
SEMIKRON
Catalogue
2016/2017

SEMIKRON
innovation + service

Interfaces to Meet Your Needs

Catalogue 2015/2016

Innovation is our Passion

Pushing the boundaries of
packaging technologies.

Standard Packages are our Foundation

Meeting your needs
is our mission.

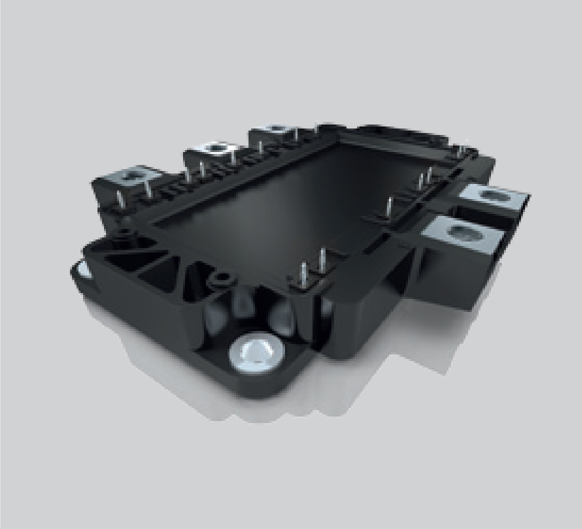
More than 60 years of experience in the field of power electronics, a comprehensive portfolio of chips, modules and inverter systems, a global network of production plants and sales offices as well as our highly qualified staff – these are our success factors. SEMIKRON's power electronics components and systems primarily address the medium output range (approx. 2kW up to 10MW).

Our products are at the heart of modern energy efficient motor drives and industrial automation systems. Further application areas include power supplies, renewable energies (wind and solar power) and utility vehicles. SEMIKRON's innovative power electronic products enable our customers to develop smaller, more energy efficient power electronic systems. These systems in turn reduce the global energy demand.

New Products

SEMITRANS® 10 & SKYPER® Prime

SEMiX® 5



SEMITRANS® 10 & SKYPER® Prime

Regenerative converters are driven by two main market requirements. Increasing the output power and reduction of cost. SEMITRANS 10 & SKYPER Prime is a fully qualified Plug & Play bundle with optimised SOA characteristics. This saves costly qualification and redesign loops and at the same time offers significant performance advantages in various applications. SEMITRANS 10 offers superior switching performance based on second source IGBT series and SEMIKRON CAL diodes in a design of low stray inductance. Advanced package materials enable outstanding performance and reliability. SKYPER Prime offers galvanically isolated, highly accurate DC-link and temperature signals as a PWM signal to the controller. So very compact high power inverters can be built without costly sense circuits, cabling effort nor power supplies. In addition, second source requirements are covered even on the driver and module side.

Motor Drives
Wind Energy
Solar Energy
Power Quality
Urban Transport Equipment

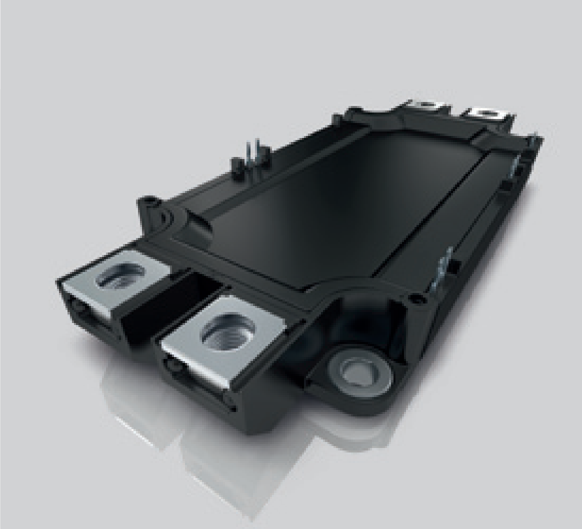
SEMiX® 5

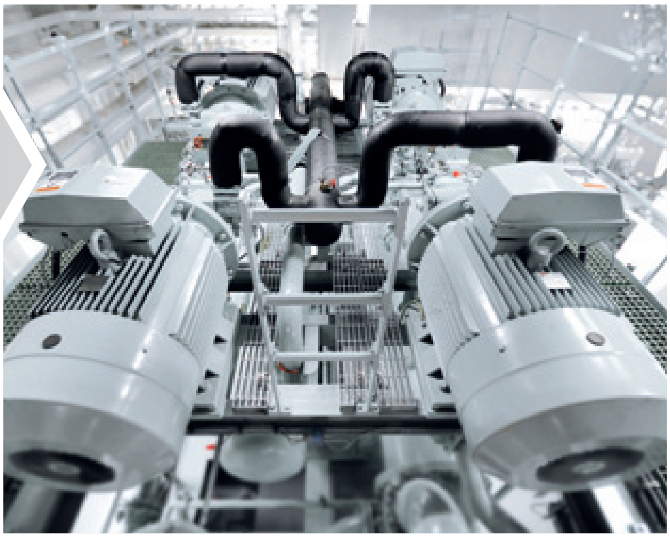
SEMiX 5 is a compact baseplate module with optimised AC and DC screw connections.
A solder-free assembly process for the gate driver connections is possible thanks to the 17mm height and the press-fit signal connections. With an enhanced internal layout and a housing material ready for high temperature operation, the SEMiX 5 is the perfect match for demanding applications.

Motor Drives
Solar Energy
Power Quality
Power Supplies

New Products

SEMiX® 3





Silicon Carbide Power Modules

SEMiX® 3 Press-Fit

Now with current sensing shunt resistor
The SEMiX 3 press-fit package introduced lately is now also available with a shunt resistor for current monitoring in the AC path. Footprint and main connections are identical to the standard module and the shunt is also equipped with press-fit contacts, like the other auxiliary connections. Including the current monitoring into the IGBT module reduces the inverter volume and decreases the system costs, as less material is in use. At the same time the FIT rate is enhanced, by reducing the number of necessary components in the inverter. Half-bridge modules in 1200V and 1700V are available in the new package with an adjusted shunt resistor.

Motor Drives · Wind Energy · Solar Energy · Power Quality · Power Supplies · Urban Transport Equipment

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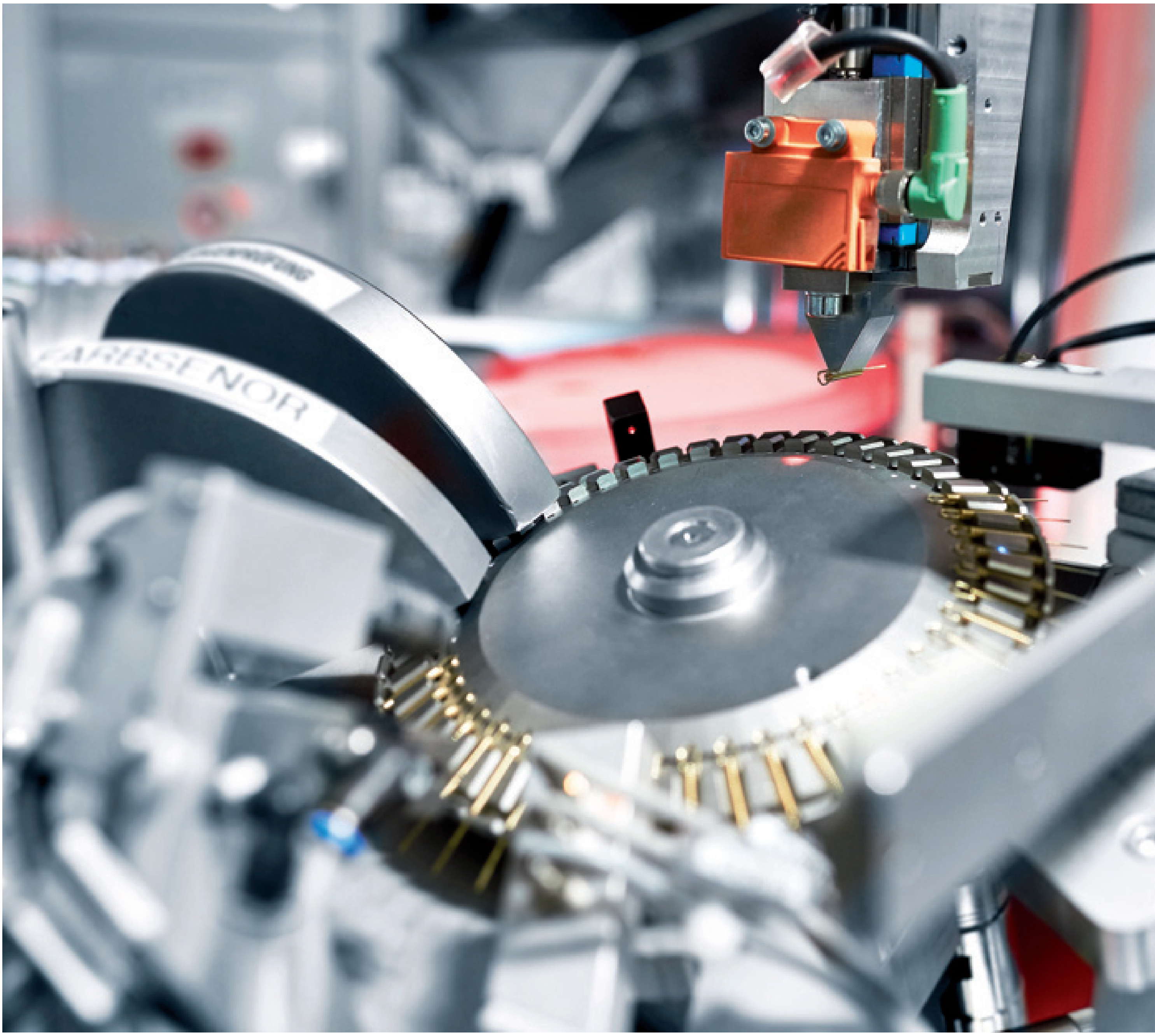
Silicon Carbide Power Module

Latest chip technology – Various connection technologies, wide output power range and highest efficiency are features combined today in SEMIKRON silicon carbide power modules. Both, hybrid and full SiC modules are available in the SEMITOP packages without a baseplate, featuring solder or press-fit pins and MiniSKiiP with its SPRiNG design for low power applications. SKiM 63/93 with sintered chips, completely solder-free and highest power densities and the 62mm baseplate module SEMITRANS 3 in a robust mechanical design complete the portfolio for applications in the medium power range.

