

MiniSKiiP®



AC | DC

IGBT 7

Fast, Cost-Efficient and Reliable Single-Screw Mounting

MiniSKiiP®

Short facts

Low-cost assembly, high production run rate, high yield

Small and compact inverter design

Excellent reliability and long product life time

Key features

Solder-free SPRING technology for fast and easy assembly

Without copper baseplate for cost efficient designs

Easy and flexible PCB routing without pin holes

Current range 4A to 400A for inverter range up to 90kW with one product platform

Comprehensive setup of topologies:
CIB, Sixpack, Twelvepack, H-Bridge, Half-Bridge,
3-level, bridge rectifiers with brake chopper

Applications

With two decades of field experience and more than 45 million modules in the field, this module platform has proven successful in all standard applications. Key applications include all kinds of inverters, such as standard drives, stand-alone drives, servo drives, system drives, solar inverters, UPS systems and welding machines. Thanks to the excellent reliability of spring contacts, applications such as agricultural vehicles or pitch drives in wind turbines benefit from MiniSKiiP technology as well.

Benefits

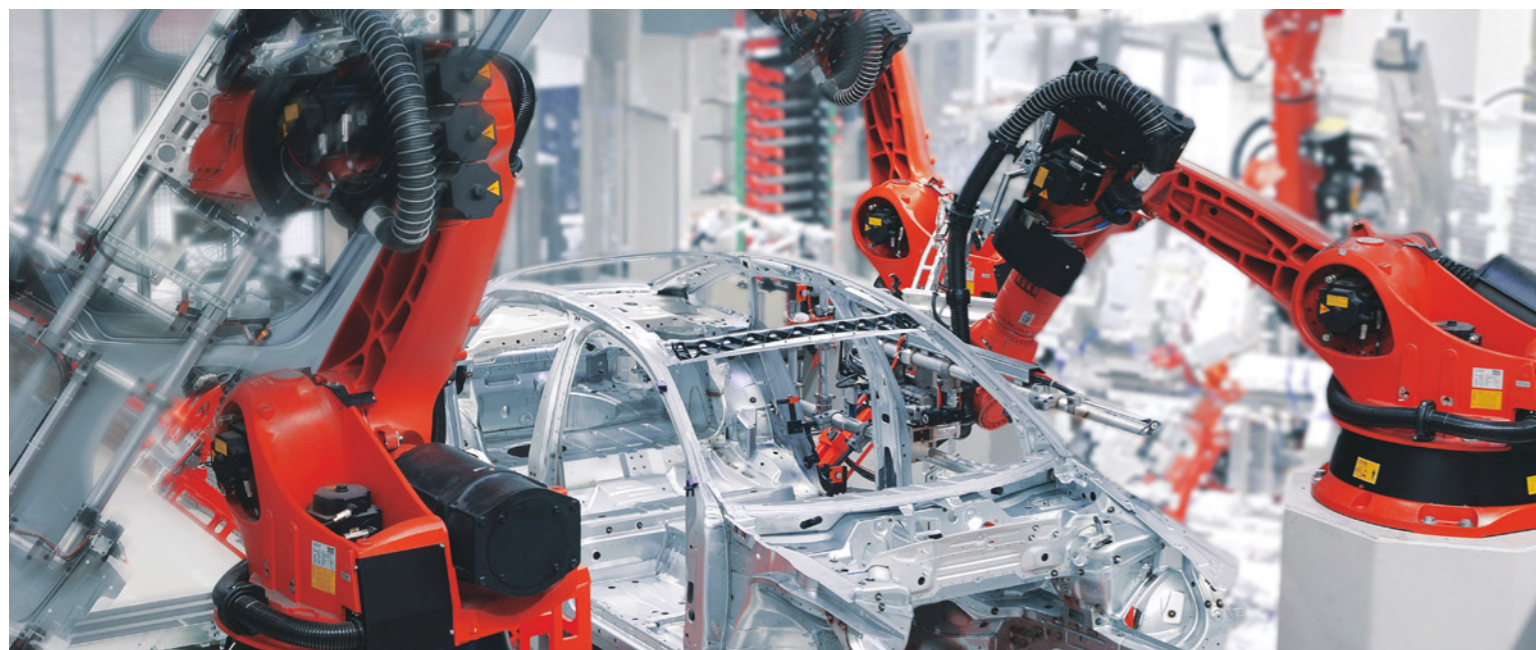
An important mechanical feature of MiniSKiiP modules is the outstandingly easy assembly and service friendly spring contact for load and gate terminals. Compared to conventional solder or press-fit modules, where expensive equipment is

required, no dedicated tools are needed for MiniSKiiP assembly. Instead, a single or two screw connection is used. The printed circuit board (PCB), the power module and the heat sink are assembled in one mounting step. This connection technology features a number of additional advantages: the PCB can be more flexible in design, as the printed circuit board does not need to include holes for solder pins or press-fit connections. The springs provide a flexible connection between the PCB and the power circuitry which is far superior to a soldered joint, particularly under thermal or mechanical stress conditions which can affect lifetime. Thanks to the high mechanical pressure provided by the springs, an air-tight, reliable electrical connection is achieved.

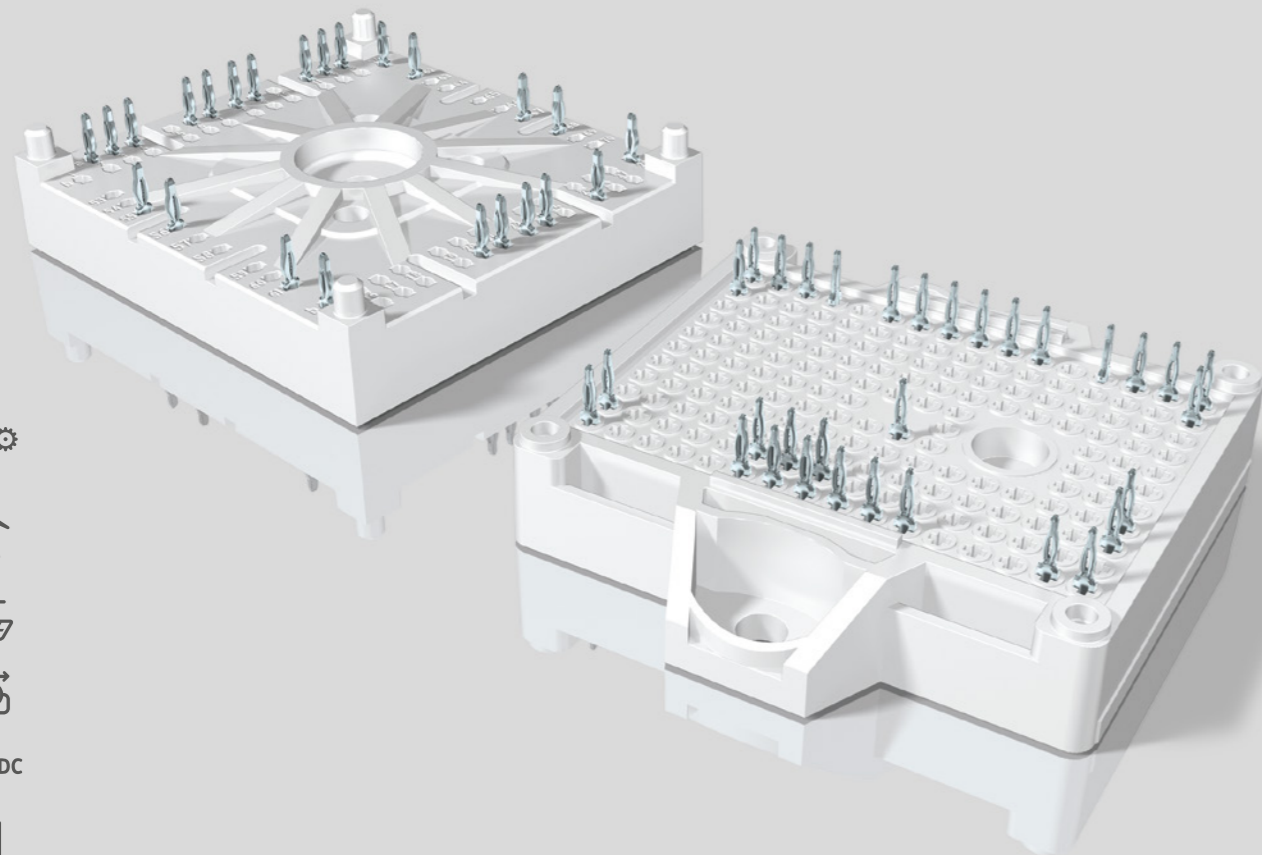
Product range

MiniSKiiP modules are designed for 600V/650V, 1200V and 1700V with 4A - 400A nominal chip currents, and feature Trench IGBT technology in combination with the SEMIKRON CAL diodes. 1200V Trench IGBT 4/IGBT 7 and CAL 4 diodes are designed for maximum junction temperatures of 175°C. In addition to CIB, sixpack, twelvepack, H-bridge, half-bridge, 3-level and uncontrolled/half-controlled rectifiers as well as brake chopper, customer-specific modules are also available. What's more, the latest chip technology such as full and hybrid silicon carbide power modules meet the highest of power density and efficiency demands. For fast evaluation, lab test boards can be ordered for each module type.

Further information: www.semikron.com/miniskiiP



SEMITOP® 1-4 SEMITOP® E1/E2



AC | DC



Flexible and High Performance Product for a Comprehensive Portfolio

SEMITOP®

Portfolio

SEMITOP 1, 2, 3, 4	up to 55kW
SEMITOP E1/E2	up to 70kW

Short facts

12mm module height

Reliable solder or press-fit connection

Low stray inductance case

Key features

No baseplate

Complex configurations possible

Different chip technologies and manufacturers available

Optimised system costs

Applications

The SEMITOP family features a cost effective design. This product generation is designed for the low and medium-power range of up to 70kW following the latest introduction of the SEMITOP E family. The scope this gives for compact and low inductance designs, coupled with the latest chip technologies and different topologies, makes the two platforms suitable for different markets such as UPS, solar, motor drives, power supplies and the new, emerging EV battery charger market.

Benefits

The SEMITOP platform centers around 12-mm-high modules, covering the low and medium-power range, with one or two mounting screws and no baseplate, featuring PCB interface via solder or press-fit pins. The low commutation inductance design and the choice of the latest Si and SiC chip technologies make this product suitable for UPS and solar applications, motor drives, power supplies, welding and the new EV battery charger market. A large variety of configurations is possible within the SEMITOP family, including 3-level (NPC/TNPC) and CIB (converter-inverter-brake) topologies.

Product range

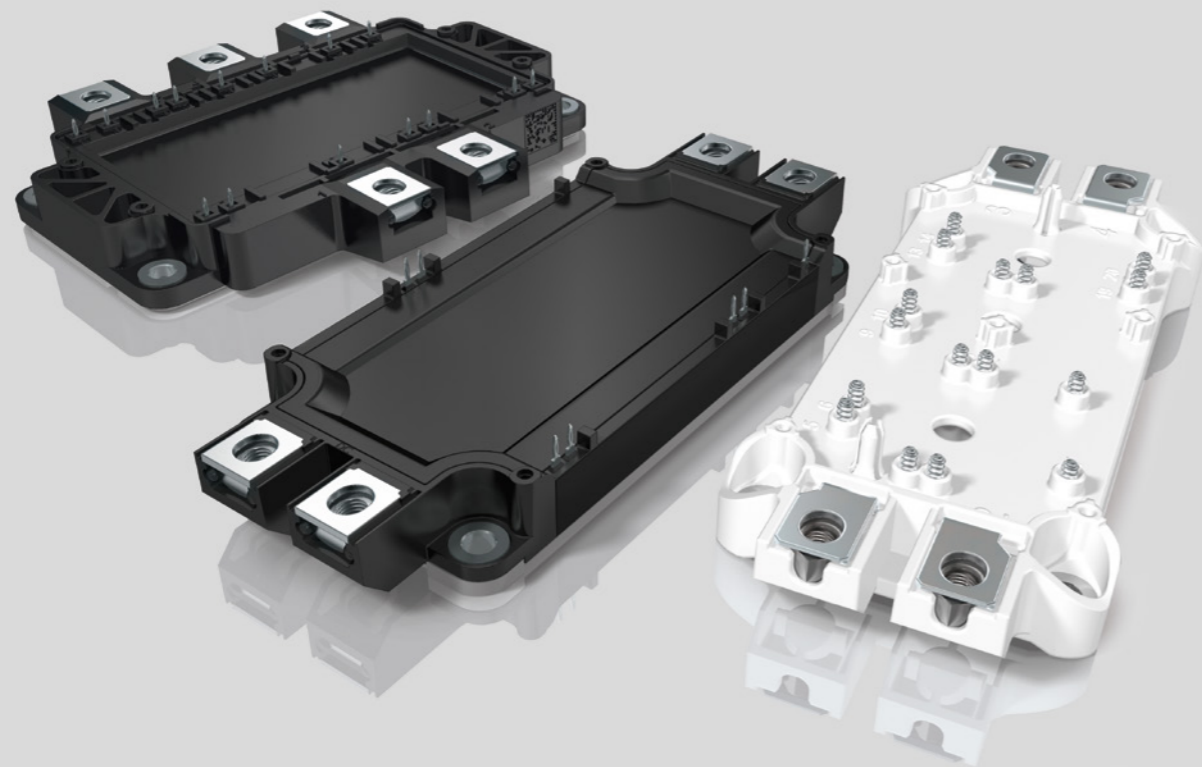
SEMITOP can include fast Si diodes, fast IGBTs in 650V/1200V class and MOSFETs even for high voltage. Even the latest SiC chip technologies for diodes and MOSFETs can be integrated in the platform, making a lot of different configurations with different chip combinations possible:

- Neutral point clamp 3-level configuration (NPC)
- T-type NPC 3-level configuration (TNPC)
- 3-phase inverter (Sixpack)
- CIB configurations (converter-inverter-brake)
- 3-phase bridge rectifier
- Full SiC and hybrid configurations
- Customised configurations possible

Further information: www.semikron.com/semitop



SEMiX® Spring
SEMiX® 3 Press-Fit
SEMiX® 5
SEMiX® 6 Press-Fit



IGBT and Rectifier Module Family for Solder-Free Mounting

SEMiX®

Portfolio

SEMiX Spring	75A up to 600A
SEMiX 3 Press-Fit	225A up to 600A
SEMiX 5	up to 350kVA
SEMiX 6 Press-Fit	up to 200A

Short facts

Low stray inductance case
Reliable spring or press-fit connection
Flat and compact inverter design

Key features

Half-Bridge, Chopper, Sixpack and 3-level topologies
Isolated copper baseplate using DBC technology
Also available with integrated shunt resistor (SEMiX 3 press-fit)
Multiple IGBT sources

Applications

SEMiX is a flexible and application-oriented module. On the basis of a scalable platform concept, modern chip technology is integrated into IGBT and rectifier modules which are used in a wide variety of applications, such as AC motor drives, switching power supplies and current source inverters. Other typical applications include uninterruptible power supplies, photovoltaik systems, wind energy and automotive applications.

Benefits

The family concept behind SEMiX includes uniform IGBT and rectifier housings. All have the same height (17mm) and can be connected by one principle DC-link design. This saves develop-

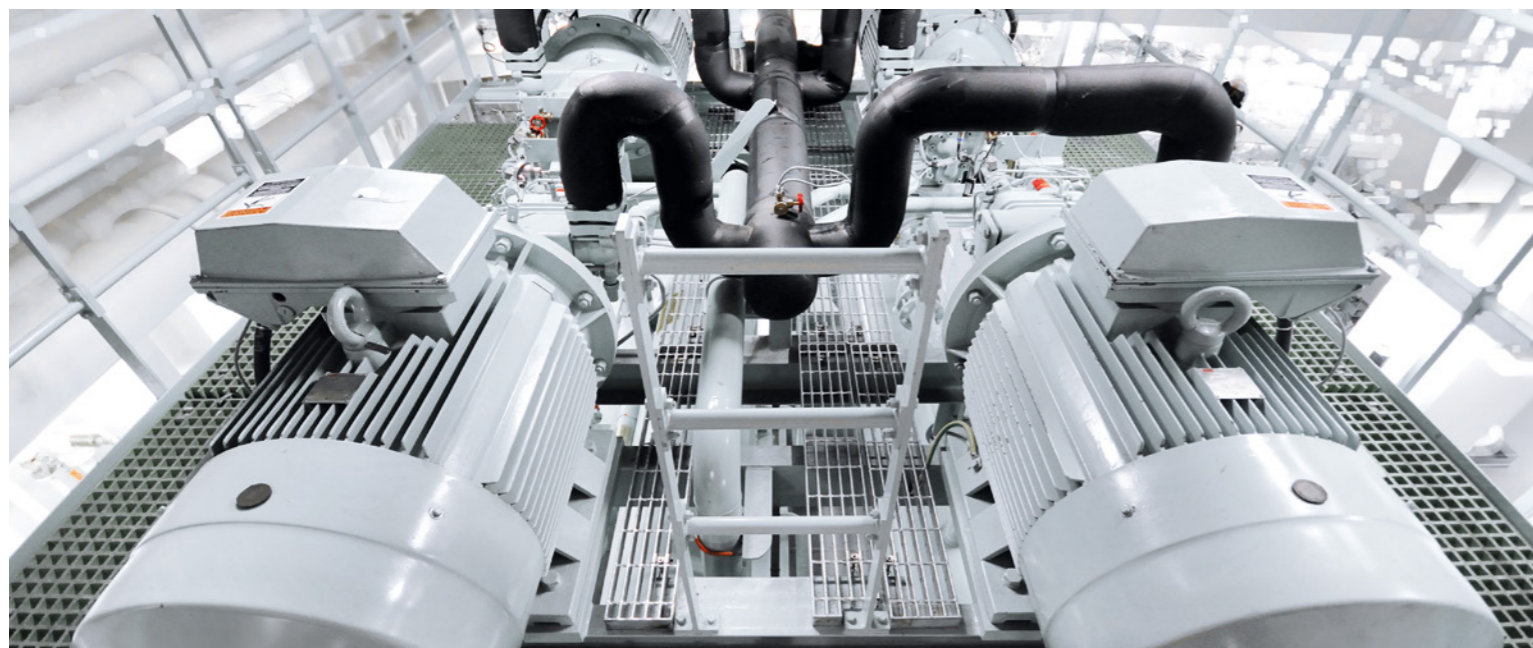
ment time and makes a simple and low-inductance DC-link profile possible. Spring or press-fit contacts allow for a gate driver to be mounted directly on top of the module, eliminating the risk of noise on wires or loose connectors. Thanks to the flat package and separate AC and DC terminals, highly compact, state-of-the-art inverter designs are possible. The auxiliary contacts avoid solder joints and offer highly reliable pressure contacts. This leads to increased product reliability and lifetime.

