1200 V	600 V	1200 V
10 A	FP10R06W1E3 FP10R06W1E3_B11	FP10R12W1T4 FP10R12W1T4_B11		
15 A	FP15R06W1E3 FP15R06W1E3_B11	FP15R12W1T4 FP15R12W1T4_B11 **FP15R12W2T4**		
20 A	FP20R06W1E3 FP20R06W1E3_B11	**FP25R12W2T4** **FP25R12W2T4_B11**	FS20R06W1E3 FS20R06W1E3_B11	FS25R12W1T4 FS25R12W1T4_B11
35 A	FP30R06W1E3 FP30R06W1E3_B11	**FP35R12W2T4** **FP35R12W2T4_B11**	FS30R06W1E3 FS30R06W1E3_B11	FS35R12W1T4 FS35R12W1T4_B11
50 A	**FP50R06W2E3** **FP50R06W2E3_B11**		FS50R06W1E3 FS50R06W1E3_B11	**FS50R12W2T4** **FS50R12W2T4_B11**
75 A				**FS75R12W2T4** **FS75R12W2T4_B11**
100 A				

W1 = Easy1B **W2 = Easy2B** B11= PressFIT terminals

Econo IGBT4 Product Portfolio for New Designs

650 V, 1200 V & 1700 V

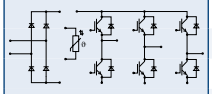
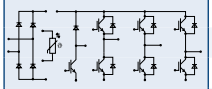
I_C	Power Integrated Module			sixpack		
	650 V	1200 V	1700 V	650 V	1200 V	1700 V
25 A		FP25R12KT4 FP25R12KT4_B11				
35 A		FP35R12KT4 FP35R12KT4_B11				
50 A	FP50R07N2E4 FP50R07N2E4_B11	FP50R12KT4 FP50R12KT4_B11		FS50R07N2E4 FS50R07N2E4_B11	FS50R12KT4_B15 FS50R12KT4_B11	
75 A	FP75R07N2E4 FP75R07N2E4_B11	**FP75R12KT4** **FP75R12KT4_B11**	**FP75R17N3E4**	FS75R07N2E4 FS75R07N2E4_B11	FS75R12KT4_B15 FS75R12KT4_B11	
100 A	**FP100R07N3E4** **FP100R07N3E4_B11**	**FP100R12KT4** **FP100R12KT4_B11**		FS100R07N2E4 FS100R07N2E4_B11 **FS100R07N3E4** **FS100R07N3E4_B11**	FS100R12KT4 FS100R12KT4_B11 **FS100R12KT4G** **FS100R12KT4G_B11**	**FS100R17N3E4** **FS100R17N3E4_B11**
150 A	**FP150R07N3E4** **FP150R07N3E4_B11**			**FS150R07N3E4** **FS150R07N3E4_B11**	**FS150R12KT4** **FS150R12KT4_B11**	**FS150R17N3E4** **FS150R17N3E4_B11**
200 A				**FS200R07N3E4R** **FS200R07N3E4R_B11**	**FS200R12KT4R** **FS200R12KT4R_B11**	

N2 = Econo2 **N3 = Econo3** B11= PressFIT terminals ..._B15 module alternative mechnically compatible to an IGBT3 module

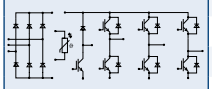
IGBT Low Power Modules

EasyPIM™ Power Integrated Modules

Single Phase 600 V_{CES}

Type		IGBT Inverter					Rectifier Diodes		Brake Chopper		Outline/ page
		V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff. mJ T_{vj}= 125°C	V_{RRM} V	I_d A	V_{CE} V	IC* A T_C= 80°C	
 PIM with NTC	IGBT3										
	FB15R06W1E3	600	15	22	1.55	0.76	800	15			L_B1c/2.21
	FB20R06W1E3	600	20	27	1.55	1.00	800	20			L_B1c/2.21
	FB30R06W1E3	600	30	37	1.55	1.60	800	30			L_B1c/2.21
 PIM with NTC	IGBT3										
	FB20R06W1E3_B11	600	20	27	1.55	1.00	800	20	600	20	L_B1k/2.21

Three Phase 600 V_{CES}

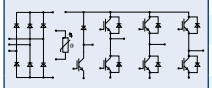
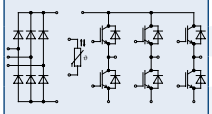
Type		IGBT Inverter					Rectifier Diodes		Brake Chopper		Outline/ page
		V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff, mJ T_{vj}= 125°C	V_{RRM} V	I_d A	V^{CE} V	IC* A T_C= 80°C	
 PIM with NTC	IGBT3										
	FP10R06W1E3	600	10	16	1.55	0.50	1600	10	600	10	L_B1a/2.20
	FP15R06W1E3	600	15	22	1.55	0.76	1600	15	600	15	L_B1a/2.20
	FP20R06W1E3	600	20	27	1.55	1.00	1600	20	600	20	L_B1a/2.20
	FP30R06W1E3	600	30	37	1.55	1.40	1600	30	600	30	L_B1a/2.20
	FP50R06W2E3	600	50	65	1.45	2.25	1600	50	600	50	L_B2a/2.25
	FP10R06W1E3_B11	600	10	16	1.55	0.50	1600	10	600	10	L_B1h/2.20
	FP15R06W1E3_B11	600	15	22	1.55	0.76	1600	15	600	15	L_B1h/2.20
	FP20R06W1E3_B11	600	20	27	1.55	1.00	1600	20	600	20	L_B1h/2.20
	FP30R06W1E3_B11	600	30	37	1.55	1.40	1600	30	600	30	L_B1h/2.20
	FP50R06W2E3_B11	600	50	65	1.45	2.25	1600	50	600	50	L_B2b/2.25

* as specified in data sheet Mounting Hardware see page 2.37 ..._B11 PressFIT Modules