Motor Drives · Solar Energy · Power Quality · Power Supplies · Urban Transport Equipment

Content



Product Lines

Product Classes

Service & Contact

Product Lines

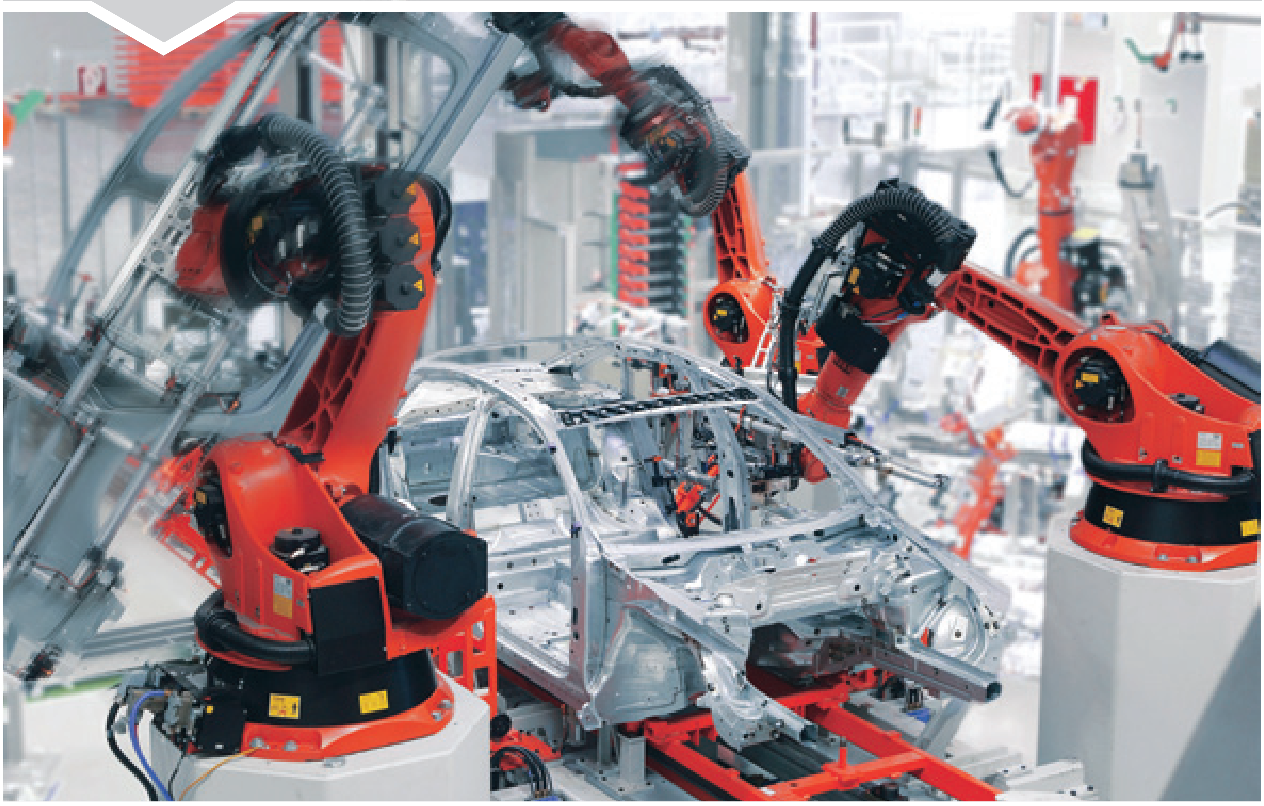
Product at a Glance

MiniSKiiP®

Low cost assembly, high production run rate, high yield

Small and compact inverter design

High reliability and long product life time



Motor Drives

Solar Energy

Power Quality

AC | DC Power Supplies

Fast, cost efficient and reliable one screw mounting

Benefits

An important mechanical feature of MiniSKiiP modules is the outstanding easy assembly and service friendly spring-contact for load and gate terminals. Compared to conventionally soldered modules, where expensive soldering equipment is required for time-consuming solder processes, no special tools are needed for MiniSKiiP assembly. Instead, a single 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 power circuit board does not need to include holes for solder pins. 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.

Key features

- Solder-free SPRiNG Technology for fast and easy assembly
- Without copper baseplate for cost efficient concept
- 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, 6-pack, twin 6-pack, H-bridge, half bridge, 3-level, bridge rectifiers with brake chopper

Further information:
www.semikron.com/miniskiip

Applications

With almost 2 decades of field experience and more than 27 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. Due to the high reliability of spring contacts, applications such as agricultural vehicles or pitch motors of windmills benefit from the MiniSKiiP technology as well.

Product range

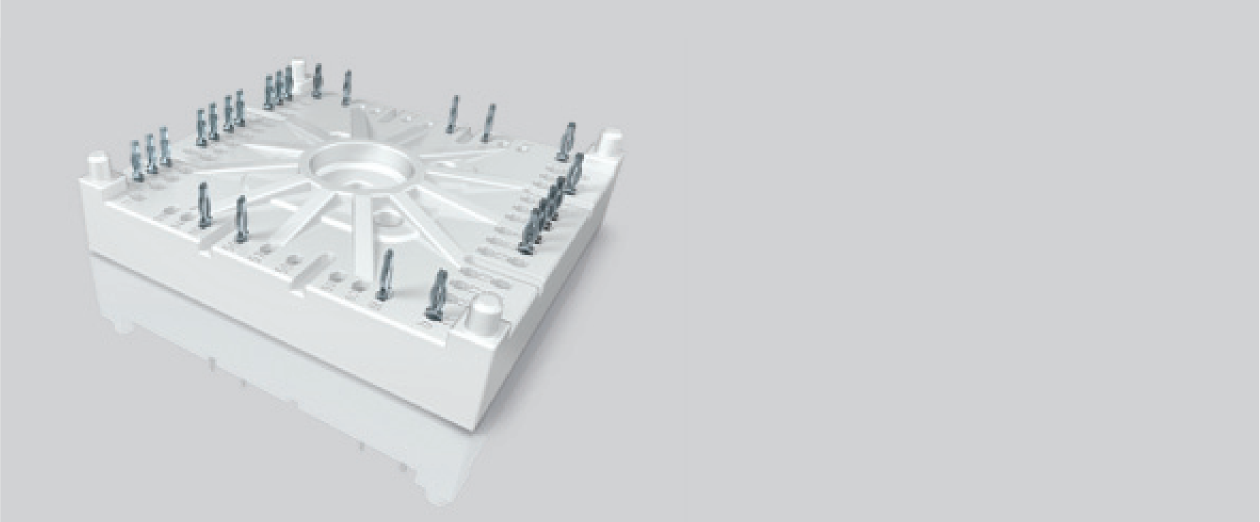
MiniSKiiP modules are designed for 600V/650V, 1200V and 1700V with 4A - 400A nominal chip currents, and feature Trench IGBT technology in combination with the SEMIKRON CAL diodes. 1200V Trench IGBT4 and CAL 4 diodes are designed for maximum junction temperatures of 175°C. In addition to CIB, 6-pack, twin 6-pack, H-bridge, half bridge, 3-level and uncontrolled/half-controlled rectifiers plus brake chopper, customer-specific modules are also available. For fast evaluation, lab test boards can be ordered for each module type.

SEMITOP®

Complex topologies in compact space

Simple pin routing thanks to terminal edge positioning

Low inductance design philosophy coupled with latest chip technologies



Solar Energy **Power Quality** **Motor Drives** **Power Supplies**

Flexibility for high integration level and high performances

Benefits

Complete family of fully compatible 12mm height modules for solder or solder free assembly to the PCB. One screw module for easy, fast and reliable assembly. Pins on the edges allow for more internal available space to fit the most complex topologies. Three level inverters are, for example, integrated in SEMITOP3 and SEMITOP4 housings. Low inductance design approach together with Si and SiC technologies available to offer the best in class solutions.

Key features

- One central mounting screw for low mounting cost
- Non-baseplate design
- Insulated module
- Low thermal resistance thanks to homogeneous pressure distribution
- Through hole solder pin terminals and press-fit terminals
- High integration level possible for compact design
- 12mm height

Further information:
www.semikron.com/semitop

Applications

SEMITOP is a useful product in the low and medium power range where flexibility and high integration levels are required. Latest available chip technologies and the ability to offer compact designs make this product suitable for different and new high performing configurations like three level inverter (NPC and TNPC), double boost and interleaved boost applications covering different markets like UPS, solar, motor drives and welding.

Product range

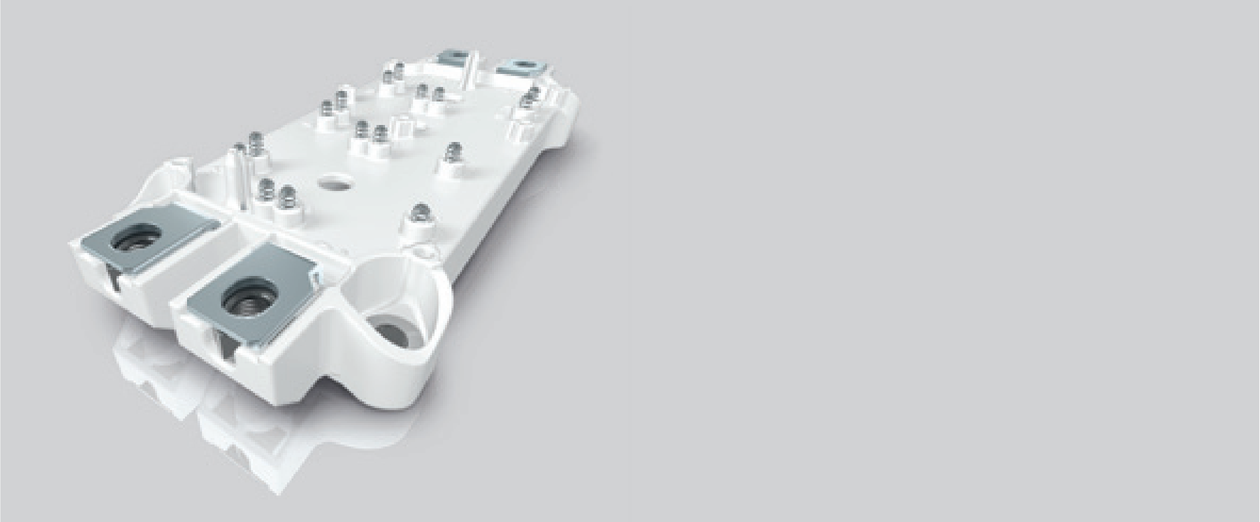
SEMITOP may include fast Si diode, fast IGBTs and MOSFETs even for high voltage. SiC Schottky diode and MOSFET can be evaluated as well. Thus a lot of different configuration with different chip combinations are possible:
- NPC inverter up to 150A/650V
- TNPC inverter up to 150A/1200V-100A/650V
- Three-phase inverter up to 200A/600V and 100A/1200V
- CIB configurations up to 100A/600V and 50A/1200V
- MOSFET configurations up to 300A
- Three-phase bridge rectifier with DC output current up to 100A
- Many other configurations are available