The solder-free contacts make for quick and easy assembly. Production at the customer site can be optimised by using a uniform direction of assembly (everything top down). This simplifies logistics and reduces manufacturing costs. The half-bridge topologies come with a selection of choices for connection technologies such as press-fit and spring contact as well as for the integration level: current measurement shunts can be included in the power module, plug & play driver solutions and pre-printed phase change material can be supplied to shorten the time-to-market and development times.

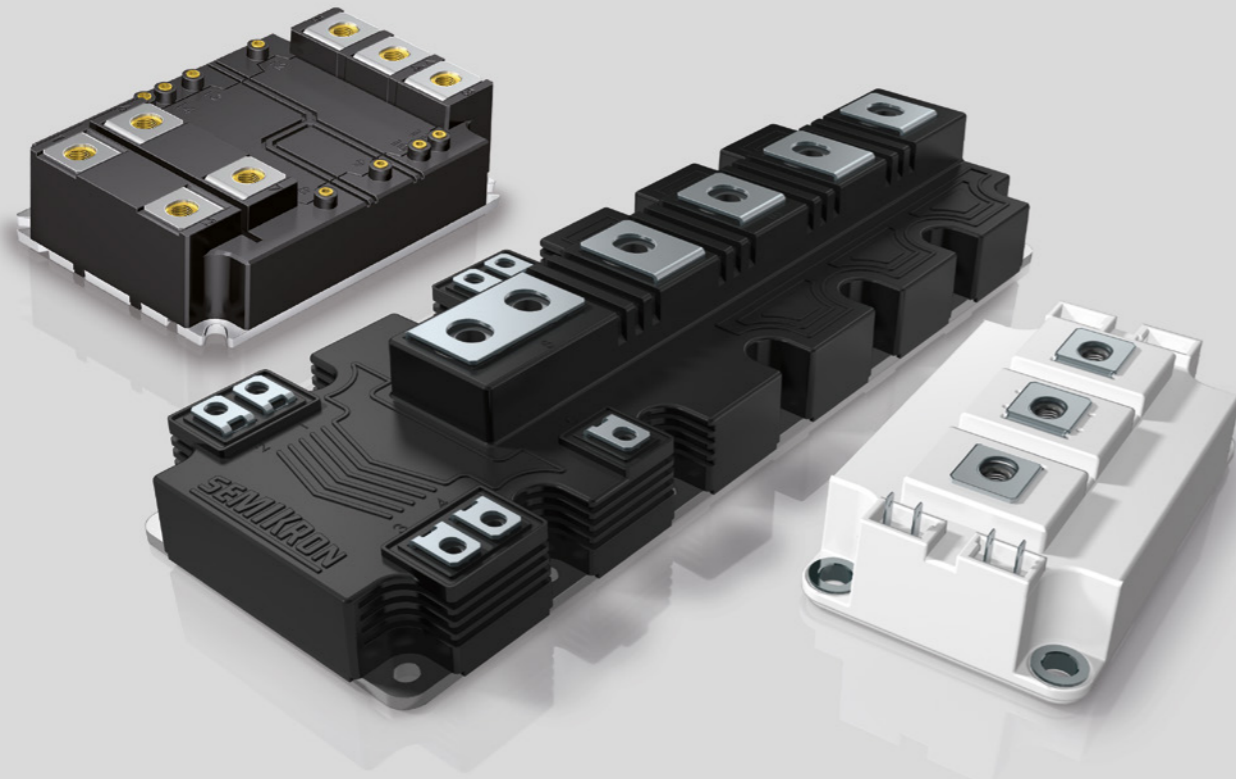
Product range

For the IGBT modules, different housing sizes are available in 600V, 1200V and 1700V. Half-bridge, sixpack and chopper topologies are available with a current range from 75A to 600A. Besides IGBT3 and IGBT4 chips, the 1200V range also includes a series with V-IGBT devices. Controlled, half-controlled and uncontrolled rectifier modules with identical footprint and 17mm height are also available. For the latest housing versions, we also offer optional integrated shunt resistors and 3-level topologies (NPC, TNPC or Buck-Boost-Converters).

Further information: www.semikron.com/semix



SEMITRANS® 2-9
SEMITRANS® 10
SEMITRANS® 20



AC | DC

Low Inductance Package Design Down to 10nH

SEMITRANS®

Portfolio

SEMITRANS 2-9	45kW up to 500kW
SEMITRANS 10	500kW up to 2MW
SEMITRANS 20	3,3 kV, 450A / 1,7kV, 1200A

Short facts

Safe operation with high DC-link voltages

Maximum power output

Multiple IGBT sources

Key features

Half-Bridge, Chopper, Single Switch, 3-level, common emitter

Isolated copper baseplate using DBC technology

With integrated gate resistor

High isolation voltage

Applications

SEMITRANS power modules are designed for a broad range of applications such as motor drives, regenerative inverters, power supplies or traction applications. The long service life is perfectly suited to ambitious applications such as AC drives, switched reluctance and DC motors.

Benefits

SEMITRANS 2-9 feature well-proven designs that come from over 25 years of market experience, but are still suitable for the latest chips generations, including silicon carbide, thanks to its low-inductance design. SEMITRANS 10 takes the power range into the realm of megawatt applications, utilizing the latest SEMIKRON packaging technologies including Direct Pressed Die technology for maximum reliability and minimum thermal resistance. SEMITRANS 20 serves low and medium-voltage applications with a low-inductance and easy-to-parallel power module design. With its advanced technologies such as sintered chips and AlCu bond wires, it boasts up to 5 time more lifetime than standard modules.

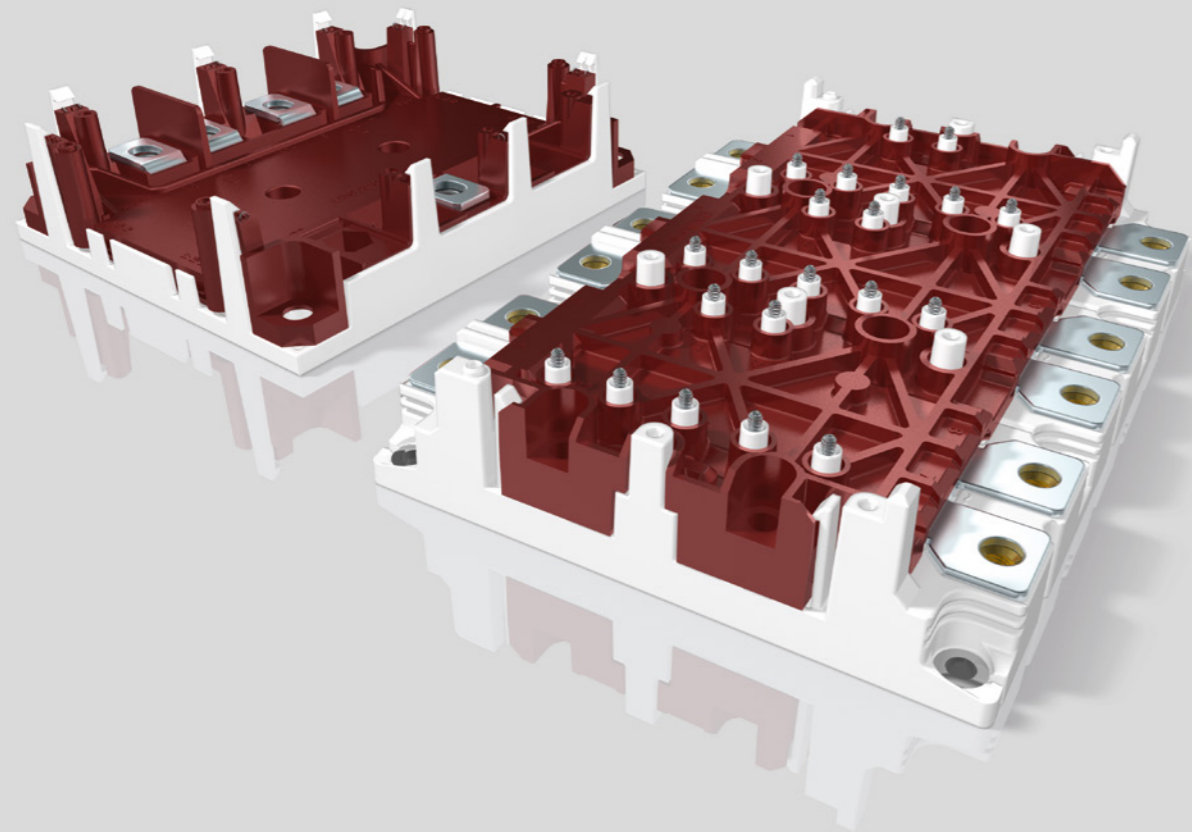
Product range

The SEMITRANS family offers a broad range of topologies and power ranges. All the standard voltage classes from 600V to 3300V are available. The current rating ranges from 25A to 1800A. The SEMITRANS package is available as half-bridge, chopper, single switch, 3-level and common emitter.

Further information: www.semikron.com/semitrans



SKiM[®] 4/5
SKiM[®] 63/93



AC | DC

100% Solder-Free for Maximum Durability

SKiM[®]

Portfolio

SKiM 4/5	200A up to 600A
SKiM 63/93	300A up to 900A

Short facts

No solder delamination thanks to sintered chips - SKiM 63/93

1500 temperature cycles without failure - SKiM 63/93

Up to 23% more performance with AlCu-bonded diodes and high performance thermal grease

Key features

IGBT power module in Sixpack configuration with 3 separate half-bridges - SKiM 63/93

Available in 600V, 1200V and 1700V and from 200A to 900A

NPC and TNPC configuration - SKiM4/5

In 1200V, 600A also available in buck/boost configuration - SKiM 63/93

Solder-free design for maximum durability - SKiM 63/93

Design without baseplate

Solder-free module and driver PCB mounting

Also available as solder version for less demanding cost-sensitive applications

Low inductance design thanks to symmetrical layout

Hybrid SiC version for maximum efficiency - SKiM 63/93

Applications

The SKiM 63/93 is designed for applications that require excellent inverter reliability. This applies first and foremost to automotive applications such as electric powertrains in electric utility vehicles, heavy-duty construction machinery

and tractors. It can also provide leading-edge performance in supersports and race cars. The SKiM 4/5 features proven 3-level topologies and can be found in ambitious applications such as solar and UPS.

Benefits

The SKiM module can improve the reliability of inverters several times over, even under substantial active and passive temperature swings. In addition to sintered chips, pressure contacts and spring technology, the SKiM63/93 featuring AlCu-bonded diodes and high performance thermal grease delivers as much as 23.3% better performance with the same chip set and same lifetime or twice the power cycling capability of standard sinter modules. The SKiM 93 is also available with hybrid SiC technology to extend efficiency and switching frequency.

Product range

The SKiM 4/5 modules are available as sixpack, 3-level (NPC and TNPC) configurations with nominal currents from 200A to 600A. The SKiM 63/93 offers 3-phase inverter topologies at 600V, 1200V and 1700V. The power ranges from 20kW to 180kW with nominal currents of 300A to 900A. Modules in buck and boost configurations for 1200V/600A round off the portfolio. Driver solutions are available as is an optimised water cooler for fast and customer-friendly evaluation. In addition, paralleling boards for a simple and powerful half-bridge configuration are also available.

Further information: www.semikron.com/skim



IGBT Modules For Maximum Performance

SEMIKRON offers IGBT (Insulated-Gate Bipolar Transistor) modules in SEMITRANS, SEMiX, SKiM, MiniSKiiP and SEMITOP packages in different topologies, current and voltage ratings. Starting from 4A to 1400A in voltage classes from 600V to 1700V, the IGBT modules are used in a variety of applications and feature key technologies such as sintering, spring or press-fit contacts for quick and easy assembly.

Different topologies are available - CIB (converter inverter brake), half-bridge, H-bridge, sixpack, 3-level and many more, covering almost every application field. Featuring the latest IGBT chips in combination with SEMIKRON's CAL diode technology.

The latest IGBT generation 7 is now also available in SEMIKRON power modules. It provides higher power densities and delivers the new benchmark, especially in motor drive and solar applications.

IGBT Generation 7

Optimized IGBTs for motor drive applications

Reduced saturation voltage and chip size

Higher nominal currents

Up to 45% more module output power

Lower overall system costs



IGBT Generation 7 – MiniSKiiP, SEMITOP, SEMiX	40
MiniSKiiP	42
SEMITOP	48
SEMiX	58
SEMITRANS	65
SKiM 4/5	73
SKiM 63/93	75

For detailed information please refer to data sheets.

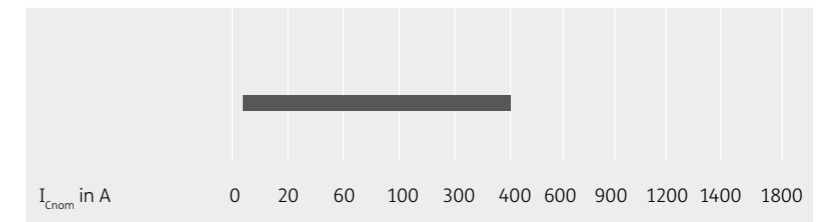
Further information: www.semikron.com/igbt-modules

MiniSKiiP®

Sixpack
3-level
H-Bridge
CIB
Half-Bridge
Twelvepack

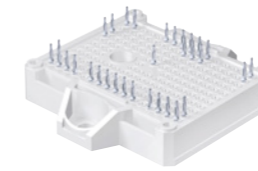


600V up to 1700V

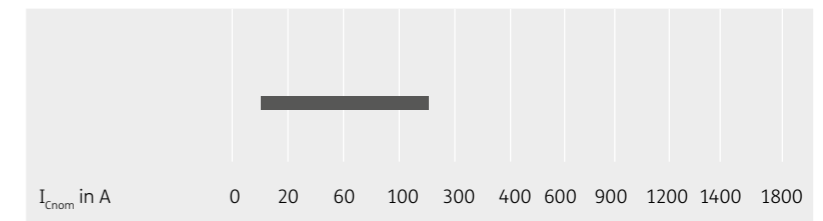


SEMITOP®

Half-Bridge
Sixpack
3-level
Chopper
H-Bridge
CIB



600V up to 1200V

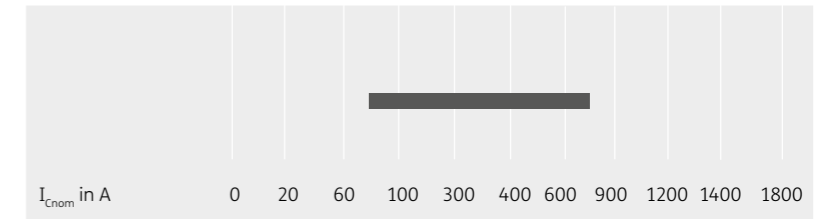


SEMiX®

Half-Bridge
Sixpack
3-level
Chopper
Buck-Boost converter

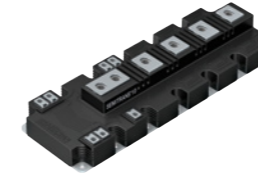


600V up to 1700V

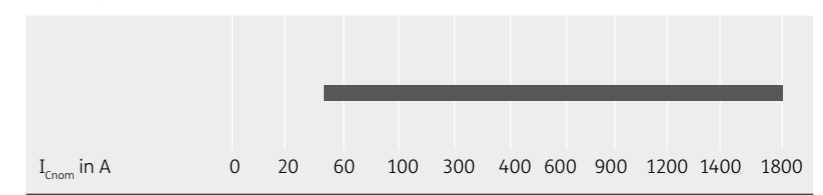


SEMITRANS®

Half-Bridge
Sixpack
Chopper
Single Switch
3-level

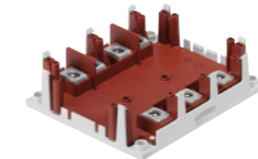


600V up to 3300V

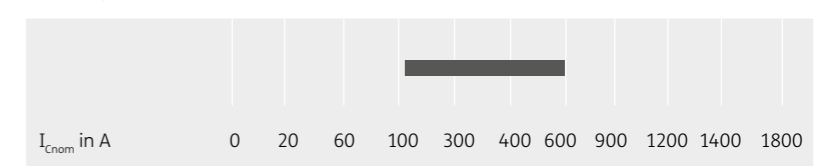


SKiM® 4/5

Sixpack
3-level

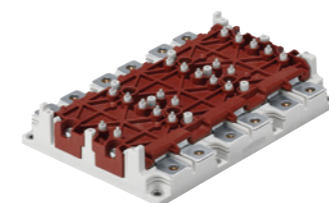


600V up to 1700V

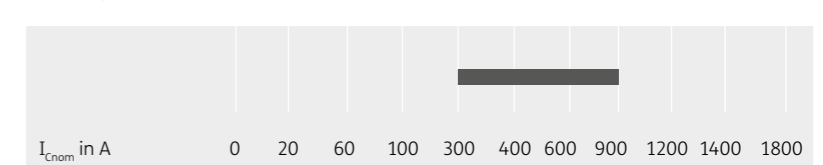


SKiM® 63/93

Sixpack
Chopper



600V up to 1700V



IGBT 7 Modules / MiniSKiiP

Type	IGBT 7				
	I_{Tnom}	Topology	Package	Topology	
	A				
1200V - IGBT (T7)					
SKiiP11NAB12T7V1	10	CIB	MiniSKiiP 1		
SKiiP12NAB12T7V1	15	CIB	MiniSKiiP 1		
SKiiP23NAB12T7V1	25	CIB	MiniSKiiP 2		
SKiiP24NAB12T7V1	35	CIB	MiniSKiiP 2		
SKiiP25NAB12T7V2	50	CIB	MiniSKiiP 2		
SKiiP34NAB12T7V1	35	CIB	MiniSKiiP 3		
SKiiP35NAB12T7V1	50	CIB	MiniSKiiP 3		
SKiiP37NAB12T7V1	75	CIB	MiniSKiiP 3		
SKiiP38NAB12T7V2	100	CIB	MiniSKiiP 3		
SKiiP11AC12T7V1	10	Sixpack	MiniSKiiP 1		
SKiiP12AC12T7V1	15	Sixpack	MiniSKiiP 1		
SKiiP13AC2T7V1	25	Sixpack	MiniSKiiP 1		
SKiiP14AC12T7V1	35	Sixpack	MiniSKiiP 1		
SKiiP23AC12T7V1	25	Sixpack	MiniSKiiP 2		
SKiiP24AC12T7V1	35	Sixpack	MiniSKiiP 2		
SKiiP25AC12T7V1	50	Sixpack	MiniSKiiP 2		
SKiiP26AC12T7V1	70	Sixpack	MiniSKiiP 2		
SKiiP27AC12T7V1	75	Sixpack	MiniSKiiP 2		
SKiiP28AC12T7V1	100	Sixpack	MiniSKiiP 2		
SKiiP37AC12T7V1	75	Sixpack	MiniSKiiP 3		
SKiiP38AC12T7V1	100	Sixpack	MiniSKiiP 3		
SKiiP39AC12T7V1	150	Sixpack	MiniSKiiP 3		
SKiiP39AC12T7V10	200	Sixpack	MiniSKiiP 3		
SKiiP12ACC12T7V1	15	Twelvepack	MiniSKiiP 1		
SKiiP23ACC12T7V1	25	Twelvepack	MiniSKiiP 2		
SKiiP24ACC12T7V1	35	Twelvepack	MiniSKiiP 2		
SKiiP35ACC12T7V1	50	Twelvepack	MiniSKiiP 3		
SKiiP24GB12T7V1	150	Half-Bridge	MiniSKiiP 2 Dual		
SKiiP26GB12T7V1	200	Half-Bridge	MiniSKiiP 2 Dual		
SKiiP27GB12T7V1	300	Half-Bridge	MiniSKiiP 2 Dual		
SKiiP38GB12T7V1	300	Half-Bridge	MiniSKiiP 3 Dual		