IGBT Low Power Modules

EasyPIM™ Power Integrated Modules

Three Phase 1200 V_{CES}

Type		IGBT Inverter					Rectifier Diodes		Brake Chopper		Outline/ page
		V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff, mJ T_{vj}= 125°C	V_{RRM} V	I_d A	V^{CE} V	IC* A T_C= 80°C	
 PIM with NTC	IGBT4										
	FP10R12W1T4	1200	10	20	1.85	2.15	1600	10	1200	10	L_B1a/2.20
	FP15R12W1T4	1200	15	28	1.85	2.95	1600	15	1200	15	L_B1a/2.20
	FP15R12W2T4	1200	15	30	1.85	2.75	1600	30	1200	15	L_B2a/2.25
	FP25R12W2T4	1200	25	39	1.85	4.55	1600	25	1200	25	L_B2a/2.25
	FP35R12W2T4	1200	35	54	1.85	5.80	1600	35	1200	35	L_B2a/2.25
	FP10R12W1T4_B11	1200	10	20	1.85	2.15	1600	10	1200	10	L_B1h/2.20
	FP15R12W1T4_B11	1200	15	28	1.85	2.95	1600	15	1200	15	L_B1h/2.20
	FP25R12W2T4_B11	1200	25	39	1.85	4.55	1600	25	1200	25	L_B2b/2.25
	FP35R12W2T4_B11	1200	35	54	1.85	5.80	1600	35	1200	35	L_B2b/2.25
 PIM with NTC	IGBT4										
	FP10R12W1T4_B3	1200	10	20	1.85	2.15	1600	10			L_B1b/2.20
	FP15R12W1T4_B3	1200	15	28	1.85	2.95	1600	15			L_B1b/2.20

* as specified in data sheet

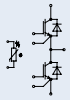
..._B3 3-phase rectifier without brake chopper

..._B11 PressFIT Modules

IGBT Low Power Modules

EasyDUAL

600 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff, mJ T_{vj}= 125°C	Outline/ page
 dual with NTC	IGBT3						
	FF200R06YE3	600	200	220	1.45	9.70	L_2j/2.19

1200 V_{CES}

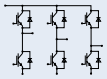
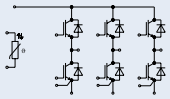
Type		IGBT Inverter V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff, mJ T_{vj}= 125°C	Outline/ page
 dual with NTC	IGBT3						
	FF75R12YT3	1200	75	100	1.80	15.70	L_2j/2.19
	FF100R12YT3	1200	100	140	1.70	21.70	L_2j/2.19
	FF150R12YT3	1200	150	200	1.70	32.00	L_2j/2.19

* as specified in data sheet

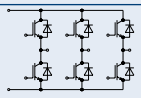
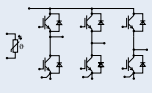
IGBT Low Power Modules

EasyPACK

600 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff. mJ T_{vj}= 125°C	Outline/ page
 sixpack	IGBT3						
	FS10R06VE3	600	10	16	1.55	0.50	L_750b/2.18
	FS20R06VE3	600	20	25	1.55	1.00	L_750b/2.18
	FS30R06VE3	600	30	34	1.55	1.6	L_750b/2.18
 sixpack with NTC	IGBT3						
	FS6R06VE3_B2	600	6	11	1.55	0.25	L_750c/2.18
	FS10R06VE3_B2	600	10	16	1.55	0.50	L_750c/2.18
	FS15R06VE3_B2	600	15	22	1.55	0.76	L_750c/2.18
	FS20R06VE3_B2	600	20	25	1.55	1.00	L_750c/2.18
	FS20R06W1E3	600	20	35	1.55	1.05	L_B1e/2.22
	FS30R06W1E3	600	30	45	1.55	1.58	L_B1e/2.22
	FS50R06W1E3	600	50	70	1.45	2.06	L_B1e/2.22
	FS20R06W1E3_B11	600	20	35	1.55	1.05	L_B1j/2.22
	FS30R06W1E3_B11	600	30	45	1.55	1.58	L_B1j/2.22
	FS50R06W1E3_B11	600	50	70	1.45	2.06	L_B1j/2.22

1200 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff. mJ T_{vj}= 125°C	Outline/ page
 sixpack	IGBT3						
	FS10R12VT3	1200	10	16	1.90	2.35	L_750f/2.18
	FS15R12VT3	1200	15	24	1.70	3.40	L_750f/2.18
 sixpack with NTC	IGBT4						
	FS25R12W1T4	1200	25	45	1.85	4.65	L_B1e/2.22
	FS35R12W1T4	1200	35	65	1.85	6.65	L_B1e/2.22
	FS50R12W2T4	1200	50	83	1.85	9.20	L_B2c/2.25
	FS75R12W2T4	1200	75	107	1.85	13.3	L_B2c/2.25
	FS25R12W1T4_B11	1200	25	45	1.85	4.65	L_B1j/2.22
	FS35R12W1T4_B11	1200	35	65	1.85	6.65	L_B1j/2.22
	FS50R12W2T4_B11	1200	50	83	1.85	9.20	L_B2d/2.25
	FS75R12W2T4_B11	1200	75	107	1.85	13.3	L_B2d/2.25

* as specified in data sheet

Mounting Hardware see page 2.37

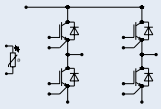
..._B2 sixpack with NTC

..._B11 PressFIT Modules

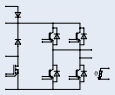
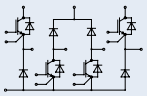
IGBT Low Power Modules

EASY Solar/UPS-High Efficiency Line

600 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff, mJ T_{vj}= 125°C	Outline/ page
 fourpack with NTC	IGBT3						
	F4-30R06W1E3	600	30	48	1.55	1.58	L_B1f/2.22
	F4-50R06W1E3	600	50	75	1.45	2.06	L_B1f/2.22
	F4-75R06W1E3	600	75	100	1.45	2.65	L_B1f/2.22