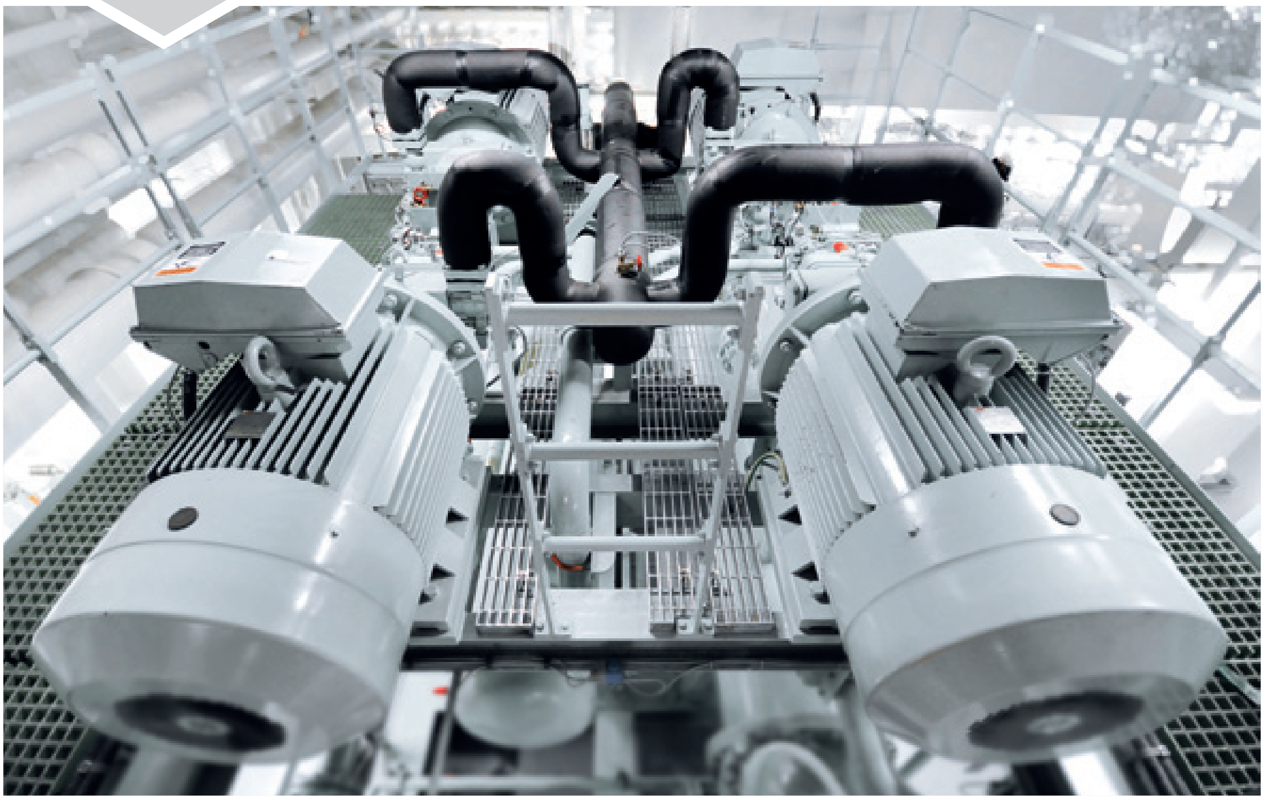
SEMiX®

Reliable spring or press-fit connection

Direct driver assembly

Flat and compact inverter design





Motor
Drives

Wind
Energy

Solar
Energy

Power
Quality

Power
Supplies

Urban Transport
Equipment

IGBT and rectifier module family for solder-free mounting

Benefits

The family concept of SEMiX includes a unification of IGBT and rectifier housings. All have the same height (17mm) and can be connected by one principle DC-link design, due to having the same interface for IGBT and rectifier stage. This saves development time and makes a simple and low-inductance DC-link profile possible. Spring or press-fit contacts allow for a gate driver mounted directly on top of the module. So there is no risk of noise on wires or loose connectors. With the flat package and separated AC and DC terminals a state-of-the-art inverter construction is possible, which is very compact. The auxiliary contacts avoid solder joints and offer highly reliable pressure contacts. This leads to an increased product reliability and lifetime. The solder-free contacts offer a fast and easy assembly process and especially spring contacts are user friendly with regard to servicing. Production at the customer site can be optimised by uniform direction of assembly (everything top down). This simplifies logistics and reduces manufacturing costs. Using the scalability of SEMiX housings, with one basic design a complete inverter line can be built with less effort. In consequence the overall costs can be reduced.

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 matrix converters, uninterruptible power supplies and electronic welding devices.

Product range

Seven different housing sizes are available in the voltage classes 600V, 1200V and 1700V for the IGBT modules. Half-bridge, 6-pack and chopper topologies are available with a current range from 75A to 600A. Besides IGBT 3 and IGBT 4 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. Latest packages are available with current sensing shunt resistor, 3-level topologies (NPC, T-NPC) or as buck-boost converters.

Key features

- Available in 600V, 1200V and 1700V and from 75A to 600A
- Multiple IGBT sources
- Solder free contacts for highest durability
- Comprehensive topologies for 2- and 3-level applications

Now also available with current sensing shunt resistor

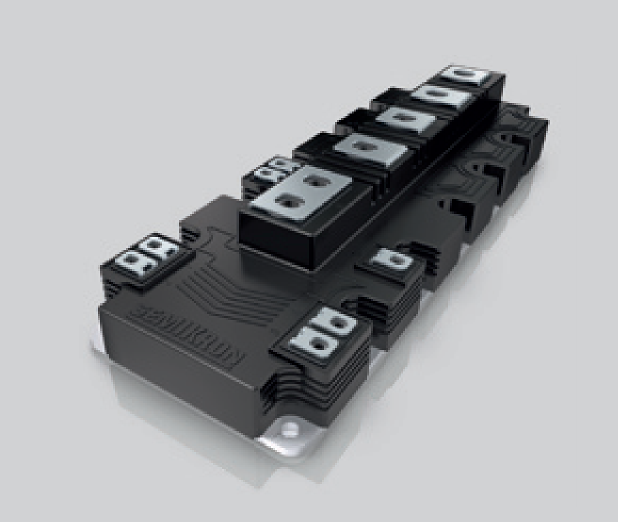
Further information:
www.semikron.com/semix

SEMITRANS®

Safe operation with high DC-link voltages

Maximum power output

Multiple IGBT sources



Motor Drives

Wind Energy

Solar Energy

Power Quality

Power Supplies

Urban Transport Equipment

Low inductance package design down to 10 nH

Benefits

The SEMITRANS package provides a low-inductive design down to 10nH which can be used for AC/DC inverters from 20kW to 1.5MW. The modules are available up to 1400A and 1700V. Availability is ensured by different IGBT sources. With a market experience of over 20 years the SEMITRANS packages offers a well proven standard design.

Applications

The proven package is designed for a broad range of applications like regenerative inverters and power supplies.
The long service life fits perfectly to ambitious applications like AC drives, switched reluctance and DC motors.

Product range

The SEMITRANS family offers a broad range of topologies and power ranges. All standard voltage classes from 600V to 1700V can be chosen. The current rating extends from 50A to 1400A. And the SEMITRANS package is available as half bridge, chopper, single switch, MLI and common emitter.

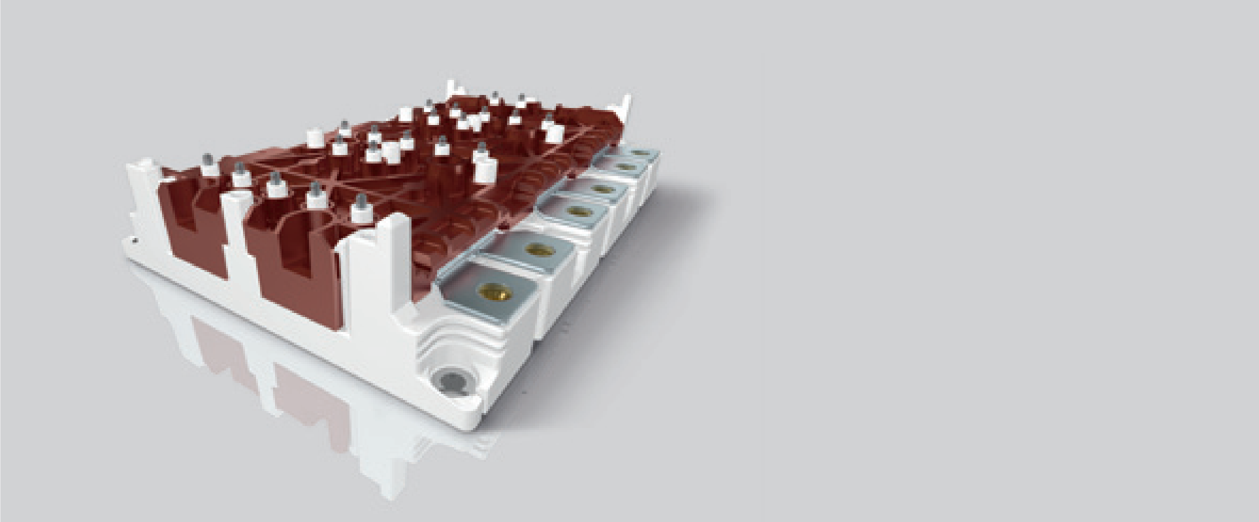
Key features

- Topologies: half bridge, chopper, single switch, MLI, common emitter
- Isolated copper baseplate using DBC Technology
- With integrated gate resitor
- High isolation voltage

Further information:
www.semikron.com/semitrans

SKiM®

- No solder delamination thanks to sintered chips – SKiM 63/93
- 1500 temperature cycles without failure – SKiM 63/93
- More than 60000 power cycles with a temperature swing of 110K – SKiM 63/93
- Pressure contact SKiiP-Technology



Motor Drives
Wind Energy
Solar Energy
Power Quality
Power Supplies
Utility Vehicles
Urban Transport Equipment

100% solder-free ensures durability

Benefits

The SKiM modules can increase the reliability of inverters by several factors, even under substantial active and passive temperature swings. This is achieved by removing all solder layers of standard power modules, replacing them with sintered chips (SKiM 63/93), pressure contacts for the main terminals and springs for the auxiliary contacts.

Thanks to the non-baseplate design and optimised chip layout, a very thin layer of thermal interface material reduces the operating temperatures significantly.

Key features

- IGBT Power module in 6-pack configuration with 3 separated half bridges – SkiM 63/93
- Available in 600V, 1200V and 1700V and from 200A to 900A
- MLI and TMLI configuration – SKiM4/5
- In 1200V, 600A also available in Buck/Boost configuration – SKiM 63/93
- Solder-free design for highest durability – SKiM 63/93
- Design without baseplate
- Solder-free mounting of the module and the driver PCB
- Low inductive design thanks to symmetrical layout

Further information:
www.semikron.com/skim

Applications

The SKiM 63/93 is designed for applications that require high inverter reliability. First of all this applies, of course, to automotive applications such as electric powertrains in electric utility vehicles, heavy-duty construction machinery and tractors, or even provide leading-edge performance in super sports and race cars. The SKiM 4/5 with its proven three level topologies can be found in ambitious applications such as solar and UPS.