IGBT 7 Modules / SEMITOP / SEMiX

Type	IGBT 7				
	I_{Tnom}	Topology	Package	Topology	
	A				
1200V - IGBT (T7)					
SK10DGD12T7ETE1	10	CIB	SEMITOP E1		
SK15DGD12T7ETE1	15	CIB	SEMITOP E1		
SK35DGD12T7ETE2	35	CIB	SEMITOP E2		
SK25GD12T7ETE1	25	Sixpack	SEMITOP E1		
SK35GD12T7ETE1	35	Sixpack	SEMITOP E1		
SK50GD12T7ETE2	50	Sixpack	SEMITOP E2		
SK75GD12T7ETE2	75	Sixpack	SEMITOP E2		
SK100GD12T7ETE2	100	Sixpack	SEMITOP E2		
SK100GD12T7ETE2	100	Sixpack	SEMITOP E2		
1200V - IGBT (M7)					
SEMiX076DGD12M7p	75	CIB	SEMiX 6p		
SEMiX106DGD12M7p	100	CIB	SEMiX 6p		
SEMiX156DGD12M7p	150	CIB	SEMiX 6p		
SEMiX106GD12M7p	100	Sixpack	SEMiX 6p		
SEMiX156GD12M7p	150	Sixpack	SEMiX 6p		
SEMiX206GD12M7p	200	Sixpack	SEMiX 6p		
SEMiX223GB12M7p	220	Half-Bridge	SEMiX 3p		
SEMiX303GB12M7p	300	Half-Bridge	SEMiX 3p		
SEMiX453GB12M7p	450	Half-Bridge	SEMiX 3p		
SEMiX603GB12M7p	500	Half-Bridge	SEMiX 3p		
SEMiX703GB12M7p	700	Half-Bridge	SEMiX 3p		

IGBT Modules / MiniSKiiP

Type	IGBT			Diode			Rectifier	Module				
	$I_c @ T_s = 25^\circ\text{C}$	I_{cnom}	$V_{CE(EM)} @ T_j = 25^\circ\text{C typ.}$	E_{on}	E_{off}	$I_f @ T_s = 25^\circ\text{C}$	$V_f @ T_j = 25^\circ\text{C typ.}$	E_{rr}	$I_{FSM} @ T_j = 25^\circ\text{C}$	Package	Thermal Interface Material	Topology
	A	A	V	mJ	mJ	A	V	mJ	A			
1200V - IGBT4 (Trench)												
SKiiP 24GB12T4V1 ²⁾	170	150	1.85	10.8	15.6	157	2.17	10.3	-	II 2	P12, HPTP	
SKiiP 26GB12T4V1 ²⁾	224	200	1.80	13.6	22.1	194	2.20	13.4	-	II 2	P12, HPTP	
SKiiP 38GB12E4V1 ²⁾	329	300	1.85	19.1	34.6	267	2.20	21.5	-	II 3	P12, HPTP	
SKiiP 39GB12E4V1 ²⁾	388	400	1.80	20.8	49.7	363	2.20	30.2	-	II 3	P12, HPTP	
SKiiP 39GA12T4V1 ²⁾	167	150	1.85	22.5	14	136	2.14	11.4	-	II 3	P12, HPTP	
SKiiP 26GH12T4V11	90	70	1.85	9.5	7.1	83	2.17	5.6	-	II 2	P12, HPTP	
SKiiP 39MLI12T4V1 ¹⁾	167	150	1.85	11.1	16.9	134	2.14	10.9	-	II 3	P12, HPTP	
SKiiP 39TMLI12T4V2 ²⁾	235	200	1.80	7.5	12.8	194	2.20	9.7	-	II 3	P12, HPTP	
SKiiP 11AC12T4V1	12	8	1.85	0.87	0.75	15	2.33	0.53	-	II 1	P12, HPTP	
SKiiP 12AC12T4V1	18	15	1.85	1.65	1.5	23	2.38	0.79	-	II 1	P12, HPTP	
SKiiP 13AC12T4V1	41	25	1.85	3.7	2.4	32	2.41	1.64	-	II 1	P12, HPTP	
SKiiP 23AC12T4V1	41	25	1.85	3.7	2.4	32	2.41	1.64	-	II 2	P12, HPTP	
SKiiP 24AC12T4V1	52	35	1.85	3.7	3	44	2.30	2.3	-	II 2	P12, HPTP	
SKiiP 25AC12T4V1	69	50	1.85	6	4.5	60	2.22	3.2	-	II 2	P12, HPTP	
SKiiP 26AC12T4V1	90	70	1.85	9.5	7.1	83	2.17	5.6	-	II 2	P12, HPTP	
SKiiP 37AC12T4V1	90	75	1.85	11.5	6.8	83	2.17	5.5	-	II 3	P12, HPTP	
SKiiP 38AC12T4V1	115	100	1.80	13.7	9.7	100	2.20	6.5	-	II 3	P12, HPTP	
SKiiP 39AC12T4V1	167	150	1.85	22.5	14	136	2.14	11.4	-	II 3	P12, HPTP	
SKiiP 39AC12T4V21 ²⁾	192	150	1.85	22.5	14	149	2.14	11.4	-	II 3	P12, HPTP	
SKiiP 02NAC12T4V1	6	4	1.85	0.66	0.37	7.5	1.82	0.34	220	II 0	P12, HPTP	
SKiiP 03NAC12T4V1	7.5	8	1.85	0.9	0.7	9	2.33	0.5	220	II 0	P12, HPTP	
SKiiP 10NAB12T4V1	6	4	1.85	0.66	0.37	7.5	1.82	0.34	220	II 1	P12, HPTP	
SKiiP 11NAB12T4V1	18	8	1.85	0.87	0.74	15	2.33	0.57	220	II 1	P12, HPTP	
SKiiP 12NAB12T4V1	28	15	1.85	1.4	1.3	23	2.38	1.1	220	II 1	P12, HPTP	
SKiiP 23NAB12T4V1	37	25	1.85	2.65	2.3	32	2.41	1.6	370	II 2	P12, HPTP	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs

IGBT Modules / MiniSKiiP

Type	IGBT			Diode			Rectifier	Module				
	$I_c @ T_s = 25^\circ\text{C}$	I_{cnom}	$V_{CE(EM)} @ T_j = 25^\circ\text{C typ.}$	E_{on}	E_{off}	$I_f @ T_s = 25^\circ\text{C}$	$V_f @ T_j = 25^\circ\text{C typ.}$	E_{rr}	$I_{FSM} @ T_j = 25^\circ\text{C}$	Package	Thermal Interface Material	Topology
	A	A	V	mJ	mJ	A	V	mJ	A			
1200V - IGBT4 (Trench)												
SKiiP 22NAB12T4V2 ¹⁾	28	15	1.85	t.b.d.	t.b.d.	22	2.38	t.b.d.	220	II 2	P12, HPTP	
SKiiP 23NAB12T4V2 ²⁾	37	25	1.85	3.1	2.56	32	2.41	1.4	370	II 2	P12, HPTP	
SKiiP 24NAB12T4V4 ²⁾	48	35	1.85	4.3	3.25	40	2.30	2.4	370	II 2	P12, HPTP	
SKiiP 23NAB12T4V10	37	25	1.85	2.65	2.3	30	2.41	1.6	700	II 2	P12, HPTP	
SKiiP 24NAB12T4V1	48	35	1.85	4.3	3.25	44	2.30	2.4	370	II 2	P12, HPTP	
SKiiP 24NAB12T4V10	48	35	1.85	4.3	3.25	44	2.30	2.4	700	II 2	P12, HPTP	
SKiiP 34NAB12T4V1	52	35	1.85	4.3	3.3	44	2.30	2.4	370	II 3	P12, HPTP	
SKiiP 35NAB12T4V1	69	50	1.85	6	4.7	60	2.22	3.4	700	II 3	P12, HPTP	
SKiiP 37NAB12T4V1	90	75	1.85	9.7	6.8	83	2.17	4.9	700	II 3	P12, HPTP	
SKiiP 37NAB12T4V10	90	75	1.85	9.7	6.8	83	2.17	4.9	850	II 3	P12, HPTP	
SKiiP 38NAB12T4V1	115	100	1.80	11.2	10	99	2.20	6.5	1000	II 3	P12, HPTP	
SKiiP 12ACC12T4V10 ²⁾	28	15	1.85	2.1	1.6	23	2.38	0.8	60	II 1	P12, HPTP	
SKiiP 23ACC12T4V10 ²⁾	41	25	1.85	3.5	2.7	32	2.41	1.15	65	II 2	P12, HPTP	
SKiiP 24ACC12T4V10 ²⁾	52	35	1.85	3.9	3.5	44	2.30	2.3	100	II 2	P12, HPTP	
SKiiP 24ACC12T4V1 ²⁾	38	25	1.85	3.2	3	31	2.41	1.4	-	II 2	P12, HPTP	
1200V - IGBT4 (Fast Trench)												
SKiiP 26GB12F4V1 ²⁾	197	200	2.05	16.8	16.3	194	2.20	11.7	-	II 2	P12, HPTP	
SKiiP 28TMLI12F4V1 ²⁾	93	80	2.05	3.4	2.2	76	2.17	1.7	-	II 2	P12, HPTP	
SKiiP 29TMLI12F4V1 ²⁾	144	150	2.05	5.2	6.1	148	2.17	6.5	-	II 2	P12, HPTP	
SKiiP 35ACC12F4V1 ²⁾	54	50	2.05	4.8	3.4	58	2.22	3	270	II 3	P12, HPTP	
SKiiP39MLIT12F4V1 ¹⁾	409	400	2.05	t.b.d.	t.b.d.	193	2.20	t.b.d.	-	II 3	P12, HPTP	
SKiiP39MLIT12F4V22 ¹⁾	409	400	2.05	t.b.d.	t.b.d.	193	2.20	t.b.d.	-	II 3	P12, HPTP	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs

IGBT Modules / MiniSKiiP

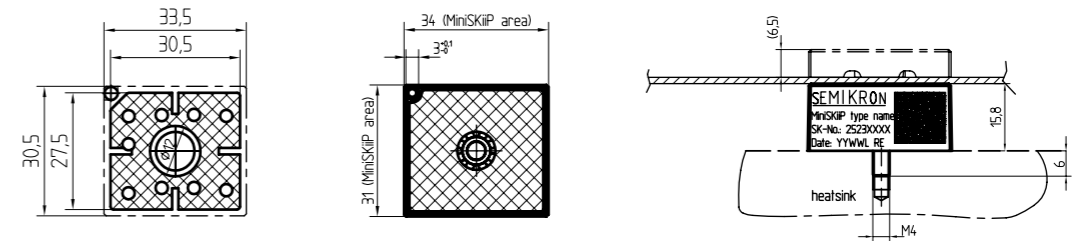
Type	IGBT			Diode			Rectifier	Module		Topology		
	$I_c @ T_s = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(keep)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_F @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	$I_{FSM} @ T_j = 25^\circ\text{C}$ A		Package	Thermal Interface Material
1200V - IGBT4 (Fast Trench)												
SKiiP39MLIB12F4V1 ¹⁾	409	400	2.05	t.b.d.	t.b.d.	193	2.20	t.b.d.	-	II 3	P12, HPTP	
SKiiP39MLIB12F4V22 ¹⁾	409	400	2.05	t.b.d.	t.b.d.	193	2.20	t.b.d.	-	II 3	P12, HPTP	
SKiiP 37AC12F4V1 ¹⁾	81	75	2.05	t.b.d.	t.b.d.	83	2.17	t.b.d.	-	II 3	P12, HPTP	
1700V - IGBT3 (Trench)												
SKiiP 38AC176V2 ²⁾	118	100	2.00	23.8	32.2	115	1.76	26.2	-	II 3	P12, HPTP	
SKiiP 24NAB176V1 ²⁾	38	29	2.00	5.1	6.3	48	2.00	4.9	370	II 2	P12, HPTP	
SKiiP 34NAB176V3 ²⁾	67	58	2.00	11.2	12.8	66	2.06	6.6	635	II 3	P12, HPTP	
1700V - IGBT4 (Trench)												
SKiiP 22GB17E4V1 ²⁾	117	100	1.90	22.2	30.7	91	2.00	20.9	-	II 2	P12, HPTP	
SKiiP 24GB17E4V1 ²⁾	177	150	1.90	26	46	149	2.00	32.4	-	II 2	P12, HPTP	
SKiiP 36GB17E4V1 ²⁾	224	200	1.90	37	66	193	2.00	47	-	II 3	P12, HPTP	
SKiiP 38GB17E4V1 ²⁾	341	300	1.90	47	102	267	2.00	69	-	II 3	P12, HPTP	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs

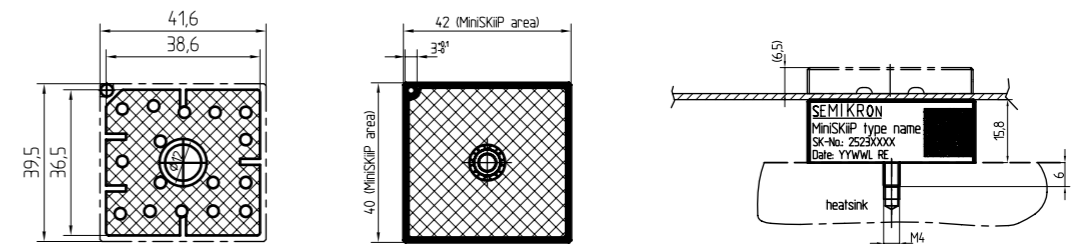
IGBT Modules / MiniSKiiP

Packages

MiniSKiiP II 0

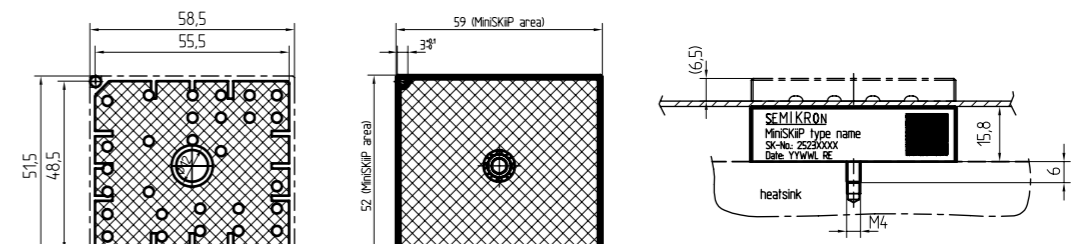


MiniSKiiP II 1



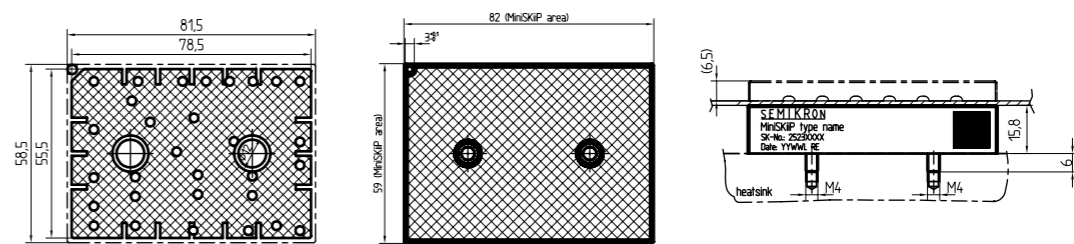
pin configuration depends on circuit (details in data sheet)

MiniSKiiP II 2



pin configuration depends on circuit (details in data sheet)

MiniSKiiP II 3



pin configuration depends on circuit (details in data sheet)