650 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff, mJ T_{vj}= 125°C	Outline/ page
 fourpack with booster and NTC	IGBT HighSpeed 3						
	F4-50R07W2H3_B51	650	50	65	1.35	1.60	L_B2i/2.27
	F4-75R07W2H3_B51	650	75	75	1.35	2.50	L_B2i/2.27
 buck and boost with NTC	FD-DF80R12W1H3_B52	1200	80	80	2.05	6.25	L_B1b/2.24

600/650 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C* A T_C= 80°C	I_C A TC= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff, mJ T_{vj}= 125°C	Outline/ page
 3-level NPC 1 with NTC	IGBT3						
	F3L30R06W1E3_B11	600	30	45	1.55	1.23	L_B1i/2.23
	F3L50R06W1E3_B11	600	50	75	1.45	1.85	L_B1i/2.23
	F3L75R07W2E3_B11	650	75	95	1.45	2.90	L_B2e/2.26
	F3L100R07W2E3_B11	650	100	117	1.45	4.20	L_B2f/2.26
	F3L150R07W2E3_B11	650	150	150	1.45	6.85	L_B2f/2.26

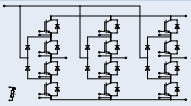
* as specified in data sheet ..._B51 fourpack with booster and NTC ..._B52 buck and boost with NTC ..._B11 PressFIT Modules

Based on Infineon Silicon-Carbide technology for higher performance and efficiency

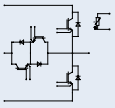
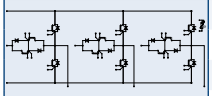
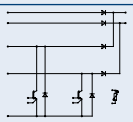
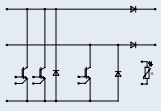
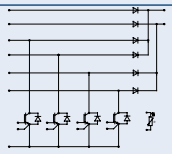
IGBT Low Power Modules

EASY Solar/UPS-High Efficiency Line

650 V_{CES}

Type		IGBT Inverter					IGBT 3-Level					Outline/ page
		V_{CE} V	I_C* A T_C= 80°C	I_C A TC= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ E_{off} mj T_{vj}= 125°C	V_{CE} V	I_C* A T_C= 80°C	I_C A TC= 25°C	V_{CEsat} V T_{vj}= 25°C	E_{on}+ E_{off} mj T_{vj}= 125°C	
 3ph 3-Level NPC1 with NTC	IGBT HighSpeed 3											
	FS3L30R07W2H3F_B11 SiC	650	30	45	1.50	1.94	650	30	50	1.55	1.04	L_B2k/2.27
	FS3L50R07W2H3F_B11 SiC	650	50	75	1.45	2.80	650	30	50	1.55	1.08	L_B2k/2.27
	FS3L50R07W2H3_B11	650	50	75	1.45	2.80	650	30	50	1.55	1.42	L_B2k/2.27

1200 V_{CES}

Type		IGBT Inverter					Outline/ page
		V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	E_{on}+ $E_{off, mj}$ T_{vj}= 125°C	
 3-level NPC 2 with NTC	IGBT HighSpeed 3						
	F3L75R12W1H3_B27	1200	75	90	1.45	2.00	L_B1k/2.23
	F3L100R12W2H3_B11	1200	50	100	1.55	4.25	L_B2o/2.28
	F3L150R12W2H3_B11	1200	75	150	1.55	6.85	L_B2o/2.28
	F3L200R12W2H3_B11	1200	100	200	1.55	7.30	L_B2o/2.28
 3ph 3-Level NPC 2 with NTC	IGBT HighSpeed 3						
	F3L15R12W2H3_B27	1200	15	20	2.05	1.13	L_B2m/2.29
 Booster with NTC	IGBT HighSpeed 2						
	DF75R12W1H4F_B11 SiC	1200	25	50	2.10	2.35	L_B1l/2.23
	IGBT HighSpeed 3						
	DF80R12W2H3_B11	1200	20	50	1.55	2.75	L_B2g/2.26
	DF80R12W2H3F_B11 SiC	1200	20	50	1.55	1.52	L_B2g/2.26
 Booster with NTC	IGBT HighSpeed 3						
	DF120R12W2H3_B27	1200	50	40	2.05	5.5	L_B2n/2.28
 Booster with NTC	IGBT HighSpeed 3						
	DF160R12W2H3_B11	1200	20	50	1.55	2.75	L_B2h/2.27
	DF160R12W2H3F_B11 SiC	1200	20	50	1.55	1.52	L_B2h/2.27

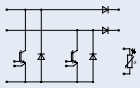
* as specified in data sheet ..._B11 PressFIT Modules ..._B27 High Efficiency Module with latest Si Diodes

SiC Based on Infineon Silicon-Carbide technology for higher performance and efficiency

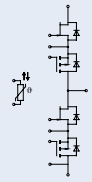
IGBT Low Power Modules

EASY Solar/UPS-High Efficiency Line

1200 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	E_{on}+ $E_{off, mj}$ T_{vj}= 125°C	Outline/ page
 Booster with NTC	IGBT HighSpeed 3						
	DF200R12W1H3_B27	1200	40	50	1.30	2.75	L_B1m/2.24

1200 V_{CES}

Type		JFET V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	R_{DSON} mΩ T_{vj}= 25°C	E_{on}+ $E_{off, mj}$ T_{vj}= 125°C	Outline/ page
 dual with NTC	SiC JFET						
	FF45R12W1J1_B11	1200	45	55	51	0.84	L_B1o/2.24

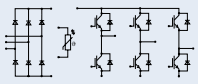
* as specified in data sheet ..._B11 PressFIT Modules ..._B27 High Efficiency Module with latest Si Diodes

Based on Infineon Silicon-Carbide technology for higher performance and efficiency