Product range

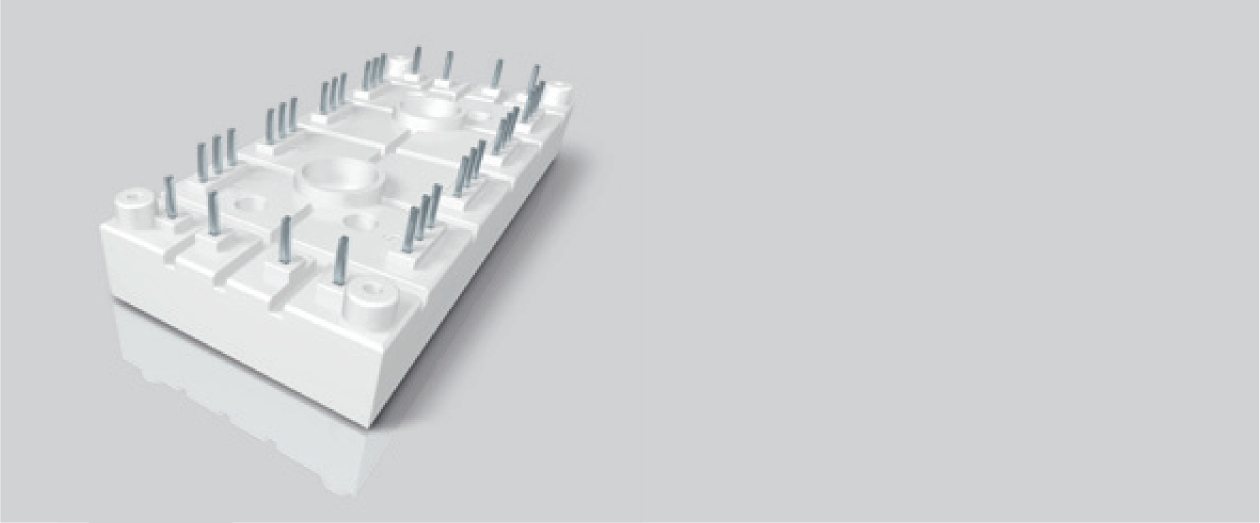
The SKiM 4/5 modules are available as 6-pack, MLI and TMLI configuration with nominal currents from 200A to 600A.

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 configu-ration for 1200V, 600A complete the portfolio.

Driver solutions are available as well as 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.

SEMIPONT®

- Compact packages with screw, fast on or lead terminals
- High insulation voltages
- Diode, thyristor rectifier, rectifier/brake chopper and AC controller



Power Quality

Compact package with various configurations

Benefits

With blocking voltages up to 1.8kV the SEMIPONT family offers high ruggedness for harsh industrial applications. The different housings with soldered PCB connection allow for compact inverter design.

Applications

Typical application areas for the broad field of SEMIPONT power bridge rectifiers include AC and DC drives, servo drives, (controlled) field rectifiers for DC motors, (controllable) rectifiers for power supplies, input rectifiers for variable frequency drives, soft motor starters, temperature control, (controlled) battery charger rectifiers, DC motor field controllers, DC motor controllers and DC power supplies.

Product range

The SEMIPONT bridge rectifier family is available in various configurations with diode and thyristor rectifiers, rectifier/brake chopper or AC controller. The compact screw mounted packages enable fast PCB mounting. High blocking voltages of up to 1800V, high ruggedness for hard industrial application, high insulation voltages are also available.

Key features

- Diode, thyristor rectifier, rectifier/brake chopper and AC controller
- From 400V up to 1.8kV blocking voltages
- From 28A up to 207A
- Compact packages with screw, fast on or lead terminals

Further information:
www.semikron.com/semipont

SEMIPACK®

Well established thyristor diode package

Market experience over 40 years

Broad power and topology range

Motor Drives

Power Quality

AC | DC Power Supplies

Comprehensive product range – industrial standard

Benefits

SEMIPACK was the first insulated module on the market, and more than 40 years later, it is still state-of-the-art. It is a well established industrial standard with regard to footprint and module outline. Due to the comprehensive product range, the optimal solution can be found for any application.
With SemiSel, the free online calculation and simulation tool for losses and temperature, the power electronic system developer is able to make the perfect power module choice.

Applications

The target applications for the thyristor, thyristor/diode or diode modules include input rectifiers (single-phase, three-phase, uncontrolled, half-controlled or controlled) for inverters or UPS systems, soft start applications and control systems.

Product range

The SEMIPACK product line offers a comprehensive product range with seven module lines: with voltages from 800V to 2200V, insulation voltages of 3.6kV, 4.8kV@1s and a current range from 15A to 1200A. Uncontrolled, half-controlled and controlled rectifier modules are available as well as single thyristor or diode modules. Also, fast diodes come in SEMIPACK modules. Furthermore, different contact technologies – soldered contact, bonded contact or pressure contact modules – are available.

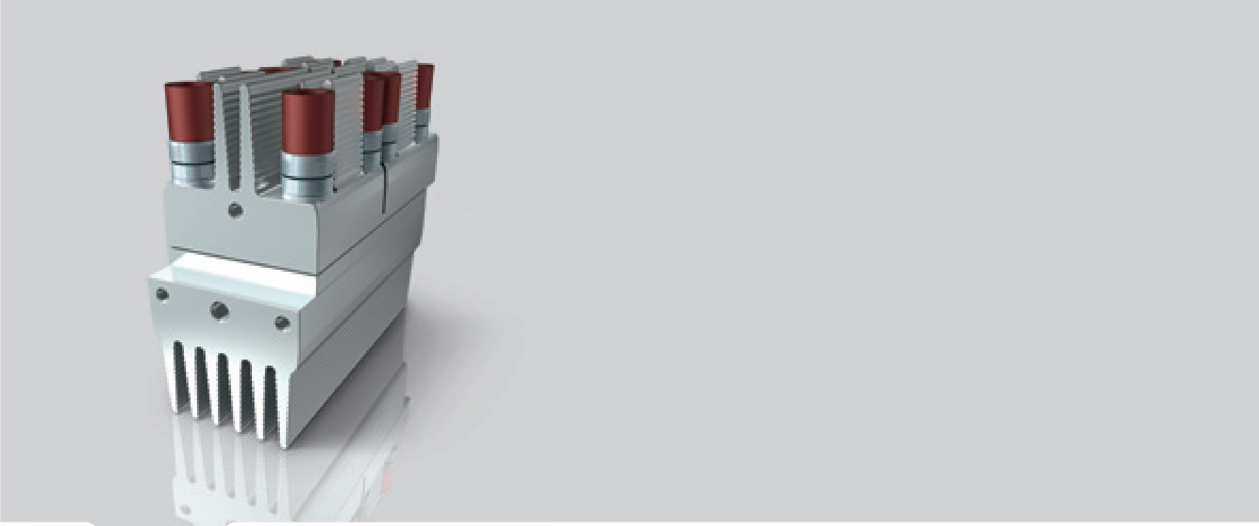
Key features

- 800V up to 2200V
- 15A up to 1200A
- Uncontrolled, half-controlled and controlled rectifier
- Single thyristors and diodes

Further information:
www.semikron.com/semipack

SEMiSTART®

- Double-sided cooling for high load cycle capability
- Robust pressure contact technology
- Low thermal resistance



Motor Drives

Robust thyristor package

Benefits

The main advantage of this power module is the high current capability in a new compact design. A 400kW soft-starter featuring SEMiSTART has just one sixth of the volume of the same device with conventional capsule thyristors.

Applications

SEMiSTART, the anti-parallel thyristor module is designed with an integrated heatsink for soft-start applications.

Product range

The SEMiSTART thyristor module is offered in five current classes, two voltages classes and three sizes.
In addition, due to pressure contact technology and double-sided chip cooling, these new thyristor modules can withstand overload currents of up to 3000A for a 20s duration of overload.

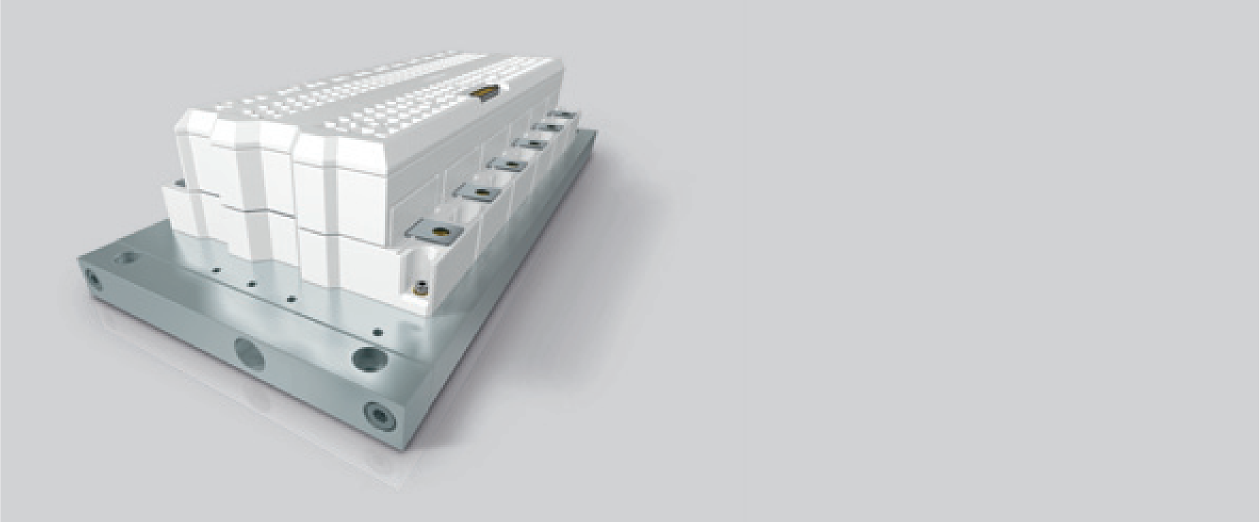
Key features

- 500A up to 3000A overload
- Double sided cooling
- Pressure contact

Further information:
www.semikron.com/semistart

SKiiP®

- 3-in-1: Driver, semiconductors and cooling
- 2-3 times higher power cycling capability due to sinter technology
- Completely assembled and 100% tested – including 1 hour burn-in test



Motor Drives **Wind Energy** **Solar Energy** **Power Quality** **Utility Vehicles** **Urban Transport Equipment**

Sintered chips – for high operating temperatures

Benefits

SKiiP4 is the most powerful IPM on the market. SKiiP4 modules enable the production of converter units with outputs of up to 2.1MW. The power semiconductors used in SKiiP4 modules can be operated at a junction temperature of up to 175°C. To make sure these components can be reliably used at these temperatures, the power circuitry is 100% solder-free. Sinter technology is used to create a sintered silver layer instead of the solder layer which could limit the service life of power modules. Reliability during active and passive thermal cycling is greatly improved. A further benefit is the better load cycling capability as compared to solder-based modules.

The integrated gate driver in the SKiiP4 sets new standards in terms of reliability and functionality. The digital driver guarantees safe isolation between the primary and secondary side, both for switching signals and all measurement parameters, such as temperature and DC link voltage. This means the user no longer has to introduce complex and costly circuit components to provide safe isolation. For the first time, the SKiiP drive features a CANopen diagnosis channel for the integration of additional functions.