Dimensions in mm

IGBT Modules / SEMITOP

Type	IGBT					Diode		Rectifier	Module		Topology	
	$I_c @ T_s = 25^\circ\text{C}$ A	I_{Cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V		E_{rr} mJ	$I_{FSM} @ T_j = 25^\circ\text{C}$ A		Package
600V - IGBT3 (Trench)												
SK 75 GB 066 T	77	75	1.45	3.1	2.8	62	1.35	0.85	-	3	P12, HPTP	
SK 100 GB 066 T	96	100	1.45	7	6	108	1.35	1.7	-	3	P12, HPTP	
SK 150 GB 066 T	124	150	1.45	6.25	5.7	135	1.35	1.7	-	3	P12, HPTP	
SK 30 GBB 066 T	40	30	1.45	0.97	1.77	36	1.45	0.26	-	3	P12, HPTP	
SK 50 GBB 066 T	60	50	1.45	2.2	1.73	56	1.50	0.72	-	3	P12, HPTP	
SK 75 GBB 066 T	77	75	1.45	3.1	2.8	77	1.35	0.85	-	3	P12, HPTP	
SK 20 MLI 066	30	20	1.45	0.4	1.07	30	1.60	0.2	-	3	P12, HPTP	
SK 30 MLI 066	40	30	1.45	0.97	1.77	37	1.50	0.26	-	3	P12, HPTP	
SK 30 MLI 066p ¹⁾	37	30	1.45	0.97	1.77	34	1.50	0.26	-	3p	P12, HPTP	
SK 50 MLI 066	60	50	1.45	1.46	2.02	56	1.50	1.07	-	3	P12, HPTP	
SK 75 MLI 066 T	83	75	1.45	1.7	2.8	92	1.50	1.1	-	4	P12, HPTP	
SK 100 MLI 066 T	105	100	1.45	2.5	4.2	110	1.35	1.9	-	4	P12, HPTP	
SK 150 MLI 066 T	151	150	1.45	2.7	5.9	115	1.50	2.6	-	4	P12, HPTP	
SK 20 GD 066 ET	30	20	1.45	0.34	0.63	31	1.45	0.2	-	3	P12, HPTP	
SK 30 GD 066 ET	40	30	1.45	0.97	1.77	36	1.45	0.26	-	3	P12, HPTP	
SK 50 GD 066 ET	60	50	1.45	2.2	1.73	56	1.50	0.72	-	3	P12, HPTP	
SK 50 GD 066 ETp ¹⁾	59	50	1.45	2.2	1.73	51	1.47	0.72	-	3p	P12, HPTP	
SK 30 GD 066 ETp ¹⁾	40	30	1.45	0.97	1.77	36	1.45	0.26	-	3p	P12, HPTP	
SK 75 GD 066 T	83	75	1.45	3.1	2.8	92	1.35	0.85	-	4	P12, HPTP	
SK 100 GD 066 T	105	100	1.45	7	6	99	1.30	1.7	-	4	P12, HPTP	
SK 150 GD 066 T	151	150	1.45	6.25	5.7	198	1.30	1.7	-	4	P12, HPTP	
SK 200 GD 066 T ⁴⁾	174	200	1.45	13.9	12	99	1.30	3.4	-	4	P12, HPTP	
SK 20 DGD 066 ET	30	20	1.45	0.3	0.6	27	1.40	0.2	220	3	P12, HPTP	
SK 30 DGD 066 ET	40	30	1.45	0.55	1.15	36	1.50	0.53	370	3	P12, HPTP	
SK 50 DGD 066 T	69	50	1.45	2.2	1.74	54	1.35	0.73	370	4	P12, HPTP	
SK 75 DGD 066 T ³⁾	81	75	1.45	3.1	2.8	64	1.35	0.9	700	4	P12, HPTP	
SK 100 DGD 066 T ⁴⁾	106	100	1.45	4.4	3.5	99	1.10	1.45	700	4	P12, HPTP	
SK 50 DGD 066 ETE2 ¹⁾	53	50	1.45	0.85	1.6	51	1.00	0.9	520	E2	HPTP, HT	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 4) Discontinued

IGBT Modules / SEMITOP

Type	IGBT					Diode		Rectifier	Module		Topology	
	$I_c @ T_s = 25^\circ\text{C}$ A	I_{Cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V		E_{rr} mJ	$I_{FSM} @ T_j = 25^\circ\text{C}$ A		Package
600V - NPT IGBT (Standard)												
SK 45 GAL 063 ³⁾	45	50	2.10	1.4	1.2	57	1.45	0.25	-	2	P12	
SK 45 GAR 063 ³⁾	45	50	2.10	1.4	1.2	57	1.45	0.25	-	2	P12	
SK 45 GB 063 ⁴⁾	45	50	2.10	1.4	1.2	57	1.45	0.25	-	2	P12	
SK 80 GB 063 ⁴⁾	81	100	2.10	4	3	79	1.40	1.2	-	3	P12, HPTP	
SK 80 GM 063 ³⁾	81	100	2.00	3	2.3	105	1.30	0.2	-	2	P12	
SK 15 GH 063 ³⁾	20	15	2.00	0.71	0.4	20	1.45	0.45	-	2	P12	
SK 25 GH 063 ³⁾	30	30	2.10	1.1	0.8	36	1.45	0.25	-	2	P12	
SK 45 GH 063 ³⁾	45	50	2.10	1.4	1.2	57	1.30	0.9	-	3	P12, HPTP	
SK 13 GD 063 ³⁾	18	10	2.10	0.6	0.4	22	1.45	0.1	-	3	P12, HPTP	
SK 25 GD 063 ³⁾	30	30	2.10	1.3	0.9	36	1.45	0.25	-	3	P12, HPTP	
SK 45 GD 063 ³⁾	45	50	2.10	1.4	1.2	36	1.45	0.25	-	3	P12, HPTP	
SK 25 GAD 063 T ⁴⁾	30	30	2.10	1.3	0.9	36	1.45	0.25	-	3	P12, HPTP	
600V - NPT IGBT (Ultrafast)												
SK 50 GB 065 ⁴⁾	54	60	2.00	1.1	0.7	64	1.45	0.55	-	2	P12	
SK 50 GAL 065 ³⁾	54	60	2.00	1.1	0.7	57	1.30	0.2	-	2	P12	
SK 50 GAR 065 ³⁾	54	60	2.00	1.1	0.7	57	1.30	0.2	-	2	P12	
SK 50 GARL 065 F ⁴⁾	54	60	1.70	1.03	0.8	82	1.70	0.45	-	2	P12	
SK 50 GARL 065 USA ⁴⁾	54	60	1.70	1.07	0.76	64	1.40	0.55	-	2	P12	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 4) Discontinued

IGBT Modules / SEMITOP

Type	IGBT					Diode			Rectifier	Module		Topology
	$I_c @ T_s = 25^\circ\text{C}$ A	$I_{c, \text{nom}}$ A	$V_{CE(\text{sat})} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	$I_{FSM} @ T_j = 25^\circ\text{C}$ A	Package	Thermal Interface Material	
600V - NPT IGBT (Ultrafast)												
SK 55 GARL 065 E ³⁾	54	60	1.70	1.1	0.76	36	1.45	0.9	-	3	P12, HPTP	
SK 75 GARL 065 E ³⁾	80	90	1.70	2.71	2.75	57	1.30	0.2	-	3	P12, HPTP	
600V - IGBT3 (Trench)												
SK 50 GH 065 F ³⁾	54	60	2.00	1.07	1.76	82	1.10	0.42	-	3	P12, HPTP	
SK 35 GD 065 ET ³⁾	45	50	2.00	1.3	0.6	36	1.90	0.9	-	3	P12, HPTP	
600V - IGBT3 (Fast Trench)												
SK 10 BGD 065 ET ⁴⁾	17	6	2.00	0.18	0.13	22	1.30	0.18	220	3	P12, HPTP	
SK 9 BGD 065 ET ³⁾	12	6	2.00	0.22	0.12	20	1.35	0.31	220	3	P12, HPTP	
SK 9 DGD 065 ET ³⁾	12	6	2.00	0.22	0.12	20	1.35	0.31	220	3	P12, HPTP	
SK 20 DGD 065 ET ³⁾	26	20	2.00	0.66	0.4	25	1.60	t.b.d.	370	3	P12, HPTP	
SK 10 DGD 065 ET ⁴⁾	17	6	2.00	0.18	0.13	22	1.30	0.18	220	3	P12, HPTP	
SK 20 DGD 065 ET ³⁾	24	20	2.00	0.69	0.39	25	1.60	t.b.d.	220	3	P12, HPTP	
650V - IGBT3 (Trench)												
SK 75 GD 07E3 ETE ²⁾	66	75	1.45	1.1	2.55	70	1.43	1.85	-	E2	HPTP, HT	
SK50GD07E3ETE ²⁾	60	50	1.45	1.4	1.3	67	1.37	0.8	-	E1	-	
SK30GD07E3ETE1V1 ¹⁾	38	30	1.45	0.8	1.45	37	1.55	0.65	-	E1	-	
650V - IGBT3 (Fast Trench)												
SK 151 GALE 07F3 TUF ²⁾	-	150	1.85	8.8	4	116	1.59	0.26	635	3	P12, HPTP	
SK 50 MLI 07F3 D1p ¹⁾	51	50	1.85	1	1.18	56	1.37	0.95	-	3p	P12, HPTP	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 4) Discontinued

IGBT Modules / SEMITOP

Type	IGBT					Diode			Rectifier	Module		Topology
	$I_c @ T_s = 25^\circ\text{C}$ A	$I_{c, \text{nom}}$ A	$V_{CE(\text{sat})} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	$I_{FSM} @ T_j = 25^\circ\text{C}$ A	Package	Thermal Interface Material	
650V - IGBT3 (Fast Trench)												
SK100MLI07F3TD1p ²⁾	109	100	1.85	4.6	1	137	1.37	1.76	-	4p	P12, HPTP	
SK 150 MLI 07F3 TD1p ²⁾	151	150	1.85	9.07	1.3	137	1.37	1.76	-	4p	P12, HPTP	
650V - IGBT H5 (High speed Trench5 technology)												
SK 100 GD 07F3 TD1 ²⁾	104	100	1.85	3.92	2.1	95	1.35	0.92	-	4	P12, HPTP	
SK150DBB07F3TD1p ²⁾	74	150	1.85	1.52	0.65	108	1.35	0.9	-	4p	P12, HPTP	
SK100DBB07F3TD1p ²⁾	54	100	1.85	1	0.5	115	1.35	0.7	-	4p	P12, HPTP	
650V - IGBT L5 (Low saturation voltage Trench5 technology)												
SK225GH07H5TD1E2 ¹⁾	162	225	1.65	2.3	0.9	66	1.35	0.7	-	E2	HPTP, HT	
SK150MLI07L5TD1E2 ¹⁾	96	150	1.65	5.3	1.97	107	1.35	1.13	-	E2	HPTP, HT	
650V-IGBT S5 (High Speed Soft Switching)												
SK75GARL07S5TD1E1 ¹⁾	68	75	1.42	2.3	1	66	1.35	0.7	-	E1	-	
SK75MLI07S5TD1E1 ¹⁾	64	75	1.42	0.5	1.2	49	1.35	1.5	-	E1	-	
SK100MLI07S5TD1E2 ¹⁾	142	100	1.06	0.7	1.6	106	1.55	1.6	-	E2	HPTP, HT	
SK150MLI07S5TD1E2 ¹⁾	128	150	1.42	0.9	2.4	106	1.55	3	-	E2	HPTP, HT	
1200V - IGBT3 (Trench)												
SK 10 GD 126 ET ³⁾	15	8	1.70	1	1	25	1.90	1.4	-	3	P12, HPTP	
SK 15 GD 126 ET ³⁾	22	15	1.70	2	1.8	25	1.60	1.4	-	3	P12, HPTP	
SK 25 GD 126 ET	32	25	1.70	3.3	3.1	28	1.80	2.1	-	3	P12, HPTP	
SK 35 GD 126 ET	40	35	1.70	4.6	4.3	34	1.80	2.9	-	3	P12, HPTP	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 4) Discontinued

IGBT Modules / SEMITOP

Type	IGBT					Diode		Rectifier		Module		Topology
	$I_c @ T_s = 25^\circ\text{C}$ A	$I_{c, \text{nom}}$ A	$V_{CE(\text{sat})} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	$I_{\text{FSM}} @ T_j = 25^\circ\text{C}$ A	Package	Thermal Interface Material	
1200V - IGBT3 (Trench)												
SK 50 GD 126 T ⁴⁾	68	50	1.70	4.6	6.3	62	1.35	3.6	-	4	P12, HPTP	
SK 75 GD 126 T ⁴⁾	88	75	1.70	11.3	10	91	1.46	6	-	4	P12, HPTP	
SK 100 GD 126 T ⁴⁾	114	100	1.70	9.8	11.7	118	1.50	7.3	-	4	P12, HPTP	
SK 10 DGD 126 ET ³⁾	15	8	1.70	1	1	25	1.90	1.4	220	3	P12, HPTP	
SK 15 DGD 126 ET	22	15	1.70	2	1.8	25	1.60	1.1	220	3	P12, HPTP	
SK 25 DGD 126 T ⁴⁾	41	25	1.70	2.8	3.1	30	1.50	2	370	4	P12, HPTP	
SK 35 DGD 126 T ⁴⁾	52	35	1.70	3.7	4.8	38	1.50	3	370	4	P12, HPTP	
SK 50 DGD 126 T ³⁾	68	50	1.70	4.6	6.3	62	1.35	3.6	700	4	P12, HPTP	
1200V - IGBT4 (Trench)												
SK 35 GAL 12T4	44	35	1.85	3.27	3.3	38	2.30	1.46	-	2	P12	
SK 75 GAL 12T4	80	75	1.85	13	7	70	2.10	3	-	2	P12	
SK 35 GAR 12T4 ¹⁾	44	35	1.85	3.27	3.3	38	2.30	1.46	-	2	P12	
SK 75 GAR 12T4	80	75	1.85	13	7	70	2.10	3	-	2	P12	
SK 25 GB 12T4 ²⁾	37	25	1.85	2.27	2.7	30	2.40	1.28	-	2	P12	
SK 35 GB 12T4	44	35	1.85	3.27	3.3	38	2.30	1.46	-	2	P12	
SK 50 GB 12T4 T ²⁾	71	50	1.85	8.3	5	50	2.20	2.15	-	3	P12, HPTP	
SK 75 GB 12T4 T	80	75	1.85	13.6	8.2	70	2.10	3.39	-	3	P12, HPTP	
SK 100 GB 12T4 T ²⁾	100	100	1.85	16.6	10	85	2.25	5.2	-	3	P12, HPTP	
SK 200 GB 12T4 Tp ¹⁾	210	200	1.80	13.6	22.1	190	2.20	13.4	-	4p	P12, HPTP	
SK 150 GAH 12T4 Tp ¹⁾	167	150	1.85	10.8	15.6	33	2.33	0.82	-	4p	P12, HPTP	
SK 25 GH 12T4 ²⁾	35	25	1.85	2.27	2.7	28	2.41	1.28	-	3	P12, HPTP	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 4) Discontinued

IGBT Modules / SEMITOP

Type	IGBT					Diode		Rectifier		Module		Topology
	$I_c @ T_s = 25^\circ\text{C}$ A	$I_{c, \text{nom}}$ A	$V_{CE(\text{sat})} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	$I_{\text{FSM}} @ T_j = 25^\circ\text{C}$ A	Package	Thermal Interface Material	
1200V - IGBT4 (Trench)												
SK 50 GH 12T4 T ²⁾	75	50	1.80	8.3	5	56	2.20	2.15	-	4	P12, HPTP	
SK 100 GH 12T4 T	126	100	1.80	16.6	10	102	2.20	5.2	-	4	P12, HPTP	
SK 35 MLI 12T4 p ¹⁾	43	35	1.85	1.6	3.27	38	2.30	1.73	-	3p	P12, HPTP	
SK 70 MLI 12T4 Tp ¹⁾	90	70	1.85	13.5	8.5	78	2.30	2.73	-	4p	P12, HPTP	
SK 10 GD 12T4 ET ²⁾	17	8	1.85	0.41	0.76	15	2.38	0.41	-	3	P12, HPTP	
SK 15 GD 12T4 ET	27	15	1.85	0.83	1.52	21	2.38	0.82	-	3	P12, HPTP	
SK 25 GD 12T4 ET	37	25	1.85	2.27	2.7	30	2.40	1.28	-	3	P12, HPTP	
SK 25 GD 12T4 ETp ¹⁾	35	25	1.85	2.27	2.7	28	2.41	1.28	-	3p	P12, HPTP	
SK 35 GD 12T4 ET ²⁾	44	35	1.85	3.27	3.3	40	2.30	1.46	-	3	P12, HPTP	
SK 50 GD 12T4 T	75	50	1.85	8.3	5	60	2.20	2.15	-	4	P12, HPTP	
SK 50 GD 12T4 Tp ²⁾	72	50	1.85	8.3	5	60	2.22	2.15	-	4p	P12, HPTP	
SK 75 GD 12T4 T	102	75	1.85	13.6	8.2	83	2.20	3.38	-	4	P12, HPTP	
SK 75 GD 12T4 Tp ¹⁾	97	75	1.85	13.6	8.2	83	2.17	3.38	-	4p	P12, HPTP	
SK 100 GD 12T4 T	126	100	1.85	16.6	10	102	2.25	5.2	-	4	P12, HPTP	
SK 10 DGD 12T4 ET	17	8	1.85	0.41	0.75	15	2.38	0.41	220	3	P12, HPTP	
SK 15 DGD 12T4 ET	27	15	1.85	0.82	1.52	21	2.38	0.82	220	3	P12, HPTP	
SK 25 DGD 12T4 T	45	25	1.85	2.27	2.7	30	2.40	t.b.d.	370	4	P12, HPTP	
SK 25 DGD 12T4 ETE2 ¹⁾	33	25	1.85	2.6	2.35	53	1.00	2.05	520	E2	HPTP, HT	
SK 35 DGD 12T4 T	58	35	1.85	3.27	3.3	46	2.30	1.46	370	4	P12, HPTP	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 4) Discontinued