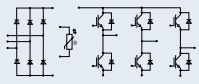
IGBT Low Power Modules

SmartPIM Power Integrated Modules

Three Phase 650 V_{CES}

Type		IGBT Inverter					Rectifier Diodes		Brake Chopper		Outline/ page
		V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff. mJ T_{vj}= 125°C	V_{RRM} V	I_d A	V_{CE} V	I_C* A T_C= 80°C	
 PIM with NTC	IGBT4										
	◆ FP30R07U1E4	650	30	50	1.60	2.10	1600	30	1.60	30	L_S1a/2.30
	◆ FP50R07U1E4	650	50	75	1.55	3.35	1600	50	1.55	50	L_S1a/2.30

Three Phase 1200 V_{CES}

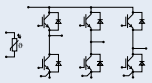
Type		IGBT Inverter					Rectifier Diodes		Brake Chopper		Outline/ page
		V_{CE} V	I_C* A T_C= 80°C	I_C A T_C= 25°C	V_{CEsat} V T_{vj}= 25°C	Eon+ Eoff. mJ T_{vj}= 125°C	V_{RRM} V	I_d A	V_{CE} V	I_C* A T_C= 80°C	
 PIM with NTC	IGBT4										
	◆ FP25R12U1T4	1200	25	39	1.85	4.55	1600	25	1200	25	L_S1a/2.30
	◆ FP35R12U1T4	1200	35	54	1.85	5.80	1600	35	1200	35	L_S1a/2.30

◆ New type * as specified in data sheet

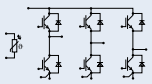
IGBT Low Power Modules

SmartPACK Modules

650 V_{CES}

Type		V_{CES} V	I_C* A	V_{CEsat} V T_{vj}= 25°C typ.	P_{tot} W	Outline/ page
 sixpack with NTC	IGBT4					
	◆ FS50R07U1E4	650	50	1.55	230	L_S1c/2.32
	◆ FS75R07U1E4	650	75	1.55	275	L_S1c/2.32

1200 V_{CES}

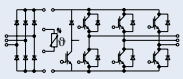
Type		V_{CES} V	I_C* A	V_{CEsat} V T_{vj}= 25°C typ.	P_{tot} W	Outline/ page
 sixpack with NTC	IGBT4					
	◆ FS35R12U1T4	1200	35	1.85	250	L_S1b/2.31
	◆ FS50R12U1T4	1200	50	1.85	250	L_S1b/2.31

◆ New type * as specified in data sheet

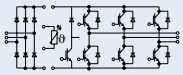
IGBT Low Power Modules

EconoPIM™

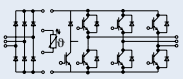
Three Phase 600 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C A	V_{CEsat} V T_{vj}= 25°C	Rectifier Diodes V_{RRM} V	I_d A T_C= 80°C	V_f V T_{vj}= 150°C	Brake Chopper V_{CES} V	$I_{C.IGBT}$ A T_C= 80°C	Outline/ page
	IGBT3									
	FP30R06KE3	600	30	1.55	1600	60	0.90	600	30.0	M_E2a/2.33
	FP50R06KE3	600	50	1.45	1600	70	1.05	600	30.0	M_E2a/2.33
	FP75R06KE3	600	75	1.45	1600	100	1.05	600	50.0	M_E3a/2.35
PIM with NTC	FP100R06KE3	600	100	1.45	1600	100	1.10	600	50.0	M_E3a/2.35

Three Phase 650 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C A	V_{CEsat} V T_{vj}= 25°C	Rectifier Diodes V_{RRM} V	I_d A T_C= 80°C	V_f V T_{vj}= 150°C	Brake Chopper V_{CES} V	$I_{C.IGBT}$ A T_C= 80°C	Outline/ page
	IGBT4									
	FP50R07N2E4	650	50	1.55	1600	80	1.00	650	50.0	M_E2o/2.35
	FP75R07N2E4	650	75	1.55	1600	80	1.00	650	50.0	M_E2o/2.35
	FP100R07N3E4	650	100	1.55	1600	100	1.10	650	75.0	M_E3g/2.37
	FP150R07N3E4	650	150	1.55	1600	150	1.10	650	100.0	M_E3g/2.37
	IGBT4 PressFIT									
	FP50R07N2E4_B11	650	50	1.55	1600	80	1.00	650	50.0	M_E2n/2.35
	FP75R07N2E4_B11	650	75	1.55	1600	80	1.00	650	50.0	M_E2n/2.35
	FP100R07N3E4_B11	650	100	1.55	1600	100	1.10	650	75.0	M_E3h/2.37
PIM with NTC	FP150R07N3E4_B11	650	150	1.55	1600	150	1.10	650	100.0	M_E3h/2.37

Three Phase 1200 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C A	V_{CEsat} V T_{vj}= 25°C	Rectifier Diodes V_{RRM} V	I_d A T_C= 80°C	V_f V T_{vj}= 150°C	Brake Chopper V_{CES} V	$I_{C,IGBT}$ A T_C= 80°C	Outline/ page
	IGBT2 Fast									
	FP15R12KS4C	1200	15	3.20	1600	40	0.95	1200	10.0	M_E2a/2.33
	FP25R12KS4C	1200	25	3.20	1600	40	1.05	1200	12.5	M_E2a/2.33
	FP50R12KS4C	1200	50	3.20	1600	40	1.05	1200	25.0	M_E3a/2.35
	IGBT3									
	FP15R12KE3G	1200	15	1.70	1600	50	0.95	1200	10.0	M_E2a/2.33
	FP25R12KE3	1200	25	1.70	1600	50	1.05	1200	15.0	M_E2a/2.33
	FP40R12KE3	1200	40	1.80	1600	50	1.20	1200	15.0	M_E2a/2.33
	FP40R12KE3G	1200	40	1.80	1600	50	1.20	1200	40.0	M_E3a/2.35
	FP50R12KE3	1200	50	1.70	1600	80	1.00	1200	40.0	M_E3a/2.35
PIM with NTC	FP75R12KE3	1200	75	1.70	1600	80	1.15	1200	40.0	M_E3a/2.35