Applications

The success story of the SKiiP family has progressed hand in hand with the advancement of the wind power market. The 4th generation SKiiP modules are a further improvement of the powerful SKiiP series. The mainstay of SKiiP4 modules is the wind power sector, with approximately 57GW out of the 122GW of wind power installed worldwide (at the end of 2009) featuring SEMIKRON solutions, in many cases SKiiP technology. Besides wind power applications, SKiiP modules can also be found in elevators, solar power and railway applications – in fact, in any area where powerful, safe and reliable IGBT IPMs are a must.

Product range

SKiiP4 is available for 1200V and 1700V. In both of these voltage classes, SKiiP4 modules come in the topologies 3GB 1800A, 4GB 2400A and – new to the SKiiP family – 6GB 3600A. The wide range of accessories is now available for both SKiiP3 and SKiiP4. Among them the fiber optic boards, the boards for paralleling of SKiiP systems and the adapter board for connection of SKiiP4 to SKiiP3 controller.

Key features

System

- DC-Link monitoring (SKiiP3, SKiiP4)
- Current sensors (SKiiP3, SKiiP4)
- Temperature measurement (SKiiP3, SKiiP4)
- CAN diagnostic interface (SKiiP4)
- 100% solder-free (SKiiP4)
- Water, air and customized cooler

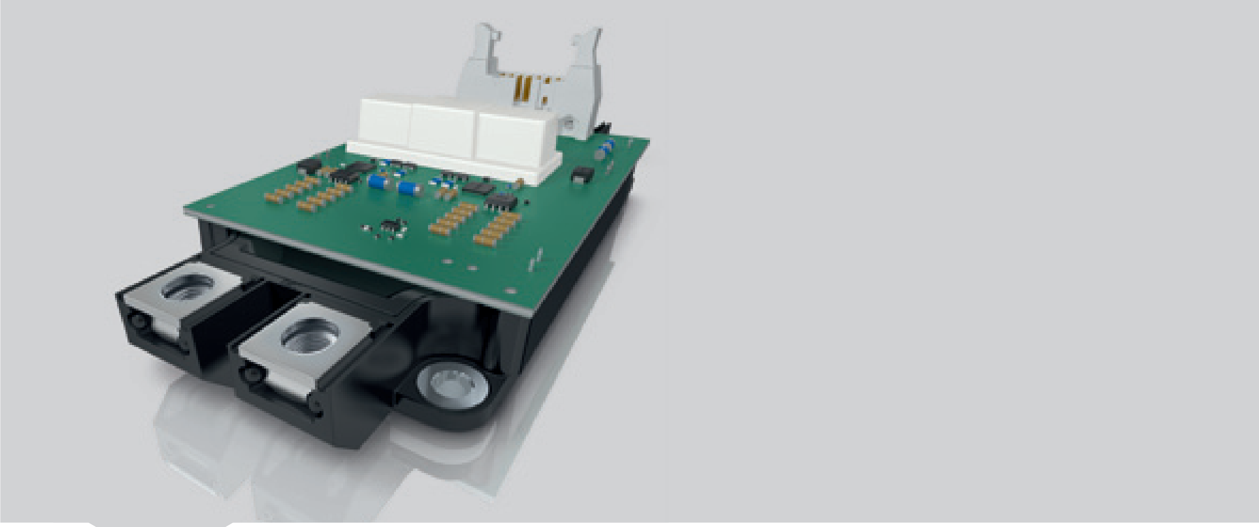
Production and Test

- 100% tested (function, isolation, protection function)
- Burn-In (SKiiP3 on request, SKiiP4 = 100%)

Further information:
www.semikron.com/skiip

SKYPER®

- MTBF rate of 5 x 10^6 hours (29500) with new SEMIKRON ASIC chipset
- Safe gate control with separate signal transmission
- 7kV burst durability due to interlayer connection and metal pad ASICs



Motor Drives

Solar Energy

Power Quality

Urban Transport Equipment

SKYPER drives 3 x longer

Benefits

The high integration of SEMIKRON's new ASIC chipset provides for safe IGBT gate control over the whole lifecycle. Short circuits are managed very fast by separate error channels.
SoftOff and over voltage feedback avoid dangerous overvoltages. The mixed signal ASICs guarantee lowest tolerances over the full temperature range. MLI or paralleled IGBT topologies are managed by the adjustable error handling.
With an optimized interface and the adjustable filter setting the SKYPER IGBT driver survives external interferences over 100% of EN standards.

Key features

- Two driver channels for IGBT single and half bridges
- For 600V, 1200V and 1700V IGBT modules
- Driving up to 2500A
- Short pulse suppression and EMC cage
- SoftOff and separate error channels
- Adjustable filter and failure management
- Customized adapter boards on request

Further information:
www.semikron.com/skyper

Applications

The new SKYPER 42 LJ offers the benefits of digital signal consistency while maintaining full performance. Ambitious applications such as medical or large drives up to 300kW are securely powered. SKYPER 32 is the perfect solution for industrial drives and process control applications. SKYPER 42 meets the requirements of induction heating / welding applications that call for high currents, durable solar inverters and motor drives between 300kW and 1.5MW. SKYPER Prime drives Primepack and SEMITRANS 10 modules up to 1700V and 1400A. The new SKYPER 12 PF is the benchmark for motor drives applications based on 17mm press fit modules.

Product range

The SKYPER drivers are available as IGBT driver cores and plug and play driver. The SKYPER platform can drive 600V, 1200V and 1700V IGBT modules. SKYPER 32 drives with a standard and a PRO version 1W per channel. The PRO version has additional protection features like external failure inputs and SoftOff. The SKYPER 42 has 4W per channel and can drive up to 2500A IGBTs. The SKYPER 42 LJ with 2W per channel closes the gap between SKYPER 32 and 42. With the new ASIC chipset, the fast failure management and the consistent signal conditioning the 42LJ is the latest driver core of SEMIRKON. The latest IGBT drivers are SKYPER Prime and SKYPER 12 PF. Both offer as fully qualified Plug & Play driver maximum performance when using SEMiX P or SEMITRANS 10 modules.

SEMISTACK® CLASSICS

Off-the-shelf product range

Air cooled power assemblies

Ready for integration

Motor Drives

Power Quality

Urban Transport Equipment

Standards for LV diode/thyristor rectifiers

Benefits

The SEMISTACK CLASSICS family range has been set up for fast integration of an industrial rectifier. Each power bridge has been sized to embed semi-conductors with suitable RC commutation circuit, proper AC fuses and cooling devices.

Applications

- Regulated/unregulated power supplies
- Alternator excitation
- Motor control
- Soft starters
- Soft charge
- Industrial heating

Product range

The SEMISTACK CLASSICS family range consists of a 125 item list, corresponding to four electrical topologies B6C, B6HK, B6U, W3C. All rectifiers include RC commutation circuit and fuses. Some are offered with a cooling system, heatsink temperature is monitored by thermo switches. Depending on the semiconductor technology, SEMISTACK CLASSICS power assemblies can be isolated (SEMIPACK) or non-isolated (capsule and stud screw).

Key features

- 4 topologies B6C, B6U, B6HK, W3C
- Maximum continuous DC current from 60A up to 4015A_{DC}
- Rectifier AC voltage up to 500V_{AC}
- DC bus voltage up to 670V_{DC}
- RC, fuses, cooling fans and thermo switches included

Further information:
www.semikron.com/semistack-classics

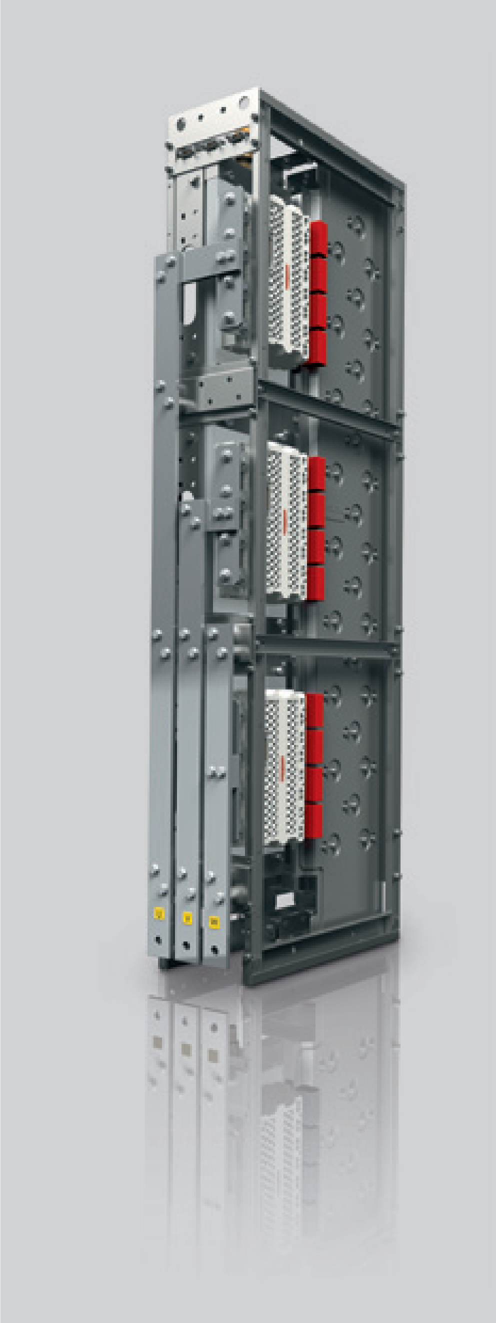
SEMISTACK® RE

Pre-qualified water cooled IGBT power assemblies

IGBT inverter power density up to 11.4kVA/L

2- and 4-quadrant 3-phase converter

Long life expectancy



Wind Energy

Solar Energy

Low voltage optimized converter for wind and solar PV

Benefits

The SEMISTACK RE offers a pre-qualified power assembly ready for integration following rigorous SEMIKRON qualification and current environmental standards (IEC 60721-3).
The platform design has been optimized to get the best compromise cost/performance for a water-cooled power inverter in the megawatt power range.
The book format enables a compact integration in standard industrial cabinets to achieve high power up to 6MVA low voltage. Specified for wind turbine applications, the SEMISTACK RE offers a high IGBT cycling capability and a high capacitor bank lifetime, reducing maintenance.

Key features

- Maximum continuous output current from 600A up to $1400A_{RMS}$
- Switching frequency up to 5kHz
- Inverter output voltage up to $690V_{AC}$
- DC bus voltage up to $1250V_{DC}$
- DC bus polypropylene capacitor bank lifetime rated at 100,000 hours at 40 °C
- Analogue measurement T, V_{BUS}, I_{OUT}
- CAN interface (configuration and monitoring)
- Brake chopper optional

Further information:
www.semikron.com/semistack-re

Applications

The SEMISTACK RE complies with wind turbine requirements, offering the capability to built 4-quadrant converters suitable with synchronous generator and double fed induction generators, with an optional brake chopper design. The platform flexibility allows to match requirement of solar PV central inverters with a DC bus voltage up to 900VDC continuous.
Alternatively, SEMISTACK RE can be used in low-voltage applications requiring high power and high reliability, such as 3-phase inverters in a shipyard or in a battery energy storage unit installed close to renewable energy power plants.