IGBT Modules / SEMITOP

Type	IGBT					Diode		Rectifier		Module		Topology
	$I_c @ T_s = 25^\circ\text{C}$ A	$I_{c, \text{nom}}$ A	$V_{CE(\text{sat})} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	$I_{\text{FSM}} @ T_j = 25^\circ\text{C}$ A	Package	Thermal Interface Material	
1200V - IGBT4 (Trench)												
SK 35 DGD1 12T4 ETE2 ¹⁾	43	35	1.85	3.15	3.2	53	1.00	2.6	520	E2	HPTP, HT	
SK 50 DGD1 12T4 T	75	50	1.85	8.3	5	60	2.22	2.15	700	4	P12, HPTP	
SK25GD12T4ETE1 ¹⁾	33	25	1.85	2.6	2.35	29	2.41	2.05	-	E1	-	
SK35GD12T4ETE1 ¹⁾	43	35	1.85	3.15	3.2	38	2.30	2.6	-	E1	-	
SK50GD12T4ETE2 ¹⁾	66	50	1.85	5.8	4.5	59	2.22	3.6	-	E2	HPTP, HT	
SK75GD12T4ETE2 ¹⁾	84	75	1.85	8	6.4	82	2.17	5.5	-	E2	HPTP, HT	
1200V - IGBT4 (Fast Trench)												
SK 120 GB 12F4 T ¹⁾	174	120	2.05	8.8	7.47	29	2.38	2.04	-	3	P12, HPTP	
SK80TMLI12F4Tp ¹⁾	88	80	2.05	1.9	2.04	83	2.17	1.6	-	3p	P12, HPTP	
SK 150 TMLI 12F4 Tp ²⁾	180	150	2.05	3.13	5.29	100	2.20	4.8	-	4p	P12, HPTP	
SK200TMLI12F4TE2 ²⁾	166	200	2.05	4.44	5.4	65	2.17	3.2	-	E2	HPTP, HT	
SK 150 MLIT 12F4 TE2 ¹⁾	149	150	2.05	12.6	11	80	2.20	8.3	-	E2	HPTP, HT	
SK 150 MLIB 12F4 TE2 ¹⁾	149	150	2.05	12.6	11	80	2.20	8.3	-	E2	HPTP, HT	
1200V - NPT IGBT (Ultrafast)												
SK 60 GAL 125 ³⁾	51	50	3.20	8.36	3.32	43	2.00	2	-	2	P12	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 4) Discontinued

IGBT Modules / SEMITOP

Type	IGBT					Diode		Rectifier		Module		Topology
	$I_c @ T_s = 25^\circ\text{C}$ A	$I_{c, \text{nom}}$ A	$V_{CE(\text{sat})} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	$I_{\text{FSM}} @ T_j = 25^\circ\text{C}$ A	Package	Thermal Interface Material	
1200V - NPT IGBT (Ultrafast)												
SK 60 GAR 125 ⁴⁾	51	50	3.20	8.36	3.32	43	2.00	2	-	2	P12	
SK 60 GB 125	51	50	3.20	8.36	3.32	57	2.00	2	-	3	P12, HPTP	
SK 80 GB 125 T	85	75	3.20	9.9	5	90	2.00	1	-	3	P12, HPTP	

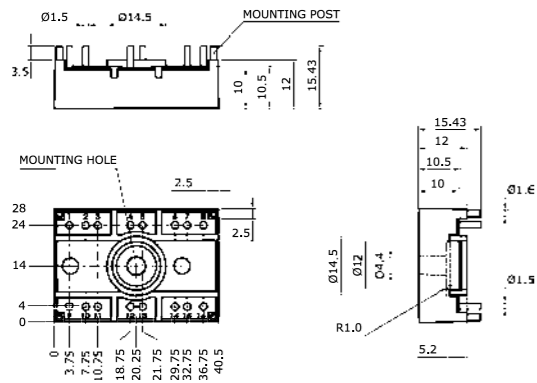
Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 4) Discontinued

IGBT Modules / SEMITOP

Packages

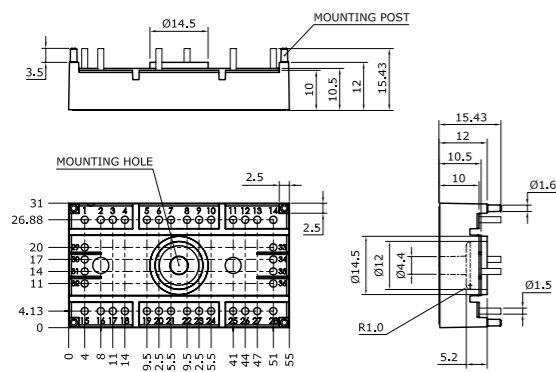
SEMISTOP 2

Dimensions: mm
Tolerance system: ISO 2768-m



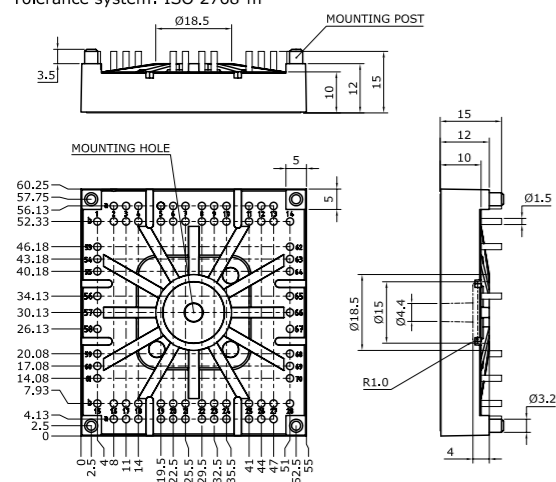
SEMISTOP 3

Dimensions: mm
Tolerance system: ISO 2768-m



SEMISTOP 4

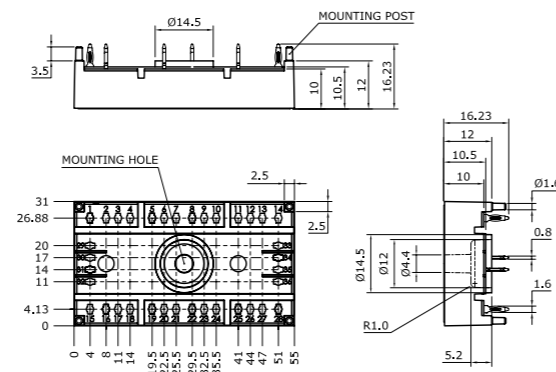
Dimensions: mm
Tolerance system: ISO 2768-m



Dimensions in mm

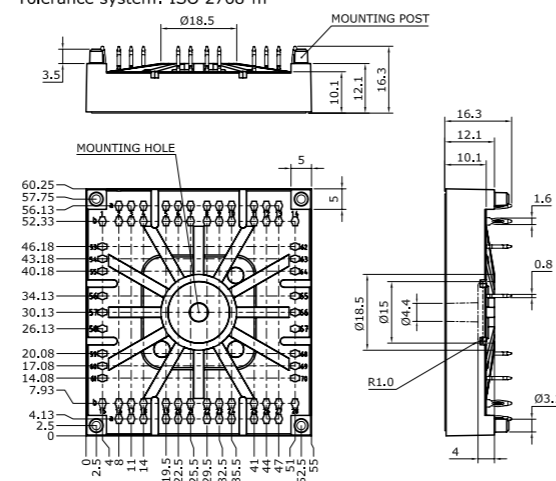
SEMISTOP 3 Press-Fit

Dimensions: mm
Tolerance system: ISO 2768-m



SEMISTOP 4 Press-Fit

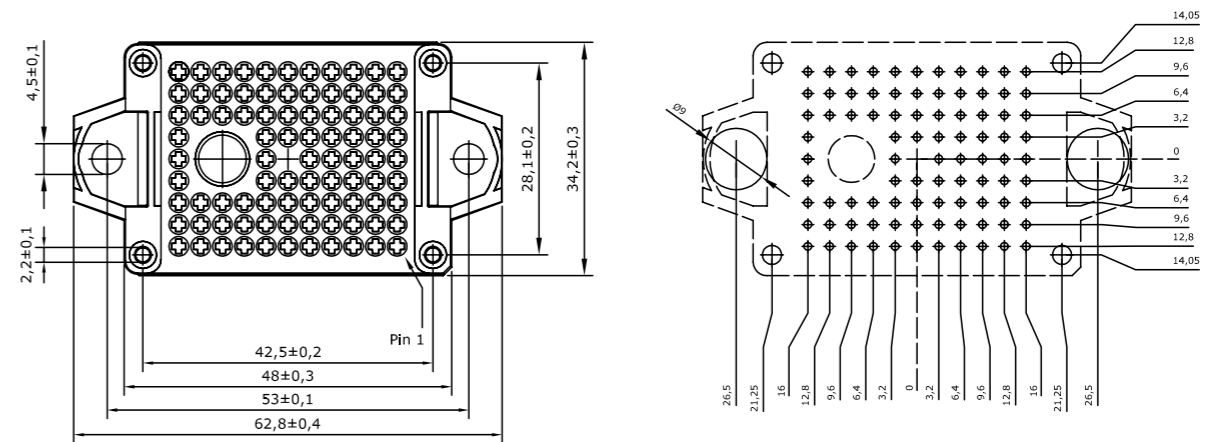
Dimensions: mm
Tolerance system: ISO 2768-m



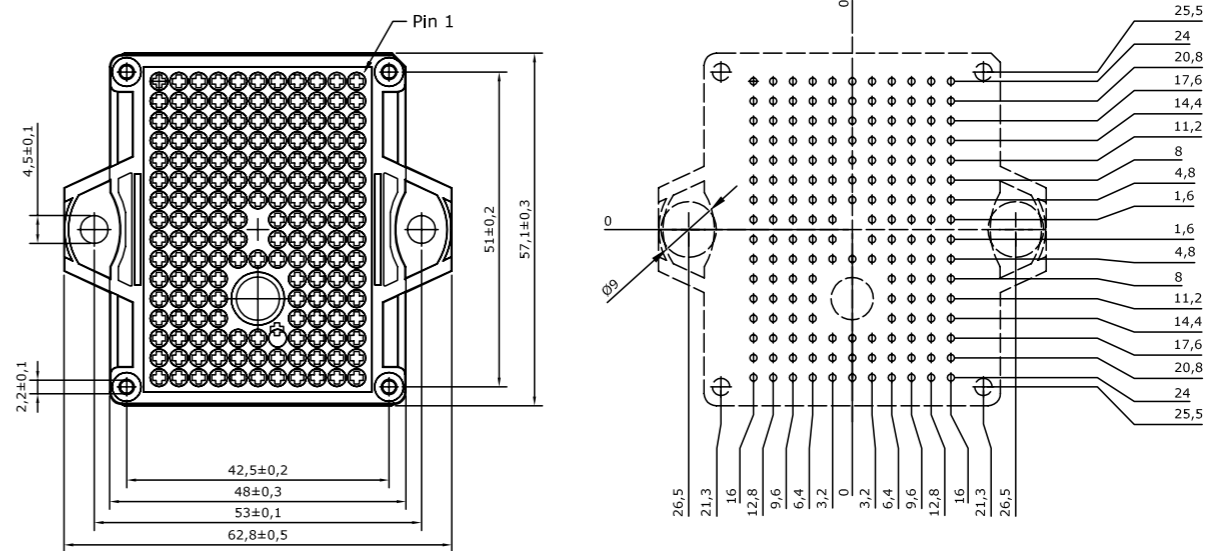
IGBT Modules / SEMITOP

Packages

SEMISTOP E1



SEMISTOP E2



Dimensions in mm

IGBT Modules / SEMiX

Type	IGBT					Diode			Module			Topology
	$I_c @ T_c = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_c = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	Package	Thermal Interface Material		
1200V - IGBT4 (Trench)												
SEMiX71GD12E4s	115	75	1.85	7.5	9	97	2.17	5.3	13	P8		
SEMiX101GD12E4s	160	100	1.80	11	13	121	2.20	6.5	13	P8		
SEMiX151GD12E4s	232	150	1.80	14	19	189	2.14	8.9	13	P8		
SEMiX205GD12E4 ²⁾	313	200	1.80	14	23	224	2.20	16	5p	P8, HT		
SEMiX223GD12E4c	333	225	1.85	22	31	270	2.17	17	33c	P8		
SEMiX303GD12E4c	466	300	1.80	29	42	338	2.20	23	33c	P8		
SEMiX453GD12E4c	683	450	1.80	52	68	544	2.14	28	33c	P8		
1200V - IGBT4 (Fast Trench)												
SEMiX155GD12T4 ¹⁾	219	150	1.80	13	21	175	2.14	14	5p	P8, HT		
SEMiX106GD12T4p ¹⁾	161	100	1.80	7.5	9.5	118	2.20	8	6p	HT		
SEMiX156GD12T4p ¹⁾	236	150	1.80	10	16	182	2.14	13.5	6p	HT		
SEMiX206GD12T4p ¹⁾	302	200	1.80	19	20	209	2.21	14.5	6p	HT		
1200V - IGBT3 (Trench)												
SEMiX452GAL126HDs	455	300	1.70	35	45	394	1.60	33	2s	P8		
SEMiX703GAL126HDs	642	450	1.70	32	68	561	1.60	60	3s	P8, HT		
SEMiX703GAR126HDs	642	450	1.70	32	68	561	1.60	60	3s	P8, HT		
SEMiX252GB126HDs	242	150	1.70	20	21	228	1.60	18	2s	P8		
SEMiX302GB126HDs	311	200	1.70	30	26	292	1.60	23	2s	P8		
SEMiX353GB126HDs	364	225	1.70	27	33	329	1.60	29	3s	P8, HT		
SEMiX452GB126HDs	455	300	1.70	35	45	394	1.60	33	2s	P8		
SEMiX503GB126HDs	466	300	1.70	28	44	431	1.60	33	3s	P8, HT		
SEMiX604GB126HDs	590	400	1.70	36	60	533	1.60	46	4s	HT		
SEMiX703GB126HDs	642	450	1.70	32	68	561	1.60	60	3s	P8, HT		
SEMiX904GB126HDs	821	600	1.70	60	88	752	1.60	75	4s	HT		
SEMiX101GD126HDs	129	75	1.70	10	11	117	1.60	9	13	P8		
SEMiX151GD126HDs	168	100	1.70	12	14	152	1.60	12	13	P8		
SEMiX251GD126HDs	242	150	1.70	19	22	207	1.60	15	13	P8		

Footnotes: 1) Sample status / 2) In production new

IGBT Modules / SEMiX

Type	IGBT					Diode			Module			Topology
	$I_c @ T_c = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_c = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	Package	Thermal Interface Material		
1200V - IGBT3 (Trench)												
SEMiX353GD126HDc	364	225	1.70	27	33	329	1.60	29	33c	P8		
SEMiX503GD126HDc	466	300	1.70	28	44	412	1.60	33	33c	P8		
SEMiX703GD126HDc	642	450	1.70	32	68	561	1.59	60	33c	P8		
1700V - IGBT4 (Trench)												
SEMiX302GAL17E4s	516	300	1.90	140	122	324	1.98	70	2s	P8		
SEMiX453GAL17E4s	762	450	1.90	250	190	482	1.98	100	3s	P8, HT		
SEMiX151GB17E4s	260	150	1.90	52	60	169	1.98	41	1s	HT		
SEMiX202GB17E4s	321	200	1.90	75	82	213	2.00	55	2s	P8		
SEMiX302GB17E4s	516	300	1.90	140	122	324	1.98	70	2s	P8		
SEMiX303GB17E4s	477	300	1.90	140	125	311	2.00	85	3s	P8, HT		
SEMiX404GB17E4s	633	400	1.90	190	165	412	2.00	97	4s	HT		
SEMiX453GB17E4p	731	450	1.90	131	146	557	1.98	72	3p	P8, HT		
SEMiX453GB17E4s	762	450	1.90	250	190	482	1.98	100	3s	P8, HT		
SEMiX603GB17E4p ²⁾	981	600	1.95	125	200	794	1.88	120	3p	P8, HT		
SEMiX604GB17E4s	1015	600	1.90	255	255	629	1.98	150	4s	HT		
SEMiX453GB17E4Ip	731	450	1.90	153	150	557	1.98	73	3Ip	P8, HT		
SEMiX305TML117E4C ¹⁾	486	300	1.90	38	60	338	2.00	38	5p	P8, HT		
SEMiX453GD17E4c	762	450	1.90	186	183	482	1.98	122	33c	P8		
1700V - IGBT3 (Trench)												
SEMiX653GAL176HDs	619	450	2.00	300	180	545	1.70	73	3s	P8, HT		
SEMiX653GAR176HDs	619	450	2.00	300	180	545	1.70	73	3s	P8, HT		
SEMiX252GB176HDs	246	150	2.00	90	55	288	1.55	32	2s	P8		
SEMiX302GB176HDs	308	200	2.00	130	77	389	1.50	43	2s	P8		
SEMiX353GB176HDs	353	225	2.00	155	85	428	1.55	45	3s	P8, HT		
SEMiX452GB176HDs	437	300	2.00	180	110	389	1.70	46	2s	P8		
SEMiX453GB176HDs	444	300	2.00	215	125	545	1.50	65	3s	P8, HT		
SEMiX604GB176HDs	567	400	2.00	215	165	740	1.50	95	4s	HT		

Footnotes: 1) Sample status / 2) In production new

IGBT Modules / SEMiX

Type	IGBT				Diode			Module			
	$I_c @ T_c = 25^\circ\text{C}$	$I_{c, \text{nom}}$	$V_{cE(\text{sat})} @ T_j = 25^\circ\text{C typ.}$	E_{on}	E_{off}	$I_f @ T_c = 25^\circ\text{C}$	$V_f @ T_j = 25^\circ\text{C typ.}$	E_{rr}	Package	Thermal Interface Material	Topology
	A	A	V	mJ	mJ	A	V	mJ			

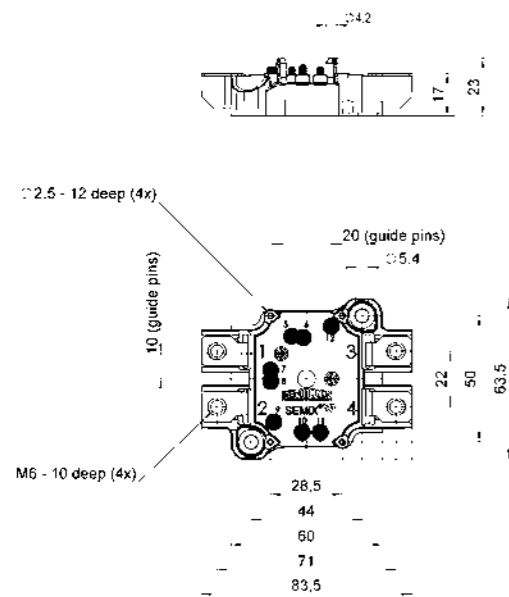
1700V - IGBT3 (Trench)