..._B11 PressFIT Modules …G module in big housing

IGBT Low Power Modules

EconoPIM™

Three Phase 1200 V_{CES}

Type		IGBT Inverter V_{CE} V	I_C A	V_{CEsat} V T_{vj}= 25°C	Rectifier Diodes V_{RRM} V	I_d A T_C= 80°C	V_f V T_{vj}= 150°C	Brake Chopper V_{CES} V	$I_{C,IGBT}$ A T_C= 80°C	Outline/ page
	IGBT3 Fast									
	FP15R12KT3	1200	15	1.70	1600	50	0.90	1200	10	M_E2a/2.33
	FP25R12KT3	1200	25	1.70	1600	50	1.05	1200	15	M_E2a/2.33
	FP40R12KT3	1200	40	1.80	1600	50	1.20	1200	15	M_E2a/2.33
	FP40R12KT3G	1200	40	1.80	1600	50	1.20	1200	40	M_E3a/2.35
	FP50R12KT3	1200	50	1.70	1600	80	1.00	1200	40	M_E3a/2.35
	FP75R12KT3	1200	75	1.70	1600	80	1.10	1200	40	M_E3a/2.35
	IGBT4									
	FP25R12KT4	1200	25	1.85	1600	80	0.90	1200	15	M_E2m/2.34
	FP25R12KT4_B15	1200	25	1.85	1600	50	0.90	1200	15	M_E2a/2.33
	FP35R12KT4	1200	35	1.85	1600	80	0.95	1200	25	M_E2m/2.34
	FP35R12KT4_B15	1200	35	1.85	1600	80	0.95	1200	25	M_E2a/2.33
	FP50R12KT4	1200	50	1.85	1600	80	1.05	1200	25	M_E2m/2.34
	FP50R12KT4G_B15	1200	50	1.85	1600	80	1.15	1200	25	M_E3a/2.35
	FP50R12KT4G	1200	50	1.85	1600	80	1.15	1200	25	M_E3j/2.36
	FP75R12KT4	1200	75	1.85	1600	140	1.15	1200	50	M_E3j/2.36
	FP75R12KT4_B15	1200	75	1.85	1600	140	1.15	1200	35	M_E3a/2.35
	FP100R12KT4	1200	100	1.75	1600	150	1.00	1200	50	M_E3j/2.36
	IGBT4 PressFIT									
	FP25R12KT4_B11	1200	25	1.85	1600	80	0.90	1200	15	M_E2h/2.33
	FP35R12KT4_B11	1200	35	1.85	1600	80	0.95	1200	25	M_E2h/2.33
	FP50R12KT4_B11	1200	50	1.85	1600	80	1.05	1200	25	M_E2h/2.33
	◆ FP50R12KT4P_B11 TIM	1200	50	1.85	1600	80	1.05	1200	25	M_E2h/2.33
	FP75R12KT4_B11	1200	75	1.85	1600	140	1.15	1200	50	M_E3f/2.36
	FP100R12KT4_B11	1200	100	1.75	1600	150	1.00	1200	50	M_E3f/2.36
PIM with NTC	◆ FP100R12KT4P_B11 TIM	1200	100	1.75	1600	150	1.00	1200	50	M_E3f/2.36

Three Phase 1700 V_{CES}

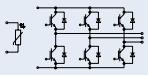
Type		IGBT Inverter V_{CE} V	I_C A	V_{CEsat} V T_{vj}= 25°C	Rectifier Diodes V_{RRM} V	I_d A T_C= 80°C	V_f V T_{vj}= 150°C	Brake Chopper V_{CES} V	$I_{C,IGBT}$ A T_C= 80°C	Outline/ page
	◆ FP75R17N3E4	1700	75		1800	data on request				M_E3j/2.36
PIM with NTC										

◆ New type ..._B11 PressFIT Modules ..._B15 module alternative mechnically compatible to an IGBT3 module …G module in big housing
TIM with pre-applied Thermal Interface Material (TIM) for improved thermal performance. Other modules available with TIM on request.

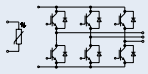
IGBT Low Power Modules

EconoPACK™

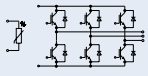
600 V_{CES}

	Type	V_{CES} V	I_C A	V_{CEsat} V T_{vj}= 25°C typ.	P_{tot} W	Outline/ page
	IGBT3					
	FS50R06KE3	600	50	1.45	190	M_E2b/2.33
	FS75R06KE3	600	75	1.45	250	M_E2b/2.33
	FS100R06KE3	600	100	1.45	335	M_E3b/2.36
	FS150R06KE3	600	150	1.45	430	M_E3b/2.36
sixpack with NTC	FS200R06KE3	600	200	1.45	600	M_E3b/2.36

650 V_{CES}

	Type	V_{CES} V	I_C A	V_{CEsat} V T_{vj}= 25°C typ.	P_{tot} W	Outline/ page
	IGBT4					
	FS50R07N2E4	650	50	1.55	190	M_E2b/2.33
	FS75R07N2E4	650	75	1.55	250	M_E2b/2.33
	FS100R07N2E4	650	100	1.55	335	M_E2b/2.33
	FS100R07N3E4	650	100	1.55	335	M_E3b/2.36
	FS150R07N3E4	650	150	1.55	430	M_E3b/2.36
sixpack with NTC	FS200R07N3E4 R	650	200	1.55	600	M_E3b/2.36

650 V_{CES} PressFIT

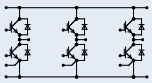
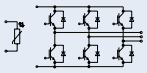
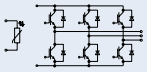
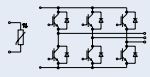
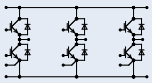
	Type	V_{CES} V	I_C A	V_{CEsat} V T_{vj}= 25°C typ.	P_{tot} W	Outline/ page
	IGBT4					
	FS50R07N2E4_B11	650	50	1.55	190	M_E2p/2.35
	FS75R07N2E4_B11	650	75	1.55	250	M_E2p/2.35
	FS100R07N2E4_B11	650	100	1.55	335	M_E2p/2.35
	FS100R07N3E4_B11	650	100	1.55	335	M_E3e/2.36
	FS150R07N3E4_B11	650	150	1.55	430	M_E3e/2.36
sixpack with NTC	FS200R07N3E4R_B11	650	200	1.55	600	M_E3e/2.36