Product range

The SEMISTACK RE platform offers a standard inverter size HWD 1500 x 230 x 510 mm to fit two power sub-assemblies into a 600 x 600 x 2000 mm cabinet. The standard size has a current distribution between 1000A and 1400A.
For applications with lower current rating or with a stronger constraint on the cabinet size, a smaller inverter size HWD 1250 x 230 x 510 mm offers continuous output current rated from 600A to $900A_{RMS}$.

The SEMISTACK RE embeds the SKiiP IPM product family which integrates the IGBT gate driver and monitoring analogue outputs (temperature, output current and DC bus voltage).
As an option, a CAN interface for supervising the SKiiP.
To increase power capacity up to 6MVA, SEMISTACK RE can be put in parallel, connected together through the DC bus and controlled all-like-one with a SEMIKRON paralleling board.
As an option, SEMISTACK RE platform can be offered as an integration into an industrial cabinet with suitable AC and/or DC power filters, electrical and hydraulic distribution.

SEMIKUBE®

- Air cooled IGBT power assembly
- Maximum output current from 150A up to 1500A
- Fits into 300mm cabinets
- Fully integrated safety management

AC | DC

Motor Drives

Solar Energy

Power Supplies

Air cooled IGBT converter family up to 1MVA

Benefits

Extending the SEMIKUBE portfolio, the SEMIKUBE SlimLine platform is a family of pre-qualified power assemblies which follow the same rigorous SEMIKRON qualification and certifications. The platform integrates advanced technologies which maximize performance and power density.
SEMIKUBE SlimLine platform has been designed to fit applications in severe environments. Suitable for outdoor cabinets, the platform can be placed in environments subject to high temperature fluctuations. Extremely slim, the platform can be mounted into 300mm deep cabinets.
SEMIKUBE, by its modular design and patented DC clamp, enables the construction of various converter topologies. The platform design facilitates easy arrangement in the cabinet owing to the separation of the main cooling air flow through the heatsink and its IP54 rated mounting flange.

Applications

Following the philosophy of the SEMIKUBE, the SEMIKUBE SlimLine is optimised for solar PV central inverters. Sized for the most commonly used central inverter ratings on the market, i.e. 500kW, 670kW up to 900kW, the SEMIKUBE SlimLine 3-phase inverter operates up to 1000VDC bus voltage.

Designed in accordance with IEC 62109, the platform is poised to obtain UL 1000V recognition. SEMIKUBE SlimLine complies with most AC drives application requirements. The current measurement precision of 1% (at 25°C) allows for premium motor control required for highly dynamic applications and motion control systems.

Product range

The SEMIKUBE offers four frame sizes of continuous rated current from 150A to 1500A, using SEMITRANS 1200V IGBT Trench E4 modules. SEMIKUBE SlimLine design is optimised for 3-phase inverter topologies. Dedicated rectifier with 3-phase inverter and optional brake chopper may be added.
The IGBTs are controlled by a SEMIKRON embedded driver, which provides error management, and analogue outputs of current, DC voltage and heatsink temperature. A CAN interface is available for parameter configuration and diagnostics monitoring.
Air cooling for SEMIKUBE SlimLine is provided by highly efficient long life axial fans, realizing maximum power within a compact package.
SEMIKUBE is a more versatile product, allowing converter construction around a common DC link, including four quadrant converters, and multiphase converters.

Key features

- Power density up to 7.5kVA/L
- Four frame sizes ranging from 75kVA up to 1300kVA
- AC output voltage up to 500VAC
- Current measurement accuracy <1%
- $T_{HEATSINK}$, V_{BUS}, I_{OUT}: analogue measurement or CAN monitoring
- Operating temperature range: -30°C to +60°C
- Integration into 300mm deep cabinet
- UL1741 1000V ready
- 100% tested in production

Further information:
www.semikron.com/semikube

SKiiPRACK®

- Pre-qualified water cooled IGBT power assemblies
- IGBT Inverter power density at 10.4kVA/L
- Flexible mounting
- High reliability and long life expectancy

Motor Drives

Wind Energy

Versatile high power inverter platform

Benefits

The SKiiPRACK offers a pre-qualified power assembly ready for integration following rigorous SEMIKRON qualification and current environmental standards (IEC 60721-3).
Based on a "Cell" construction, the SKiiPRACK platform offers high flexibility for designing numerous electrical topologies and for a convenient integration into standard industrial cabinets.
The SKiiPRACK has been designed for applications requesting high reliability and a long life time up to 20 years. Totally dismountable, the cell concept eases maintenance phases, reducing the time of handling and application stops.

Key features

- Maximum continuous output current from 600A up to 1200A_{RMS}
- Switching frequency up to 5kHz
- Inverter output voltage up to 690V_{AC}
- DC bus voltage up to 1100 $_{VDC}$
- DC bus polypropylene capacitor bank lifetime rated at 100,000 hours at 40 °C
- Analogue measurement T, V_{BUS}, I_{OUT}
- As possible options:
- Brake chopper, additional capacitor bank, DC bus electrolytic capacitor bank, diode/thyristor rectifier cells

Further information:
www.semikron.com/skiiprack

Applications

The SKiiPRACK complies with wind turbine requirements, offering the capability to build 4-quadrant converters suitable for synchronous generators and double fed induction generators, with an optional brake chopper design.
The platform flexibility allows matching electrical topologies of AC drive applications to power AC induction motors up to 1MW, in particular for pumps or in shipyards.

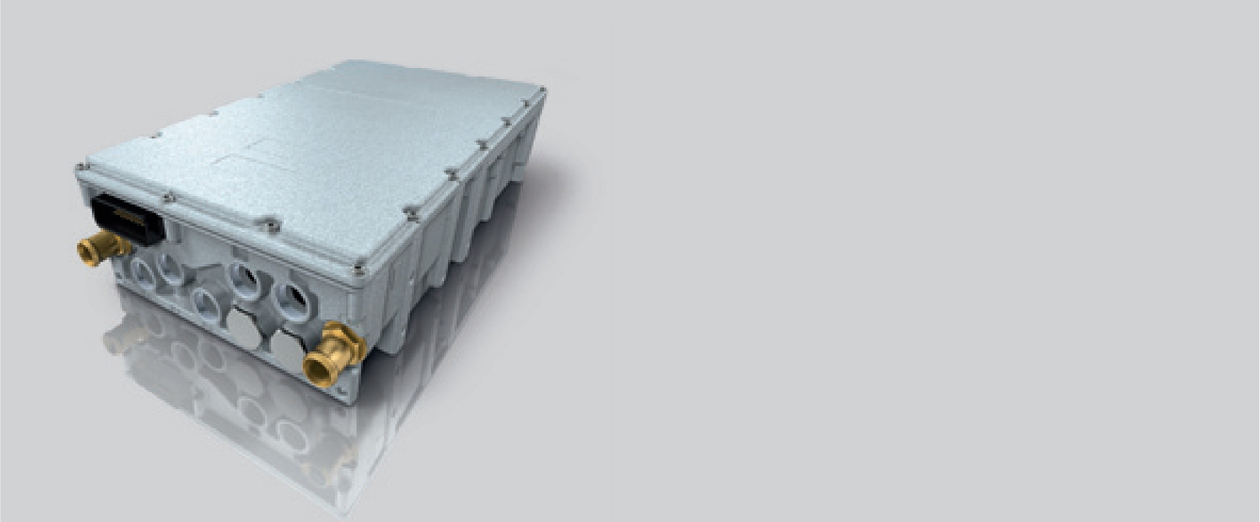
Product range

The SKiiPRACK platform consists of a cell HWD 525 x 375 x 470 mm to be assembled with others cells to create a functional unit in standard cabinets 600 mm deep and 2,000mm high. A cell can integrate an H-bridge, a 1-phase leg + brake chopper or 12-pulse rectifier, and combination of them can create 3-phase inverter, 4-quadrant converter or 3-phase rectifier and inverter. The output current range offers scalability from 600A to 1200A continuous.

The SKiiPRACK embeds the SKiiP IPM product family which integrates the IGBT gate driver and monitoring analogue outputs (temperature, output current and DC bus voltage).
As an option, a CAN interface for supervising the SKiiP.
To increase power capacity up to 5MVA, SKiiPRACK can be put in parallel, connected in a very flexible way (horizontal or vertical) together through the DC bus and controlled all-like-one with a SEMIKRON paralleling board. As an option, SKiiPRACK platform can be offered with integration in an industrial cabinet with suitable AC and/or DC power filters, electrical and hydraulic distribution.

SKAI®2

- Suitable for battery voltages 24V up to 800V
- Sintered power semiconductors
- EMI compliant
- “off-the-shelf” variants with gate driver interface, vector control software, automotive power connections



Utility
Vehicles

Urban Transport
Equipment

Most compact power electronic system „off-the-shelf“ for electro-mobility

Benefits

The SKAI power electronic platform – now in its 2nd generation – comprises highly integrated inverters which provide the ideal powertrain solution for mobile electric and hybrid applications. Power densities of up to 20 kVA / liter provide a notable size reduction compared with other available standard inverter products. The systems are designed to operate with supply voltages of 24V up to 800V and with output power ratings of up to 250 kVA.

The IGBT-based SKAI 2 HV inverter operates on sintered 100% solder-free 600V or 1200V power semiconductors and it features polypropylene film DC-link capacitors. The MOS-based SKAI 2 LV inverter uses the established SkiiP technology with a very low-inductive connection to the DC-link capacitors, driver electronics, latest generation DSP controller, current, voltage and temperature sensors. It is integrated in a waterproof IP67 enclosure. The compact inverters withstand high vibration amplitudes up to 10g rms. QUASAR motor control software functionally complements the system and completes this tried-and-tested package. SEMIKRON provides engineering services to support customers in the integration of the SKAI 2 inverter systems. Available services include, for instance, lifetime estimation, field application support, individual parameterization of motor control software etc.

Applications

The SKAI 2 ”Off-the-Shelf“ power electronic building block family has been introduced to cover a broad range of vehicle electrification applications. Examples are electric drivetrains with standardized motor/generator flanges to fit or retrofit the drives easily into existing vehicle designs. These types of drivetrains have been developed for many vehicle types , i.e. buses, light trucks, agriculture and construction machinery as well as marine applications or cars.

Product range

There are versatile SKAI 2 HV ”Off-the-Shelf“ variants available. The SKAI 2 LV is available as single or dual inverter for supply voltages between 24V and 120V. Cooling methods are liquid, forced air cooling or base plate. There are different optional services available like end-of-line flashing of customer specific software, lifetime estimation based on application profile analysis, field application support, individual parameterization of motor control software and further services on request.