SEMiX653GB176HDs	619	450	2.00	300	180	545	1.70	73	3s	P8, HT	
SEMiX854GB176HDs	779	600	2.00	300	250	740	1.70	170	4s	HT	
SEMiX353GD176HDc	353	225	2.00	155	85	428	1.55	45	33c	P8	
SEMiX453GD176HDc	444	300	2.00	215	125	545	1.50	65	33c	P8	
SEMiX653GD176HDc	619	450	2.00	300	180	545	1.70	73	33c	P8	

Footnotes: 1) Sample status / 2) In production new

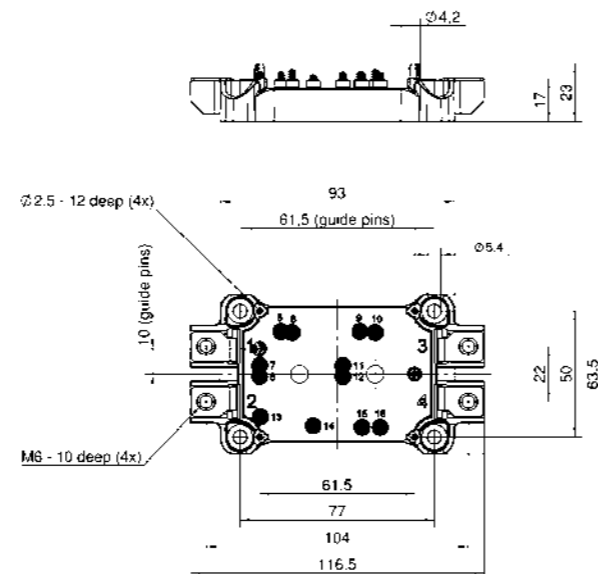
Packages

SEMiX 1s



Dimensions in mm

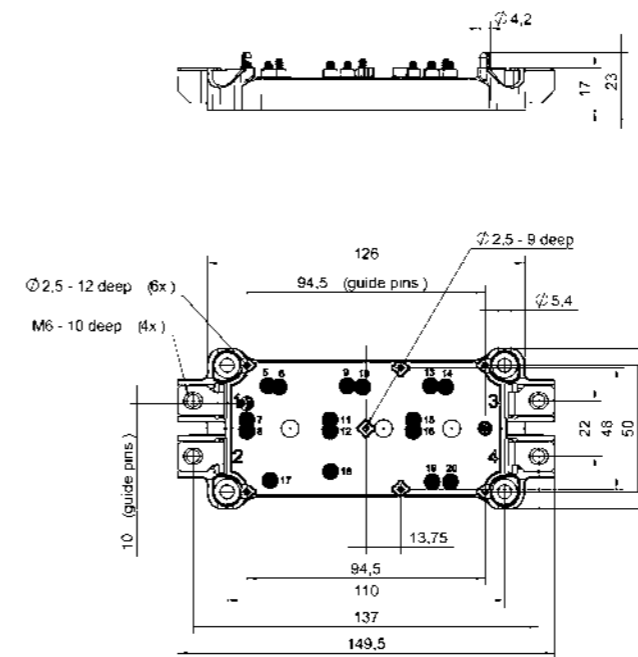
SEMiX 2s



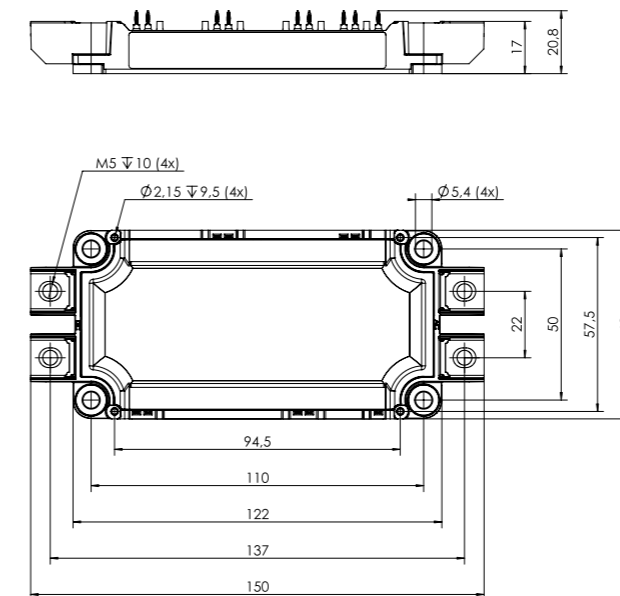
IGBT Modules / SEMiX

Packages

SEMiX 3s

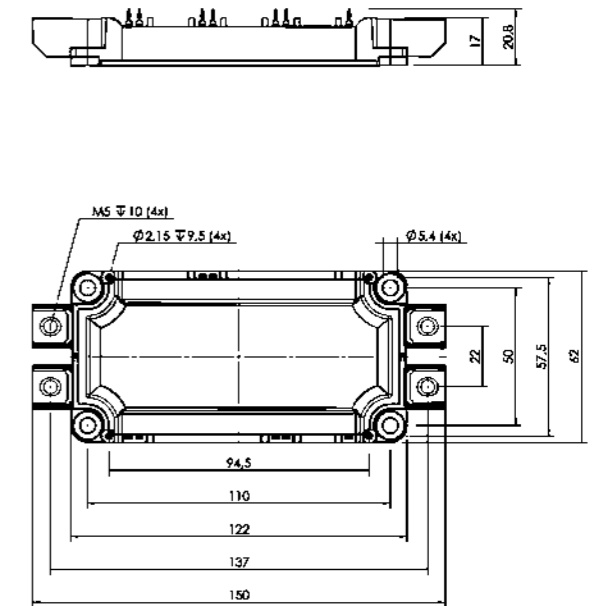


SEMiX 3Ip

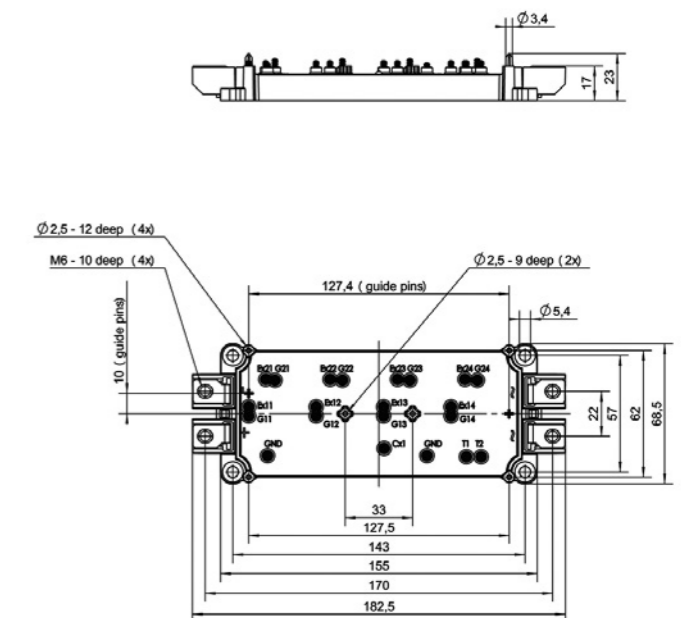


Dimensions in mm

SEMiX 3p



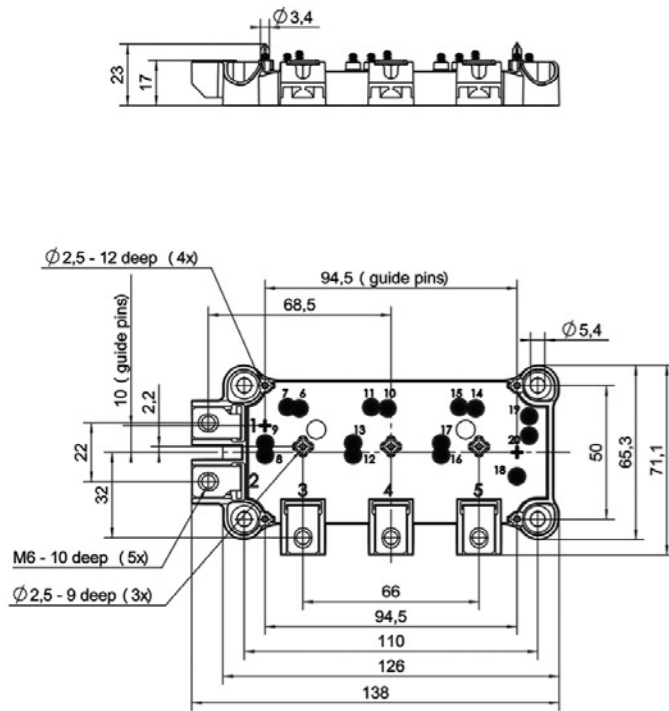
SEMiX 4s



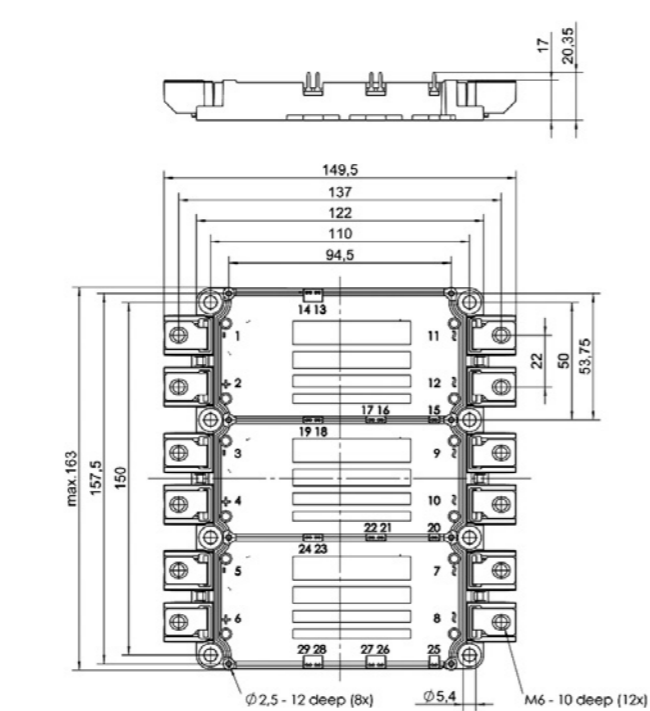
IGBT Modules / SEMiX

Packages

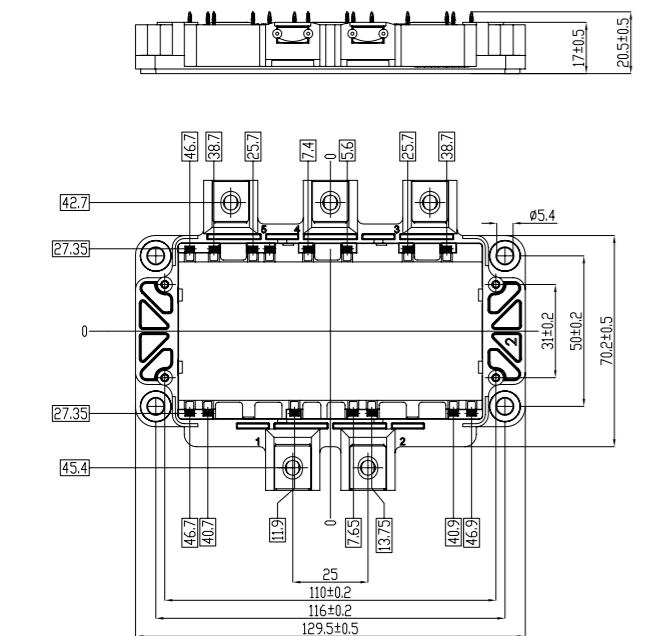
SEMIX 13



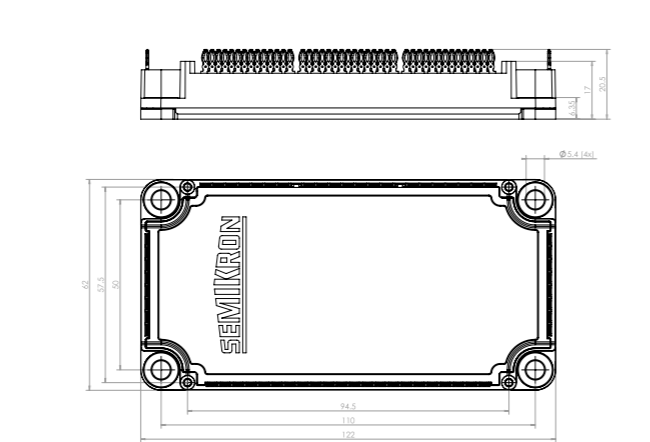
SEMIX 33c



SEMIX 5p



SEMIX 6p



Dimensions in mm

IGBT Modules / SEMITRANS

Type	IGBT					Diode		Module			Topology
	$I_c @ T_c = 25^\circ C$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ C \text{ typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_c = 25^\circ C$ A	$V_f @ T_j = 25^\circ C \text{ typ.}$ V	E_{rr} mJ	Package	Thermal Interface Material	
600V - IGBT3 (Trench)											
SKM145GB066D	195	150	1.46	8.5	5.5	150	1.40	3.5	2	HT	
SKM195GB066D	265	200	1.46	14	8	200	1.40	5.6	2	HT	
SKM300GB066D	390	300	1.45	7.5	11.5	350	1.38	10.5	3	P8	
SKM400GB066D	500	400	1.45	8	16	450	1.40	14	3	P8	
SKM600GB066D	760	600	1.45	7.5	29.5	700	1.40	25	3	P8	
SKM200GARL066T ²⁾	280	200	1.45	2.24	7.89	270	1.45	4	5	-	
SKM300GARL066T ²⁾	393	300	1.45	3.5	10.1	421	1.54	4	5	-	
SKM400GARL066T ¹⁾	504	400	1.45	4.48	15.78	421	1.54	8	5	-	
SKM150MLI066TAT ¹⁾	200	150	1.45	1.7	5.1	200	1.35	2	5	-	
SKM200MLI066TAT ²⁾	280	200	1.45	2.53	6.82	270	1.4	4	5	-	
SKM300MLI066TAT ²⁾	400	300	1.45	3.5	10.1	324	1.35	4	5	-	
600V - NPT IGBT (Standard)											
SKM75GAL063D ³⁾	100	75	2.1	3	2.5	75	1.55	0.53	2	HT	
SKM300GAL063D ³⁾	400	300	2.1	14	13	250	1.65	4	3	P8	
SKM75GAR063D ³⁾	100	75	2.1	3	2.5	75	1.55	0.53	2	HT	
SKM300GAR063D ³⁾	400	300	2.1	14	13	250	1.65	4	3	P8	
SKM50GB063D ³⁾	70	50	2.10	2.5	1.8	75	1.35	0.48	2	HT	
SKM75GB063D ³⁾	100	75	2.1	3	2.5	75	1.55	0.53	2	HT	
SKM100GB063D ³⁾	130	100	2.1	4	3	100	1.55	1.5	2	HT	
SKM200GB063D ³⁾	260	200	2.1	11	7.5	200	1.55	2.1	3	P8	
SKM300GB063D ³⁾	400	300	2.1	14	13	250	1.65	4	3	P8	
650V - IGBT3 (Trench)											
SKM195GAL07E3 ²⁾	266	200	1.46	6.3	8.3	217	1.39	4.5	2	HT	
SKM300GAL07E3 ²⁾	382	300	1.45	3	14	335	1.40	6.4	3	P8	
SKM195GAR07E3 ²⁾	266	200	1.46	6.3	8.3	217	1.39	4.5	2	HT	
SKM300GAR07E3 ²⁾	382	300	1.45	3	14	335	1.40	6.4	3	P8	
SKM195GB07E3 ²⁾	266	200	1.46	6.3	8.3	217	1.39	4.5	2	HT	
SKM300GB07E3 ²⁾	382	300	1.45	3	14	335	1.40	6.4	3	P8	
SKM400GB07E3 ²⁾	506	400	1.45	4	17	449	1.39	12	3	P8	
SKM600GB07E3 ²⁾	758	600	1.45	4.7	37	770	1.40	9.3	3	P8	
1200V - NPT IGBT (Ultrafast)											
SKM600GA125D	580	400	3.3	30	22	500	2.00	24	4	P8	
SKM800GA125D	760	600	3.20	88	48	720	2.3	28	4	P8	
SKM200GAL125D	200	150	3.3	14	8	200	2.06	8	3	P8	
SKM400GAL125D	400	300	3.3	17	18	390	2.06	16	3	P8	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at $T_j=150^\circ C$