..._B11 PressFIT Modules …R reduced number of pins

IGBT Low Power Modules

EconoPACK™

1200 V_{CES}

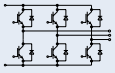
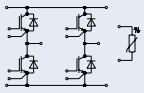
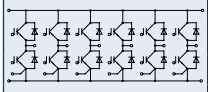
Type		V_{CES} V	I_C A	V_{CEsat} V T_{vj}= 25°C typ.	P_{tot} W	Outline/ page
 sixpack	IGBT2 Fast					
	FS75R12KS4	1200	75	3.20	500	M_E3c/2.37
	FS100R12KS4	1200	100	3.20	660	M_E3c/2.37
 sixpack with NTC	IGBT3					
	FS25R12KE3G	1200	25	1.70	145	M_E2b/2.33
	FS35R12KE3G	1200	35	1.70	200	M_E2b/2.33
	FS50R12KE3	1200	50	1.70	270	M_E2b/2.33
	FS75R12KE3	1200	75	1.70	350	M_E2b/2.33
	FS75R12KE3G	1200	75	1.70	350	M_E3b/2.36
	FS100R12KE3	1200	100	1.70	480	M_E3b/2.36
	FS150R12KE3	1200	150	1.70	700	M_E3b/2.36
 sixpack with NTC	IGBT3 Fast					
	FS25R12KT3	1200	25	1.70	145	M_E2b/2.33
	FS35R12KT3	1200	35	1.70	210	M_E2b/2.33
	FS50R12KT3	1200	50	1.70	280	M_E2b/2.33
	FS75R12KT3	1200	75	1.70	355	M_E2b/2.33
	FS75R12KT3G	1200	75	1.70	355	M_E3b/2.36
	FS100R12KT3	1200	100	1.70	480	M_E3b/2.36
	FS150R12KT3	1200	150	1.70	700	M_E3b/2.36
	IGBT4					
	FS50R12KT4_B15	1200	50	1.85	280	M_E2b/2.33
	FS75R12KT4_B15	1200	75	1.85	385	M_E2b/2.33
	FS100R12KT4G	1200	100	1.75	515	M_E3b/2.36
	FS150R12KT4	1200	150	1.75	750	M_E3b/2.36
	FS200R12KT4R*)	1200	200	1.75	1000	M_E3b/2.36
 sixpack with NTC	IGBT4 PressFIT					
	FS50R12KT4_B11	1200	50	1.85	280	M_E2k/2.34
	◆ FS50R12KT4P_B11 TIM	1200	50	1.85	280	M_E2k/2.34
	FS75R12KT4_B11	1200	75	1.85	385	M_E2k/2.34
	FS100R12KT4G_B11	1200	100	1.75	515	M_E3e/2.36
	FS150R12KT4_B11	1200	150	1.75	750	M_E3e/2.36
	◆ FS150R12KT4P_B11 TIM	1200	150	1.75	150	M_E3e/2.36
	FS200R12KT4R_B11*)	1200	200	1.75	1000	M_E3e/2.36
 sixpack	IGBT4					
	FS100R12KT4	1200	100	1.75	515	M_E2i/2.34
	IGBT4 PressFIT					
	FS100R12KT4_B11	1200	100	1.75	515	M_E2j/2.34

◆ New type ..._B11 PressFIT Modules ..._B15 module alternative mechnically compatible to an IGBT3 module
*) continious operation power limited to 150A rms ...G module in big housing
TIM with pre-applied Thermal Interface Material (TIM) for improved thermal performance. Other modules available with TIM on request.

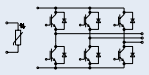
IGBT Low Power Modules

EconoPACK™

1200 V_{CES}

	Type	V_{CES} V	I_C A	V_{CEsat} V T_{vj}= 25°C typ.	P_{tot} W	Outline/ page
 sixpack for active front-end applications	IGBT3					
	FS75R12KE3_B9	1200	75	1.7	355	M_E2l/2.34
	IGBT4					
	FS150R12KT4_B9	1200	150	1.75	750	M_E3l/2.37
 fourpack with NTC	IGBT2 Fast					
	F4-50R12KS4	1200	50	3.2	355	M_E2e/2.33
	F4-75R12KS4	1200	75	3.2	500	M_E2e/2.33
	F4-100R12KS4	1200	100	3.2	660	M_E3d/2.36
	F4-150R12KS4	1200	150	3.2	690	M_E3d/2.36
	IGBT2 Fast PressFIT					
	F4-50R12KS4_B11	1200	50	3.2	355	M_E2c/2.34
	F4-75R12KS4_B11	1200	75	3.2	500	M_E2c/2.34
 12-pack	IGBT4					
	F12-25R12KT4G	1200	25	1.85	160	M_E3i/2.36
	F12-35R12KT4G	1200	35	1.85	210	M_E3i/2.36