Key features

- Compact integration in IP 67 enclosure
- Voltage, current and temperature sensors
- Gate driver with protection
- IGBT/ MOSFET power semiconductors
- Fully programmable digital signal processor
- EMI filters
- Versatile cooling system (liquid cooled, forced air cooled, base plate)
- DC link capacitors
- Motor control software

Further information:
www.semikron.com/skai

Product Classes

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 6A to 1400A in voltage classes from 600V to 1700V.

The IGBT modules are used in a variety of applications offering key technologies like sintering, spring or pressfit contacts for easy and fast assembly.

Different topologies like CIB (converter inverter brake), halfbridge, H-bridge, 6-pack and 3-level are available in order to cover almost all application fields.

The latest IGBT chip and diode technologies offer optimized switching performance up to Tj max= 175°C.

For detailed information
please refer data sheets.

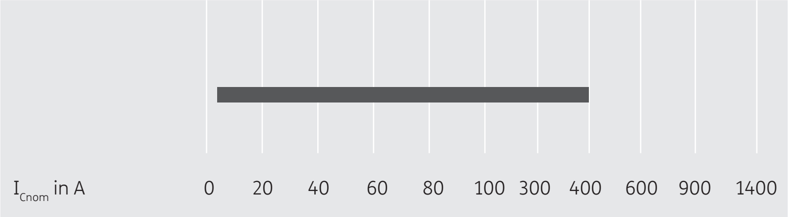
Further information:
www.semikron.com/igbt-modules

IGBT Modules

MiniSKiiP®

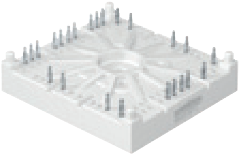
6-pack
3-level
H-bridge
CIB
half bridge
twin 6-pack

600V up to 1700V

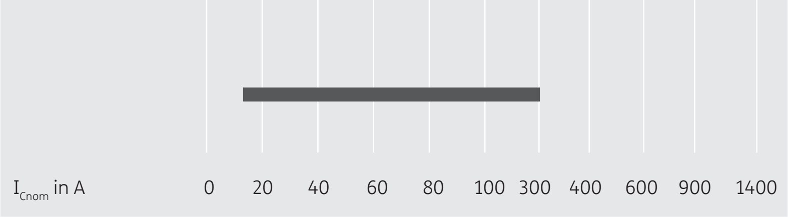


SEMITOP®

half bridge
6-pack
3-level
chopper
H-bridge
CIB



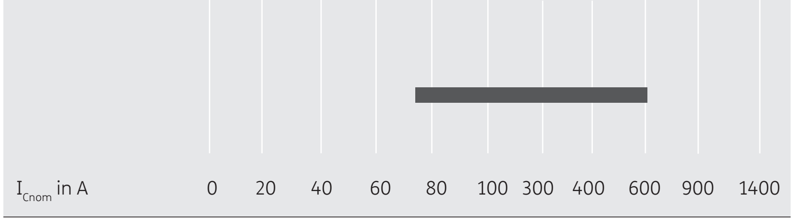
600V up to 1200V



SEMiX®

half bridge
6-pack
3-level
chopper
buck-boost converter

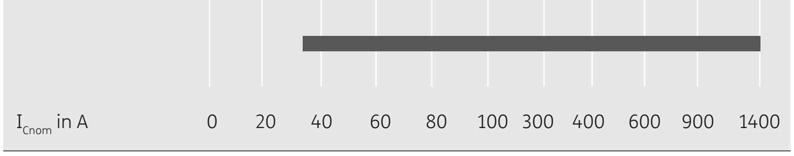
600V up to 1700V



SEMITRANS®

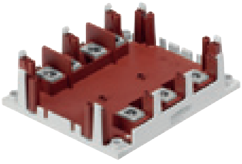
half bridge
6-pack
chopper
single switch

600V up to 1700V

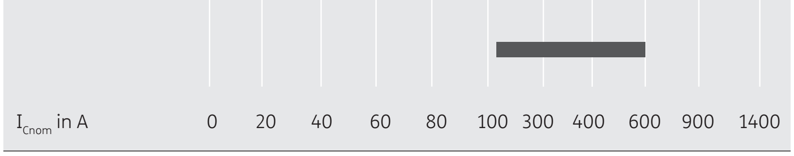


SKiM® 4/5

6-pack
3-level

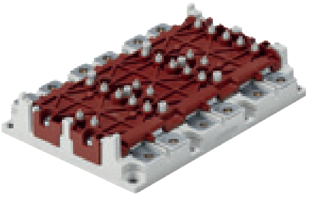


600V up to 1700V

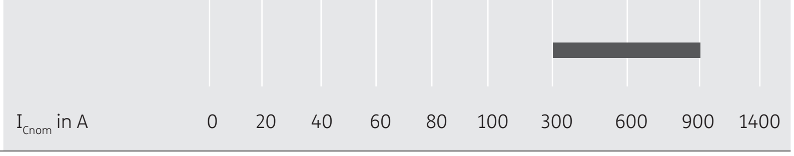


SKiM® 63/93

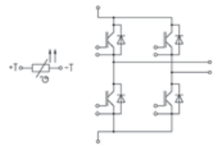
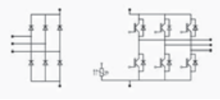
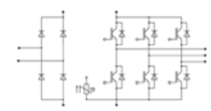
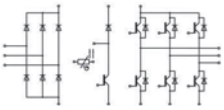
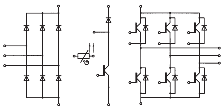
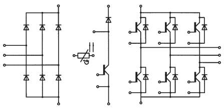
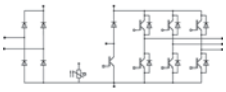
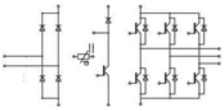
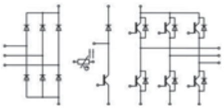
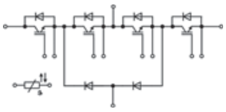
6-pack
chopper



600V up to 1700V

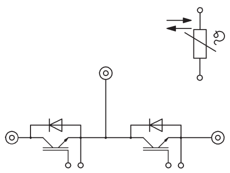
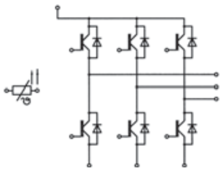
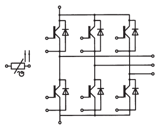
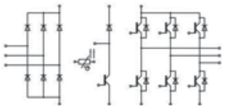
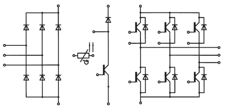
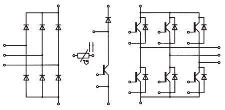
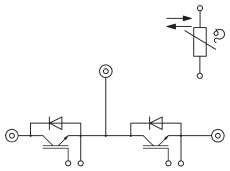
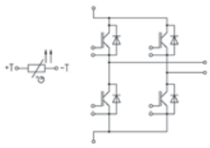


IGBT Modules / MiniSKiiP

Type	IGBT						Diode				Rectifier		Module	
	I_C @ T_S = 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-s)}$	I_F@ T_S = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-s)}$	I_{FSM} @ T_j = 25°C	$R_{th(j-s)}$	Case	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W	A	K/W		Circuit
600V - IGBT3 (Trench)														
SKiiP 16GH066V1	65	50	1.45	1.7	1.7	0.95	56	1.50	1.3	1.6	-	-	II 1	
SKiiP 27GH066V1	88	75	1.45	2.7	3	0.75	77	1.50	1.8	1.2	-	-	II 2	
SKiiP 28GH066V1	112	100	1.45	3.4	3.5	0.6	112	1.30	3.3	0.8	-	-	II 2	
SKiiP 01NAC066V3	12	6	1.45	0.3	0.2	2.4	12	1.30	0.2	3	220	1.5	II 0	
SKiiP 02NAC066V3	20	10	1.45	0.5	0.3	2	20	1.30	0.5	2.5	220	1.5	II 0	
SKiiP 01NEC066V3	12	6	1.45	0.3	0.2	2.4	12	1.30	0.2	3	220	1.5	II 0	
SKiiP 02NEC066V3	20	10	1.45	0.5	0.3	2	20	1.30	0.5	2.5	220	1.5	II 0	
SKiiP 03NEC066V3	27	15	1.45	0.6	0.5	1.8	28	1.40	0.5	2.5	220	1.5	II 0	
SKiiP 11NAB066V1	12	6	1.45	0.3	0.2	2.4	12	1.30	0.2	3	220	1.5	II 1	
SKiiP 12NAB066V1	20	10	1.45	0.5	0.3	2	20	1.30	0.5	2.5	220	1.5	II 1	
SKiiP 13NAB066V1	27	15	1.45	0.6	0.5	1.8	28	1.40	0.5	2.5	220	1.5	II 1	
SKiiP 14NAB066V1	33	20	1.45	0.75	0.7	1.6	31	1.60	0.55	2.5	220	1.5	II 1	
SKiiP 25NAB066V1	43	30	1.45	0.9	1.2	1.35	39	1.50	1.1	2.1	370	1.5	II 2	
SKiiP 26NAB066V1	65	50	1.45	1.6	1.6	0.95	56	1.50	1.3	1.6	370	1.5	II 2	
SKiiP 37NAB066V1	88	75	1.45	2.7	3	0.75	77	1.50	1.8	1.2	700	0.9	II 3	
SKiiP 38NAB066V1	112	100	1.45	3.4	3.5	0.6	112	1.30	3.3	0.8	700	0.9	II 3	
SKiiP 02NEB066V3	20	10	1.45	0.5	0.3	2	20	1.30	0.5	2.46	220	1.5	II 0	
SKiiP 03NEB066V3	27	15	1.45	0.6	0.5	1.8	28	1.40	0.5	2.5	220	1.5	II 0	
SKiiP 25NEB066V1	43	30	1.45	0.9	1.2	1.35	39	1.50	1.1	2.1	370	1.5	II 2	
600V - NPT IGBT (Standard)														
SKiiP 11NAB065V1[2]	12	6	2.00	0.3	0.2	1.9	12	1.30	0.2	2.5	220	1.5	II 1	
SKiiP 12NAB065V1[2]	20	10	2.00	0.3	0.3	1.5	20	1.40	0.2	2.5	220	1.5	II 1	
SKiiP 13NAB065V1[2]	24	15	2.00	0.6	0.3	1.4	26	1.40	0.4	2.2	220	1.5	II 1	
SKiiP 14NAB065V1[2]	29	20	2.00	0.7	0.4	1.25	26	1.60	0.4	2.2	370	1.25	II 1	
650V - IGBT3 (Trench)														
SKiiP 26MLI07E3V1[1]	98	75	1.45	2.8	2.8	0.6	75	1.5	1.4	1	-	-	II 2	
SKiiP 27MLI07E3V1[1]	110	100	1.45	4.2	4.2	0.6	107	1.4	3.5	0.8	-	-	II 2	
SKiiP 28MLI07E3V1[1]	135	150	1.45	5.5	5.6	0.55	126	1.4	5.5	0.75	-	-	II 2	
SKiiP 39MLI07E3V1[1]	159	200	1.45	3.6	8.9	0.5	163	1.4	8.3	0.6	-	-	II 3	