IGBT Modules / SEMITRANS

Type	IGBT					Diode			Module			Topology
	$I_c @ T_c = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_c = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_r mJ	Package	Thermal Interface Material		
1200V - NPT IGBT (Ultrafast)												
SKM200GAR125D	200	150	3.3	14	8	200	2.06	8	3	P8		
SKM400GAR125D	400	300	3.3	17	18	390	2.06	16	3	P8		
SKM100GB125DN	100	75	3.3	9	3.5	95	2.06	4	2N	-		
SKM200GB125D	200	150	3.3	14	8	200	2.06	8	3	P8		
SKM300GB125D	300	200	3.3	16	11	260	2.00	13	3	P8		
SKM400GB125D	400	300	3.3	17	18	390	2.06	16	3	P8		
SKM25GAH125D ³⁾	39	25	3.20	3.9	1.6	47	2.13	1.1	6	-		
SKM25GD125D ³⁾	39	25	3.20	3.9	1.6	47	2.13	1.1	6	-		
SKM50GD125D ³⁾	73	50	3.20	8	3.2	77	2.00	2.1	6	-		
1200V - IGBT3 (Trench)												
SKM600GA126D	660	400	1.70	39	64	490	1.60	41	4	P8		
SKM800GA126D	910	600	1.70	65	95	703	1.60	59	4	P8		
SKM195GAL126D	220	150	1.71	16	24.5	143	2.00	5.8	2	HT		
SKM200GAL126D	260	150	1.71	18	24	200	1.60	18	3	P8		
SKM400GAL126D	470	300	1.69	29	48	352	1.60	27	3	P8		
SKM600GAL126D	660	400	1.70	39	64	490	1.60	41	3	P8		
SKM195GB126D	220	150	1.71	16	24.5	143	2.00	5.8	2	HT		
SKM200GB126D	260	150	1.71	18	24	200	1.60	18	3	P8		
SKM300GB126D	310	200	1.70	21	33	250	1.60	18	3	P8		
SKM400GB126D	470	300	1.69	29	48	352	1.60	27	3	P8		
SKM600GB126D	660	400	1.70	39	64	490	1.60	41	3	P8		
SKM195GB126D	220	150	1.71	16	24.5	143	2.00	5.8	2	HT		
1200V - V-IGBT												
SKM300GA12V	420	300	1.84	23	33	353	2.17	21	4	P8		
SKM400GA12V	612	400	1.74	39	42	440	2.20	26	4	P8		
SKM600GA12V	908	600	1.75	76	76	707	2.14	43	4	P8		
SKM150GAL12V	231	150	1.75	13.5	14.2	189	2.14	8.5	2	HT		
SKM200GAL12VL2 ²⁾	299	200	1.86	24	22	189	2.14	8.5	2	HT		
SKM400GAL12V	612	400	1.74	39	42	440	2.20	26	3	P8		
SKM150GAR12V ²⁾	231	150	1.75	13.5	14.2	189	2.14	8.5	2	HT		
SKM400GAR12V	612	400	1.74	39	42	440	2.20	26	3	P8		

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at Tj=150°C

IGBT Modules / SEMITRANS

Type	IGBT					Diode			Module			Topology	
	$I_c @ T_c = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_c = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_r mJ	Package	Thermal Interface Material			
1200V - V-IGBT													
SKM50GB12V	77	50	1.84	4.9	4.5	65	2.22	2.8	2	HT			
SKM75GB12V	114	75	1.84	6.7	7.1	97	2.17	4.2	2	HT			
SKM100GB12V	159	100	1.75	10.7	8.7	121	2.20	5.7	2	HT			
SKM150GB12V	231	150	1.75	13.5	14.2	189	2.14	8.5	2	HT			
SKM150GB12VG	222	150	1.86	10	16.5	187	2.17	11	3	P8			
SKM200GB12V	311	200	1.76	14	22	229	2.20	13	3	P8			
SKM300GB12V	420	300	1.84	23	33	353	2.17	21	3	P8			
SKM400GB12V	612	400	1.74	39	42	440	2.20	26	3	P8			
1200V - IGBT4 (Trench)													
SKM300GA12E4	422	300	1.85	23.4	35	353	2.17	22.2	4	P8			
SKM400GA12E4	616	400	1.80	28	59	461	2.20	37	4	P8			
SKM600GA12E4	913	600	1.80	30	77	707	2.14	39	4	P8			
SKM900GA12E4	1305	900	1.83	130	121	871	2.31	53	4	P8			
SKM600GAE12E4 ²⁾	860	600	1.80	81	83	54	14.62	35.5	5	-			
SKM200GAL12E4	313	200	1.80	21	27	229	2.20	13	3	P8			
SKM300GAL12E4	422	300	1.85	27	39	353	2.17	23	3	P8			
SKM400GAL12E4	616	400	1.80	33	56	461	2.20	30.5	3	P8			
SKM200GAR12E4	313	200	1.80	21	27	229	2.20	13	3	P8			
SKM300GAR12E4	422	300	1.85	27	39	353	2.17	23	3	P8			
SKM400GAR12E4	616	400	1.80	33	56	461	2.20	30.5	3	P8			
SKM200GB12E4	313	200	1.80	21	27	229	2.20	13	3	P8			
SKM300GB12E4	422	300	1.85	27	39	353	2.17	23	3	P8			
SKM400GB12E4	616	400	1.80	33	56	461	2.20	30.5	3	P8			
SKM450GB12E4	700	450	1.84	32	60	461	2.31	28	3	P8			
SKM600GB12E4 ²⁾	860	600	1.80	30	77	623	2.28	39	3	P8			
SKM450GM12E4 ¹⁾	700	450	1.84	32	60	461	2.31	28	3	P8			
SKM1200MLI12TE4 ²⁾	2082	1200	1.80	108	189	1065	2.46	76	10	HT			
1200V - IGBT4 Fast (Trench)													
SKM300GA12T4	422	300	1.85	23.4	26	353	2.17	22.2	4	P8			
SKM400GA12T4	616	400	1.80	28	44	461	2.20	37	4	P8			
SKM600GA12T4	913	600	1.80	74	63	707	2.14	38	4	P8			

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at Tj=150°C

IGBT Modules / SEMITRANS

Type	IGBT				Diode		Module				Topology
	$I_c @ T_c = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_c = 25^\circ\text{C}$ A	$V_F @ T_j = 25^\circ\text{C typ.}$ V	E_r mJ	Package	Thermal Interface Material	
1200V - IGBT4 Fast (Trench)											
SKM50GAL12T4	81	50	1.85	5.5	4.5	65	2.22	3.6	2	HT	
SKM100GAL12T4	160	100	1.80	15	10.2	121	2.20	5.9	2	HT	
SKM150GAL12T4	232	150	1.81	19.2	15.8	189	2.14	13	2	HT	
SKM200GAL12T4	313	200	1.80	21	20	229	2.20	13	3	P8	
SKM300GAL12T4	422	300	1.85	27	29	353	2.17	23	3	P8	
SKM400GAL12T4	616	400	1.80	33	42	461	2.20	30.5	3	P8	
SKM600GAL12T4 ²⁾	860	600	1.80	33	70	623	2.28	40	3	P8	
SKM150GAR12T4	232	150	1.81	19.2	15.8	189	2.14	13	2	HT	
SKM400GAR12T4	616	400	1.80	33	42	461	2.20	30.5	3	P8	
SKM600GAR12T4 ²⁾	860	600	1.80	33	70	623	2.28	40	3	P8	
SKM50GB12T4	81	50	1.85	5.5	4.5	65	2.22	3.8	2	HT	
SKM75GB12T4	115	75	1.85	11	6.9	97	2.17	4.7	2	HT	
SKM100GB12T4	160	100	1.80	15	10.2	121	2.20	5.9	2	HT	
SKM100GB12T4G	154	100	1.90	16.1	8.6	118	2.22	6	3	P8	
SKM150GB12T4	232	150	1.81	19.2	15.8	189	2.14	13	2	HT	
SKM150GB12T4G	223	150	1.85	18.7	14.1	183	2.17	9	3	P8	
SKM200GB12T4	313	200	1.80	21	20	229	2.20	13	3	P8	
SKM300GB12T4	422	300	1.85	27	29	353	2.17	23	3	P8	
SKM400GB12T4	616	400	1.80	33	42	461	2.20	30.5	3	P8	
SKM450GB12T4 ²⁾	699	450	1.84	32	49	461	2.31	28	3	P8	
SKM600GB12T4 ²⁾	860	600	1.80	33	70	623	2.28	40	3	P8	
SKM150GM12T4G	229	150	1.85	19.2	15.8	187	2.17	13	3	P8	
SKM200GM12T4	313	200	1.80	21	20	229	2.20	13	3	P8	
SKM300GM12T4	422	300	1.85	27	29	353	2.17	23	3	P8	
SKM400GM12T4	616	400	1.80	33	42	461	2.20	30.5	3	P8	
SKM300GBD12T4	422	300	1.85	27	29	56	2.41	30.5	3	P8	
SKM100GAL12F4 ²⁾	142	100	2.05	6.2	7.9	111	2.55	6.4	2	HT	
SKM400GAL12F4 ¹⁾	548	400	2.06	26	28	402	2.55	20	3	P8	
SKM100GAR12F4 ²⁾	142	100	2.05	6.2	7.9	111	2.55	6.4	2	HT	
SKM400GAR12F4 ¹⁾	548	400	2.06	26	28	402	2.55	20	3	P8	
SKM75GB12F4 ²⁾	103	75	2.08	7	5	93	2.43	3	2	HT	
SKM100GB12F4 ²⁾	142	100	2.05	6.2	7.9	111	2.55	6.4	2	HT	
SKM150GB12F4 ¹⁾	201	150	2.05	14	10	174	2.43	5.8	2	HT	
SKM150GB12F4G ¹⁾	201	150	2.05	8	12	174	2.43	8.4	3	P8	
SKM200GB12F4 ¹⁾	279	200	2.06	15	14	211	2.55	8.5	3	P8	
SKM300GB12F4 ¹⁾	380	300	2.06	27	23	334	2.43	12	3	P8	
SKM400GB12F4 ¹⁾	548	400	2.06	26	28	402	2.55	20	3	P8	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at T_j=150°C

IGBT Modules / SEMITRANS

Type	IGBT				Diode		Module				Topology
	$I_c @ T_c = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_c = 25^\circ\text{C}$ A	$V_F @ T_j = 25^\circ\text{C typ.}$ V	E_r mJ	Package	Thermal Interface Material	
1200V - IGBT4 High Power (Trench)											
SKM1400GB12P4 ²⁾	2165	1400	1.75	150	277	1768	2.06	85	10	HT	
SKM145GAL176D	160	100	2.00	60	38	140	1.6	27.5	2	HT	
SKM200GAL176D	260	150	2.01	93	58	210	1.70	31	3	P8	
SKM400GAL176D	432	300	1.99	170	118	440	1.70	78	3	P8	
SKM400GAR176D	432	300	1.99	170	118	440	1.70	78	3	P8	
SKM75GB176D	80	50	2.00	25	18	80	1.70	14.5	2	HT	
SKM100GB176D	125	75	1.98	44	28.5	100	1.6	21.4	2	HT	
SKM145GB176D	160	100	2.00	60	38	140	1.6	27.5	2	HT	
SKM200GB176D	260	150	2.01	93	58	210	1.70	31	3	P8	
SKM400GB176D	432	300	1.99	170	118	440	1.70	78	3	P8	
SKM600GA17E4	1021	600	1.90	258	246	629	1.98	132	4	P8	
SKM100GAL17E4	164	100	1.90	43	39	113	2.00	26	2	HT	
SKM200GAL17E4	321	200	1.90	69	79	213	2.00	45	3	P8	
SKM400GAL17E4	614	400	1.92	156.5	180	443	2.00	130	3	P8	
SKM100GAR17E4	164	100	1.90	43	39	113	2.00	26	2	HT	
SKM200GAR17E4	321	200	1.90	69	79	213	2.00	45	3	P8	
SKM400GAR17E4	614	400	1.92	156.5	180	443	2.00	130	3	P8	
SKM75GB17E4	125	75	1.93	30	29	88	2.00	21	2	HT	
SKM100GB17E4	164	100	1.90	43	39	113	2.00	26	2	HT	
SKM150GB17E4	261	150	1.90	67	59	169	1.98	32	2	HT	
SKM150GB17E4G	242	150	1.90	39	59	163	2.00	33	3	P8	
SKM200GB17E4	321	200	1.90	69	79	213	2.00	45	3	P8	
SKM300GB17E4	476	300	1.91	88	121	314	2.00	77	3	P8	
SKM400GB17E4	614	400	1.92	156.5	180	443	2.00	130	3	P8	
SKM500GB17E4 ¹⁾	737	500	1.90	195	220	546	1.96	140	3	P8	
SKM400GM17E4	614	400	1.92	156.5	180	443	2.00	130	3	P8	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at T_j=150°C

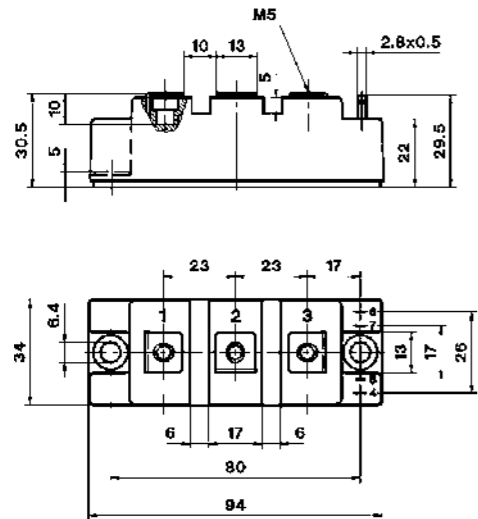
IGBT Modules / SEMITRANS

Type	IGBT					Diode		Module			Topology
	$I_c @ T_c = 25^\circ\text{C}$ A	I_{cnom} A	$V_{cE(keep)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_c = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_r mJ	Package	Thermal Interface Material	
1700V - IGBT4 (Trench) chip - dedicated for humid environment (target data)											
SKM75GB17E4H16 ²⁾	132	75	1.93	37	29	88	2.00	18	2	HT	
SKM150GB17E4GH16 ²⁾	255	150	1.96	69	59	163	2.00	36	3	P8	
SKM300GB17E4H16 ²⁾	500	300	1.97	106	122	314	2.00	71	3	P8	
1700V - Renesas Gen 8											
SKM1000GB17R8 ²⁾	1574	1000	1.66	465	332	1449	1.78	159	10	HT	
SKM1400GB17R8 ²⁾	2337	1400	1.63	866	495	1874	1.84	253	10	HT	
3300V - N-Channel F-IGBT (new product series, target data)											
SKM450GB33F ^{2) 11)}	760	450	2.07	601	601	674	2.05	542	20	-	

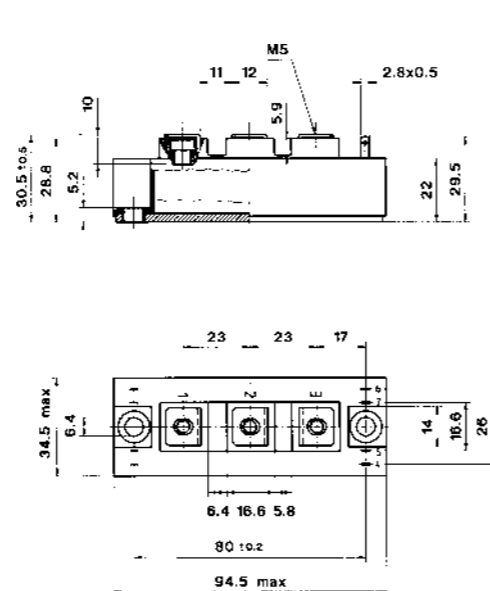
Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at $T_j=150^\circ\text{C}$