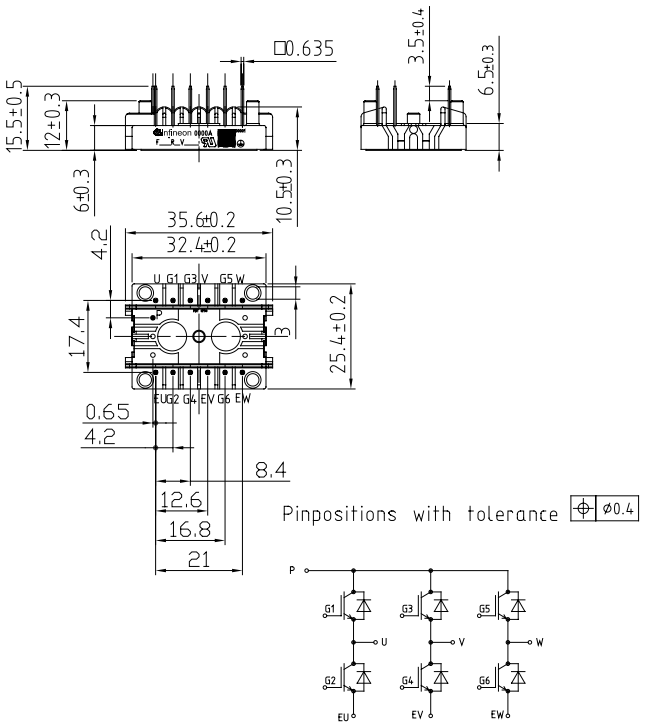
1700 V_{CES}

	Type	V_{CES} V	I_C A	V_{CEsat} V T_{vj}= 25°C typ.	P_{tot} W	Outline/ page
 sixpack with NTC	IGBT2 fast					
	FS100R17KS4F	1700	100	4.15	960	M_E3p/2.37
	IGBT3					
	FS50R17KE3_B17	1700	50	2.00	345	M_E2g/2.33
	FS75R17KE3	1700	75	2.00	465	M_E3b/2.36
	FS100R17KE3	1700	100	2.00	555	M_E3b/2.36
	IGBT4					
	FS100R17N3E4	1700	100	1.95	600	M_E3b/2.36
	FS150R17N3E4	1700	150	1.95	835	M_E3b/2.36
	IGBT4 PressFIT					
	FS100R17N3E4_B11	1700	100	1.95	600	M_E3e/2.36
	FS150R17N3E4_B11	1700	150	1.95	835	M_E3e/2.36

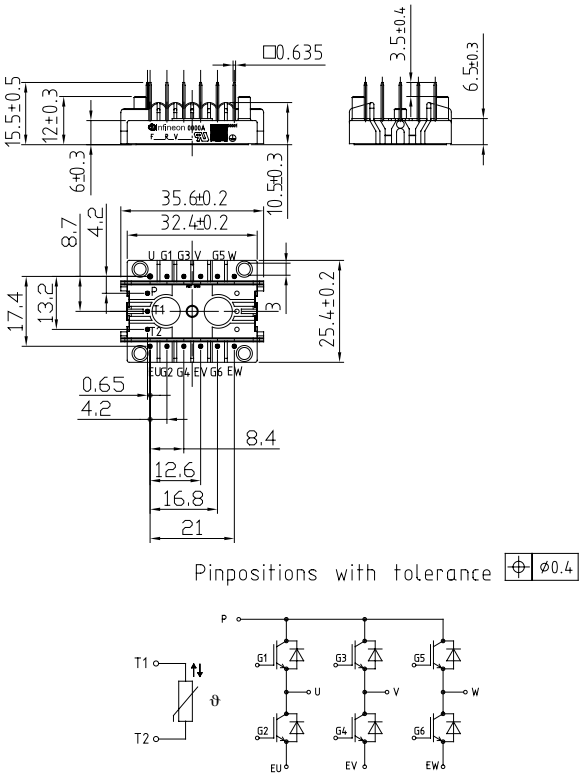
*) High side to be found in MIPAQ™ base configuration
..._B5 low side module
..._B11 PressFIT Modules
...G module in big housing
..._B9 module for active front-end applications
..._B17 Module with special pinning for increased creepage distance
Based on Infineon Silicon-Carbide technology for higher performance and efficiency