Packages

SEMISTRANS 2



SEMISTRANS 2N

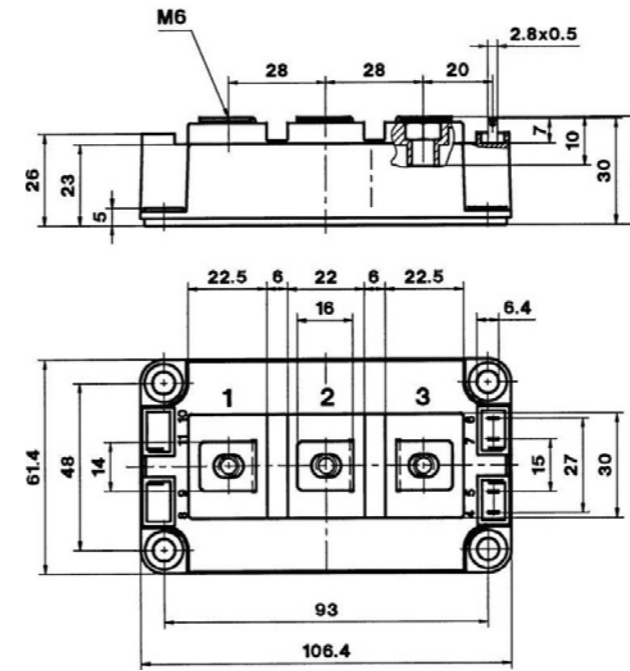


Dimensions in mm

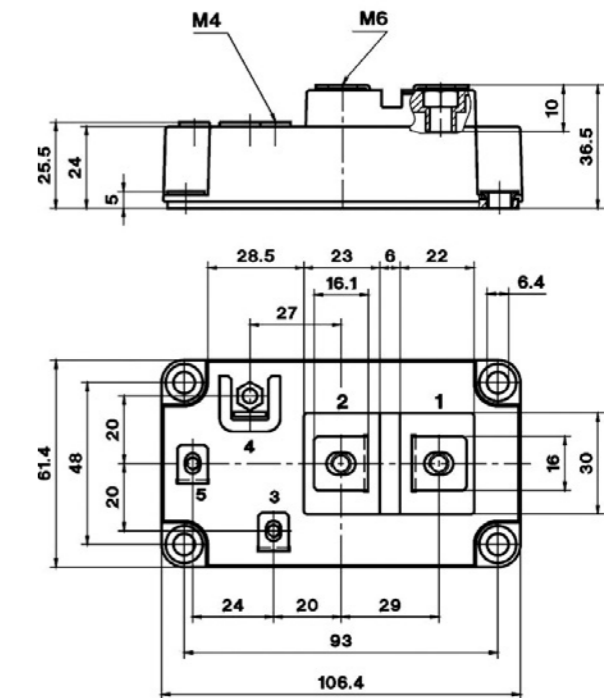
IGBT Modules / SEMITRANS

Packages

SEMISTRANS 3

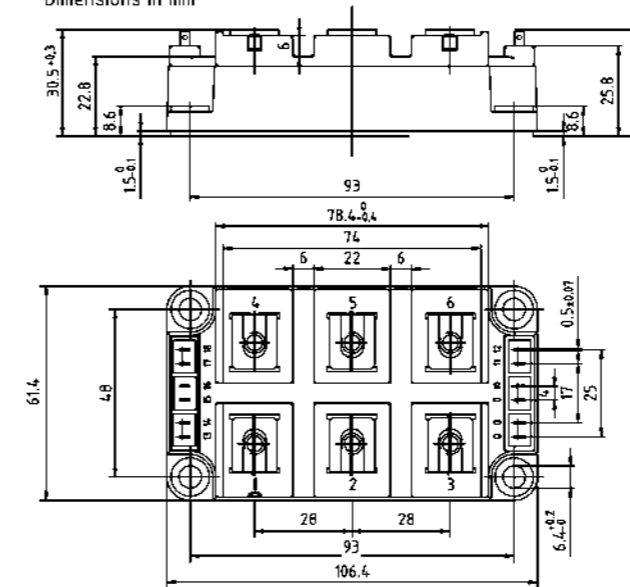


SEMISTRANS 4

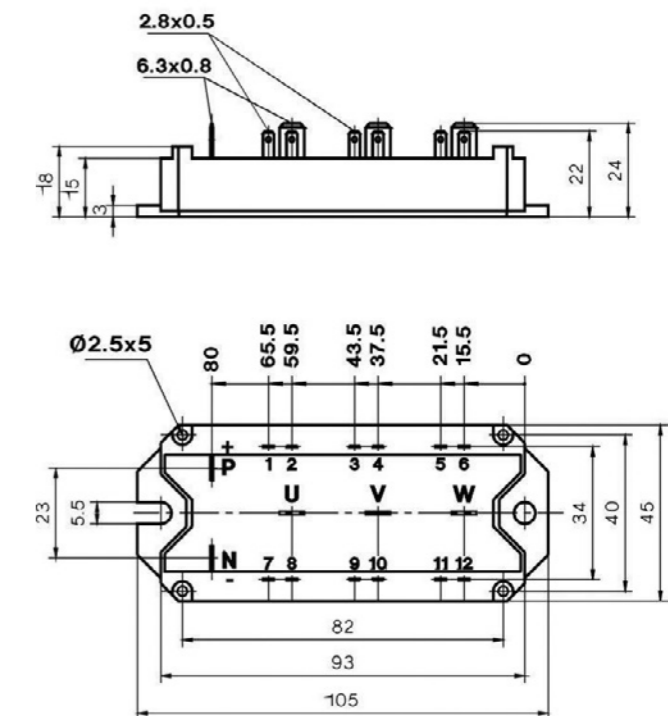


SEMISTRANS 5

Dimensions in mm



SEMISTRANS 6



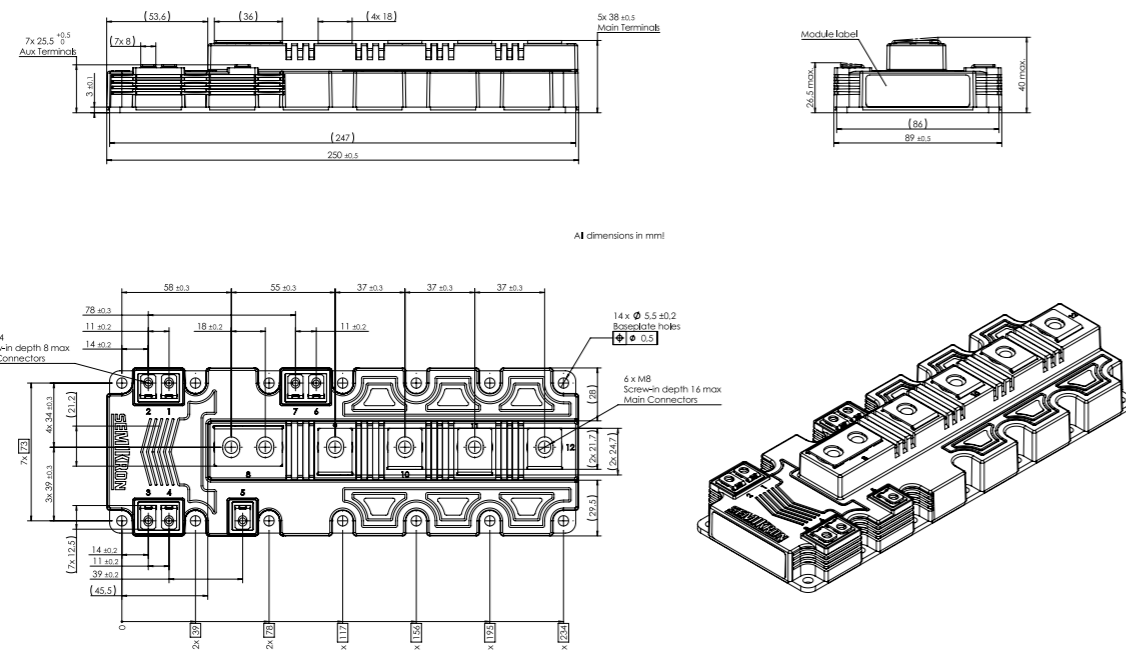
Dimensions in mm

IGBT Modules / SEMITRANS

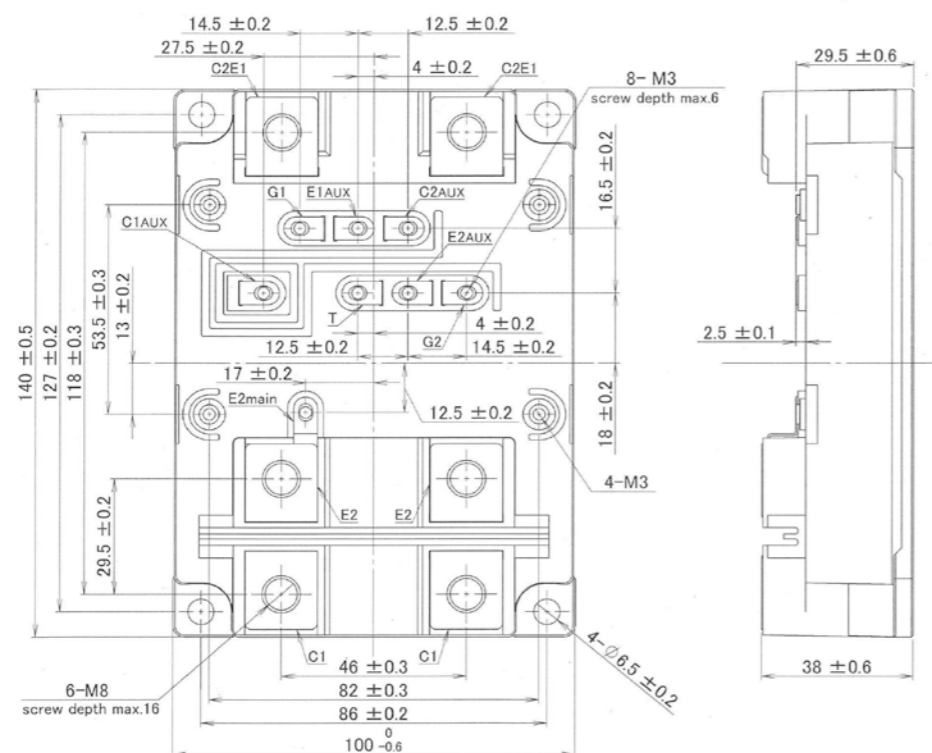
IGBT Modules / SKiM 4/5

Packages

SEMISTRANS 10



SEMISTRANS 20



Dimensions in mm

Type	IGBT					Diode			Module		Topology
	I_c @ $T_s = 25^\circ\text{C}$	I_{cnom}	$V_{cE(sat)}$ @ $T_j = 25^\circ\text{C}$ typ.	E_{on}	E_{off}	I_s @ $T_s = 25^\circ\text{C}$	V_f @ $T_j = 25^\circ\text{C}$ typ.	E_{rr}	Package	Thermal Interface Material	
	A	A	V	mJ	mJ	A	V	mJ			
600V - IGBT3 (Trench)											
SKiM301MLI07E4	252	300	1.55	2.8	17	177	1.40	-	4	P12 + HPTP	
SKiM401MLI07E4	314	400	1.55	3.3	21	289	1.40	1.8	4	P12 + HPTP	
SKiM601MLI07E4	433	600	1.55	6.1	44	318	1.39	2.4	4	P12 + HPTP	
1200V - IGBT3 (Trench)											
SKiM200GD126D ³⁾	-	200	1.65	15	25	152	2.39	-	4	P12 + HPTP	
SKiM300GD126D	265	300	1.70	28	47	260	1.92	-	4	P12 + HPTP	
SKiM300GD126DL	265	300	1.65	28	47	260	1.92	-	4	P12 + HPTP	
SKiM400GD126DM	330	300	1.70	25	36	300	1.92	22	4	P12 + HPTP	
SKiM400GD126DLM	330	300	1.65	29	46	300	1.92	-	4	P12 + HPTP	
SKiM450GD126D	390	450	1.70	42	70	345	1.92	-	5	HPTP	
SKiM450GD126DL ³⁾	390	450	1.65	42	70	345	1.92	-	5	HPTP	
SKiM600GD126DLM	480	450	1.65	42	70	450	1.92	-	5	HPTP	
SKiM601GD126DM	480	450	1.70	42	70	450	1.92	-	5	HPTP	
1200V - IGBT4 (Trench)											
SKiM301TMLI12E4B	311	300	1.80	6.6	19	249	2.20	1.8	4	P12 + HPTP	
SKiM401TMLI12E4B	388	400	1.80	8.8	26	311	2.20	2.4	4	P12 + HPTP	
SKiM601TMLI12E4B	529	600	1.80	11	45	495	2.14	4.4	4	P12 + HPTP	
SKiM201MLI12E4	206	200	1.80	15	23	187	2.20	15	4	P12 + HPTP	
SKiM301MLI12E4	311	300	1.80	22	34	282	2.20	22	4	P12 + HPTP	
SKiM455GD12T4D1 ³⁾	400	450	1.80	34	40	295	2.33	28	5	HPTP	
SKiM304GD12T4D ³⁾	312	300	1.80	-	-	221	2.33	-	4	P12 + HPTP	

Footnotes: 3) Not for new designs

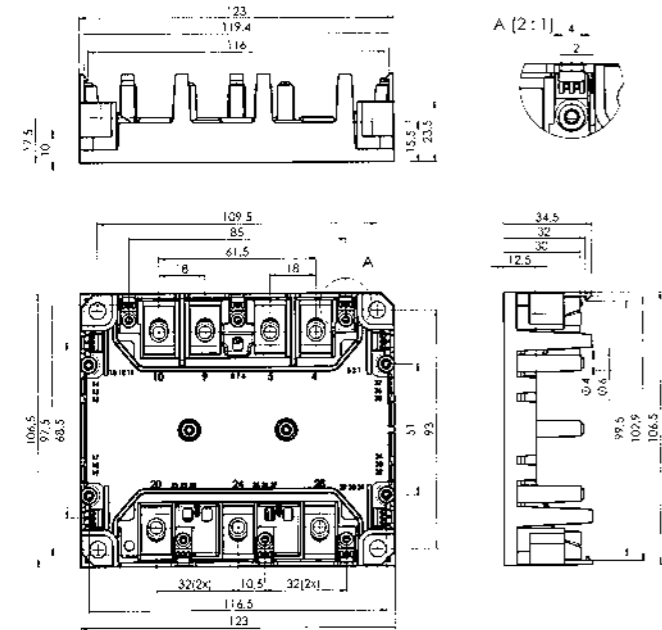
IGBT Modules / SKiM 4/5

Type	IGBT					Diode		Module			Topology
	$I_c @ T_s = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	Package	Thermal Interface Material	
1700V - IGBT3 (Trench)											
SKiM120GD176D	110	125	2.00	72	46	105	1.6	22	4	P12 + HPTP	
SKiM220GD176DH4	220	250	2.00	145	100	220	1.7	65	4	P12 + HPTP	
SKiM270GD176D											
SKiM270GD176D	260	300	2.00	170	120	215	1.7	-	5	HPTP	

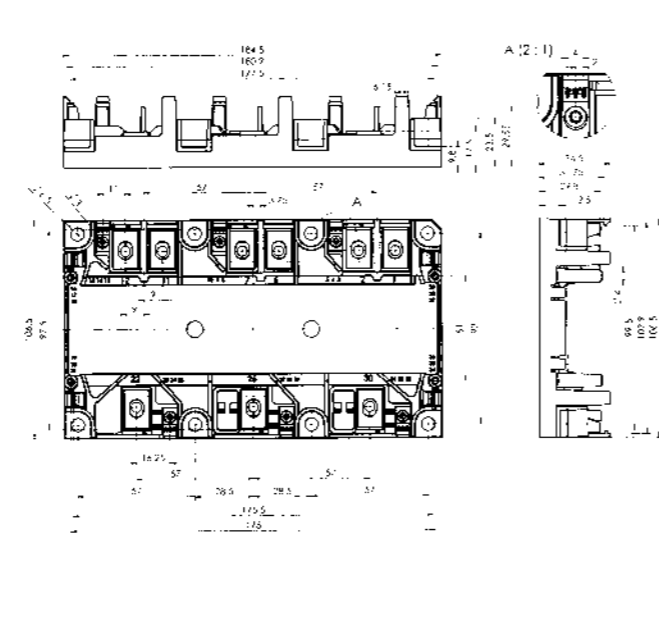
Footnotes: 3) Not for new designs

Packages

SKiM 4



SKiM 5



Dimensions in mm

IGBT Modules / SKiM 63/93

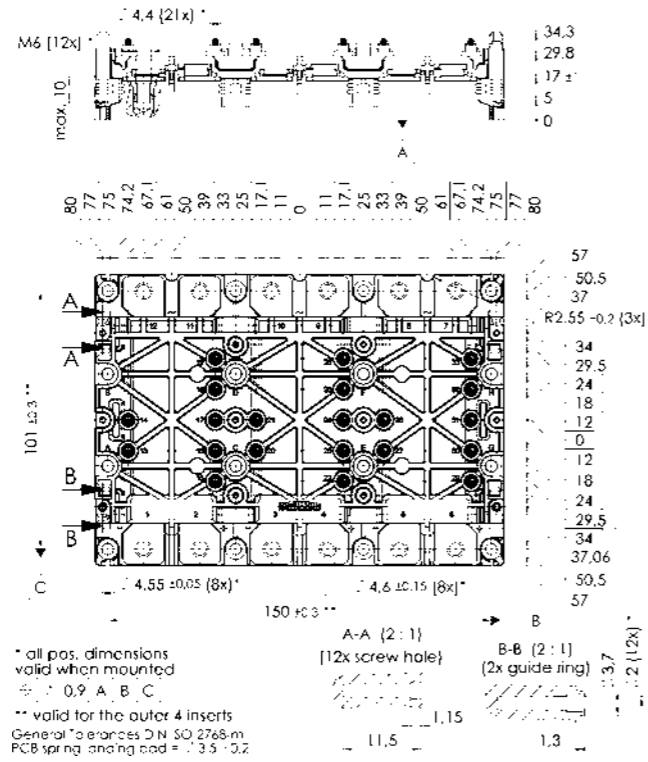
Type	IGBT					Diode		Module			Topology
	$I_c @ T_s = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$I_f @ T_s = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	Package	Thermal Interface Material	
600V - IGBT3 (Trench)											
SKiM406GD066HD ¹⁰⁾	468	400	1.45	8	25	360	1.53	12	63	P12, HPTP	
SKiM606GD066HD ¹⁰⁾	640	600	1.45	16	53	462	1.52	21	63	P12, HPTP	
SKiM909GD066HD ¹⁰⁾	897	900	1.45	36	88	690	1.52	29	93	P12, HPTP	
650V - IGBT3 (Trench)											
SKiM606GD07V1 ¹⁰⁾	-	600	1.45	14	39	-	1.57	15	63	P12, HPTP	
SKiM909GD07V1 ¹⁰⁾	-	900	1.45	30	57	573	1.57	19	93	P12, HPTP	
1200V - IGBT4 (Trench)											
SKiM459GD12E4 V2 ¹⁰⁾	554	450	1.85	22	57	438	2.14	40	93	P12, HPTP	
SKiM306GD12E4 V2 ¹⁰⁾	410	300	1.85	19	39	305	2.14	21	63	P12, HPTP	
SKiM609GAL12E4¹⁰⁾											
SKiM609GAL12E4 ¹⁰⁾	748	600	1.85	136	83	1397	1.7	39	93	P12, HPTP	
SKiM609GAR12E4¹⁰⁾											
SKiM609GAR12E4 ¹⁰⁾	748	600	1.85	136	83	1397	1.7	39	93	P12, HPTP	
1700V - IGBT4 (Trench)											
SKiM429GD17E44F ¹⁰⁾	608	420	1.90	178	189	394	1.93	119	93	P12, HPTP	

Footnotes: 10) Also available with new HpTp, see Accessories/Thermal Interface Materials

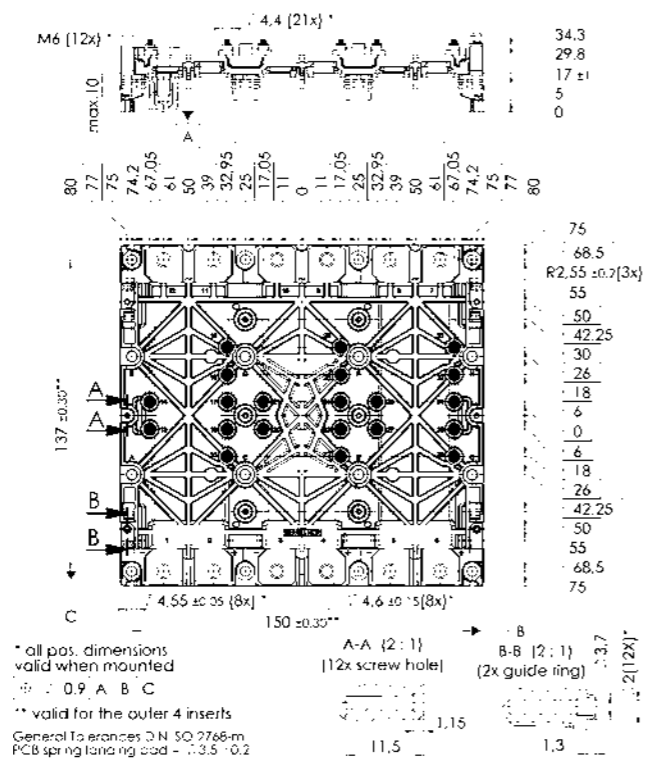
IGBT Modules / SKiM 63/93

Packages

SKiM 63



SKiM 93



Dimensions in mm