Outlines

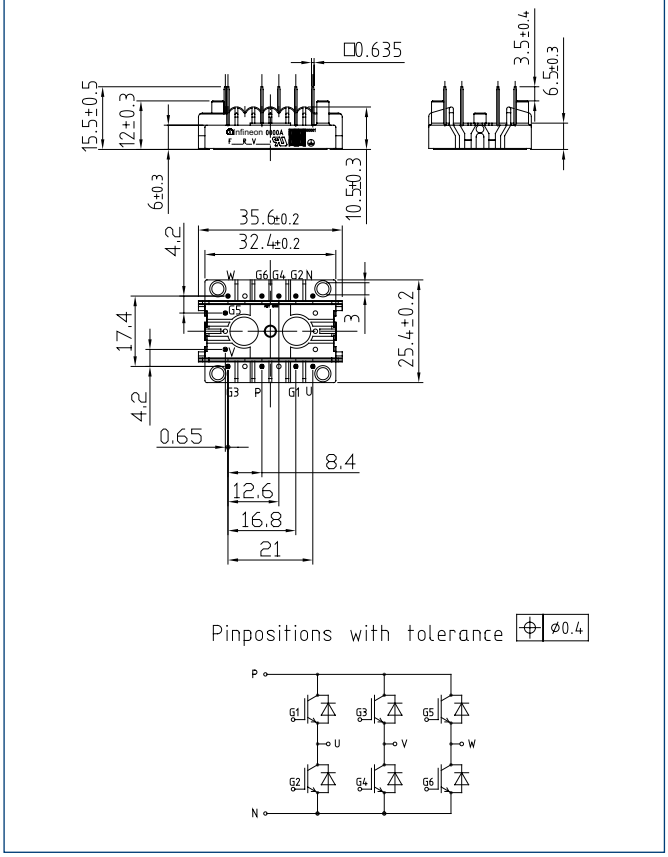
EasyPACK 750 **L_750b**



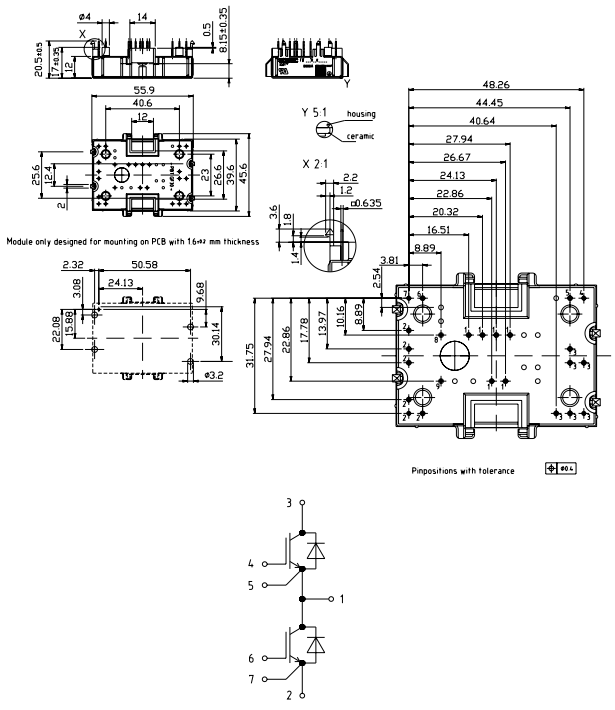
EasyPACK 750 **L_750c**



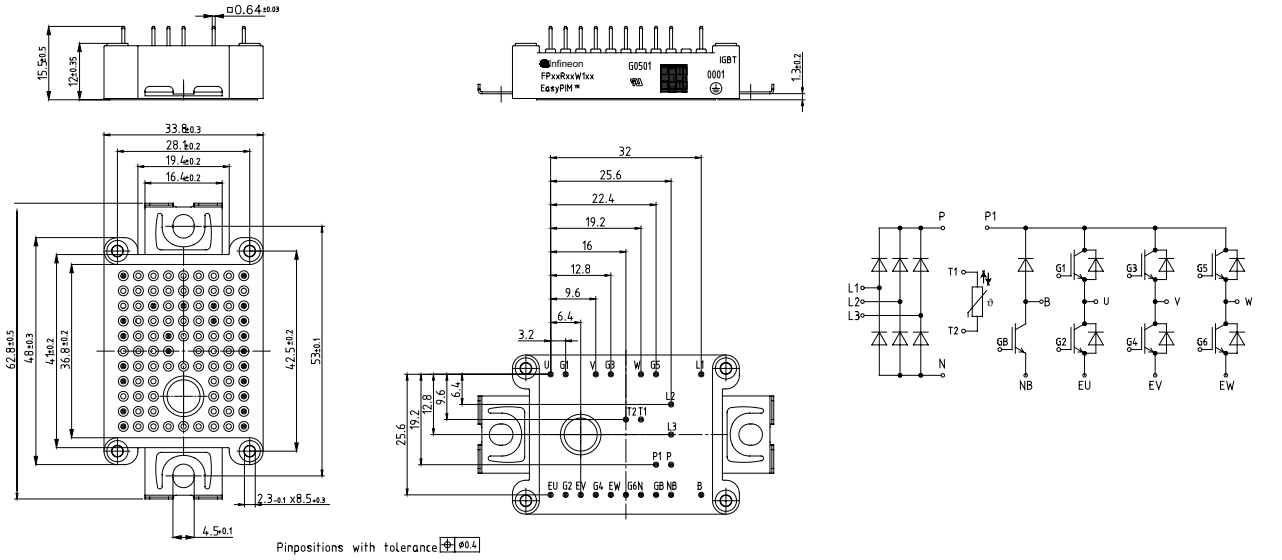
EasyPACK 750 **L_750f**



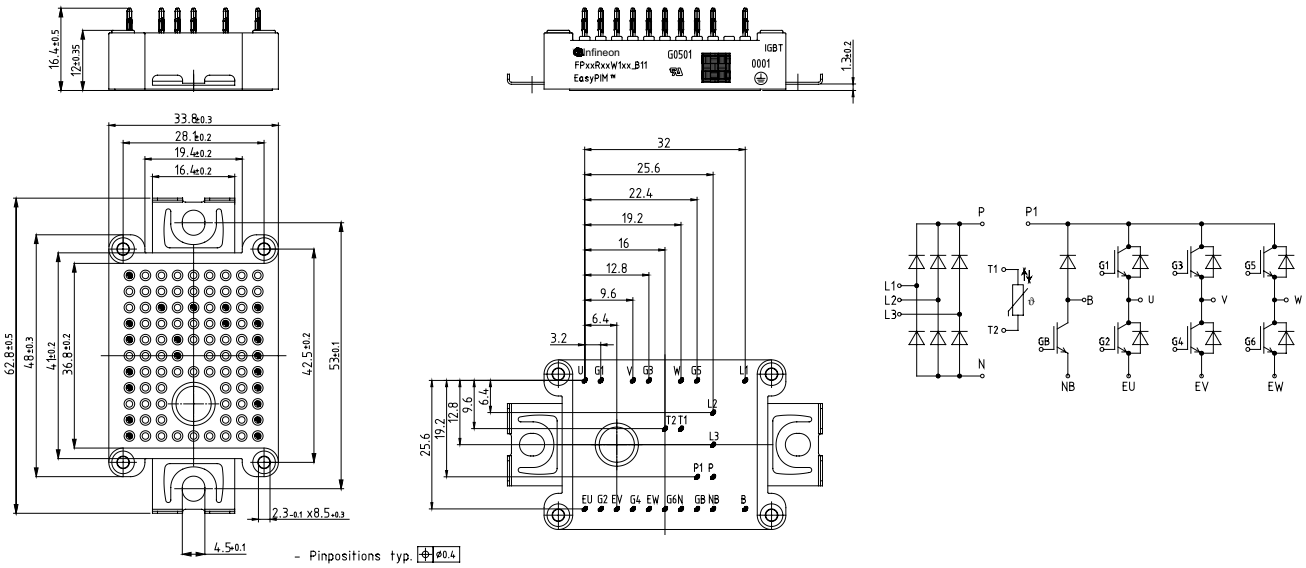
EasyPACK 2 L_2j



EasyPIM™ 1B — L_B1a



EasyPIM™ 1B — L_B1h



EasyPIM™ 1B — L_B1b