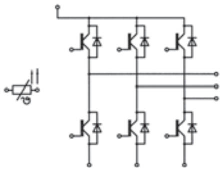
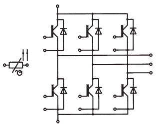
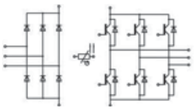
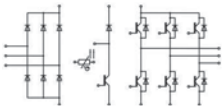
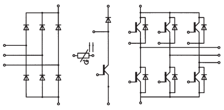
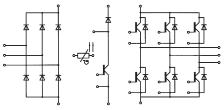
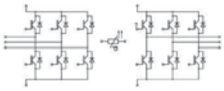
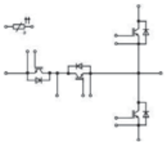
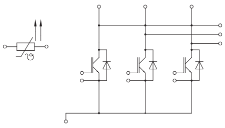
Footnotes: 1) New product / 2) Not for new design / 8) Target data

IGBT Modules / MiniSKiiP

Type	IGBT						Diode				Rectifier		Module	
	I_C @ T_S = 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-s)}$	I_F @ T_S = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-s)}$	I_{FSM} @ T_j = 25°C	$R_{th(j-s)}$	Case	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W	A	K/W		Circuit
650V - IGBT3 (Trench)														
SKiiP 24GB07E3V1[1]	185	150	1.45	2.2	5.1	0.33	161	1.5	3.7	0.45	-	-	II 2	
SKiiP 26GB07E3V1[1]	229	200	1.45	4.4	7.4	0.28	235	1.4	4.5	0.35	-	-	II 2	
SKiiP 38GB07E3V1[1]	287	300	1.45	5.5	10.6	0.25	310	1.4	5.1	0.28	-	-	II 3	
1200V - IGBT3 (Trench)														
SKiiP 11AC126V1[2]	16	8	1.70	0.9	1	1.5	14	1.90	0.9	2.5	-	-	II 1	
SKiiP 12AC126V1[2]	28	15	1.70	1.7	1.9	1.15	26	1.60	1.2	1.95	-	-	II 1	
SKiiP 13AC126V1[2]	41	25	1.70	4.1	3.1	0.9	30	1.80	2.2	1.7	-	-	II 1	
SKiiP 23AC126V1[2]	41	25	1.70	3.7	3.1	0.9	30	1.80	2.6	1.7	-	-	II 2	
SKiiP 24AC126V1[2]	52	35	1.70	4.2	4.4	0.75	38	1.80	3.5	1.5	-	-	II 2	
SKiiP 25AC126V1[2]	73	50	1.70	5.8	6.5	0.55	62	1.60	5.1	1	-	-	II 2	
SKiiP 26AC126V1[2]	88	70	1.70	9	7.7	0.5	91	1.50	7.5	0.7	-	-	II 2	
SKiiP 37AC126V2[2]	97	75	1.70	9.6	8.7	0.45	90	1.60	9.6	0.7	-	-	II 3	
SKiiP 38AC126V2[2]	118	105	1.70	13.1	13	0.4	118	1.60	11.2	0.55	-	-	II 3	
SKiiP 39AC126V2[2]	157	140	1.70	19.9	17.2	0.3	167	1.50	16.2	0.4	-	-	II 3	
SKiiP 11NAB126V1[2]	16	8	1.70	0.8	1	1.5	14	1.90	0.9	2.5	220	1.5	II 1	
SKiiP 12NAB126V1[2]	28	15	1.70	2	1.9	1.15	26	1.60	1.3	1.95	220	1.5	II 1	
SKiiP 23NAB126V1[2]	41	25	1.70	3.5	3	0.9	30	1.80	2.5	1.7	370	1.25	II 2	
SKiiP 23NAB126V10[2]	41	25	1.70	3.5	3	0.9	30	1.80	2.5	1.7	635	0.9	II 2	
SKiiP 24NAB126V1[2]	52	35	1.70	4.6	4	0.75	38	1.80	3.3	1.5	370	1.25	II 2	
SKiiP 24NAB126V10[2]	52	35	1.70	4.6	4	0.75	38	1.80	3.3	1.5	635	0.9	II 2	
SKiiP 35NAB126V1[2]	73	50	1.70	6.5	6.1	0.55	62	1.60	4.7	1	700	0.9	II 3	
SKiiP 36NAB126V1[2]	88	70	1.70	9	7.7	0.5	91	1.50	7.5	0.7	700	0.9	II 3	
1200V - IGBT4 (Trench)														
SKiiP24GB12T4V1[1]	170	150	1.85	10.8	15.6	0.32	157	2.2	10.3	0.41	-	-	II 2	
SKiiP26GB12T4V1[1]	224	200	1.80	13.6	22.1	0.25	194	2.2	13.4	0.34	-	-	II 2	
SKiiP38GB12E4V1[1]	329	300	1.85	19.1	34.6	0.17	267	2.2	21.5	0.26	-	-	II 3	
SKiiP39GB12E4V1[8]	388	400	1.80	24	48.5	0.16	330	2.2	28.9	0.22	-	-	II 3	
SKiiP 26GH12T4V11	90	70	1.85	9.5	7.1	0.55	83	2.2	5.6	0.75	-	-	II 2	

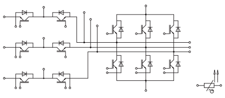
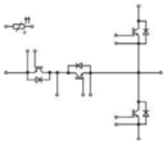
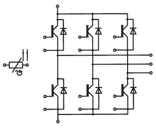
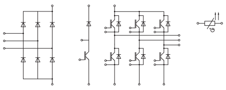
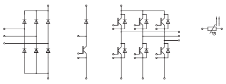
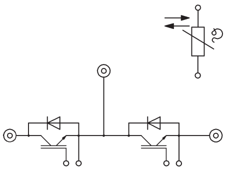
Footnotes: 1) New product / 2) Not for new design / 8) Target data

IGBT Modules / MiniSKiiP

Type	IGBT						Diode				Rectifier		Module	
	I_C @ T_S = 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-s)}$ K/W	I_F @ T_S = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-s)}$ K/W	I_{FSM} @ T_j = 25°C A	$R_{th(j-s)}$ K/W	Case	Circuit
1200V - IGBT4 (Trench)														
SKiiP 11AC12T4V1	12	8	1.85	0.87	0.75	1.84	15	2.3	0.53	2.53	-	-	II 1	
SKiiP 12AC12T4V1	18	15	1.85	1.65	1.5	1.3	23	2.4	0.79	1.92	-	-	II 1	
SKiiP 13AC12T4V1	41	25	1.85	3.7	2.4	1	32	2.4	1.64	1.52	-	-	II 1	
SKiiP 23AC12T4V1	41	25	1.85	3.7	2.4	1	32	2.4	1.64	1.52	-	-	II 2	
SKiiP 24AC12T4V1	52	35	1.85	3.7	3	0.85	44	2.3	2.3	1.2	-	-	II 2	
SKiiP 25AC12T4V1	69	50	1.85	6	4.5	0.71	60	2.2	3.2	0.95	-	-	II 2	
SKiiP 26AC12T4V1	90	70	1.85	9.5	7.1	0.55	83	2.2	5.6	0.75	-	-	II 2	
SKiiP 37AC12T4V1	90	75	1.85	11.5	6.8	0.58	83	2.2	5.5	0.75	-	-	II 3	
SKiiP 38AC12T4V1	115	100	1.80	13.7	9.7	0.48	100	2.2	6.5	0.66	-	-	II 3	
SKiiP 39AC12T4V1	167	150	1.85	22.5	14	0.33	136	2.1	11.4	0.52	-	-	II 3	
SKiiP 02NAC12T4V1	6	4	1.85	0.66	0.37	2.49	7.5	1.8	0.34	2.53	220	1.5	II 0	
SKiiP 03NAC12T4V1	7.5	8	1.85	0.9	0.7	1.84	9	2.3	0.5	2.53	220	1.5	II 0	
SKiiP 10NAB12T4V1	6	4	1.85	0.66	0.37	2.49	7.5	1.8	0.34	2.53	220	1.5	II 1	
SKiiP 11NAB12T4V1	12	8	1.85	0.87	0.74	1.84	15	2.3	0.57	2.53	220	1.5	II 1	
SKiiP 12NAB12T4V1	18	15	1.85	1.4	1.3	1.3	23	2.40	1.1	1.92	220	1.5	II 1	
SKiiP 23NAB12T4V1	37	25	1.85	2.65	2.3	1.2	32	2.40	1.6	1.52	370	1.25	II 2	
SKiiP 23NAB12T4V10	37	25	1.85	2.65	2.3	1.2	30	2.4	1.6	1.52	700	0.9	II 2	
SKiiP 24NAB12T4V1	48	35	1.85	4.3	3.25	1	44	2.3	2.4	1.2	370	1.25	II 2	
SKiiP 24NAB12T4V10	48	35	1.85	4.3	3.25	1	44	2.3	2.4	1.2	700	0.9	II 2	
SKiiP 34NAB12T4V1	52	35	1.85	4.3	3.3	0.85	44	2.3	2.4	1.2	370	1.25	II 3	
SKiiP 34NAB12T4V10	52	35	1.85	4.3	3.3	0.85	44	2.3	2.4	1.2	700	0.9	II 3	
SKiiP 35NAB12T4V1	69	50	1.85	6	4.7	0.71	60	2.25	3.4	0.95	700	0.9	II 3	
SKiiP 37NAB12T4V1	90	75	1.85	9.7	6.8	0.58	83	2.2	4.9	0.75	700	0.9	II 3	
SKiiP 37NAB12T4V10	90	75	1.85	-	-	-	-	2.2	-	0.75	700	-	II 3	
SKiiP 38NAB12T4V1	115	100	1.80	11.2	10	0.48	99	2.2	6.5	0.66	1000	0.7	II 3	
SKiiP 12ACC12T4V10$^{1)}$	18	15	1.85	1.7	1.4	1.3	23	2.4	1.1	1.92	60	2.5	II 1	
SKiiP 23ACC12T4V10$^{1)}$	41	25	1.85	3.7	2.4	1	32	2.4	1.64	1.52	65	1.92	II 2	
SKiiP 24ACC12T4V10$^{1)}$	52	35	1.85	4.2	3.1	0.85	44	2.3	2.2	1.2	100	1.52	II 2	
SKiiP 39TMLI12T4V2$^{1)}$	235	200	1.80	7.5	12.8	0.23	194	2.2	9.7	0.34	-	-	II 3	
SKiiP 39GA12T4V1	167	150	1.85	22.5	14	0.33	136	2.1	11.4	0.52	-	-	II 3	

Footnotes: 1) New product / 2) Not for new design / 8) Target data

IGBT Modules / MiniSKiiP

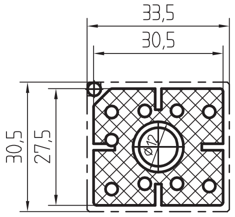
Type	**IGBT**						**Diode**				**Rectifier**		**Module**	
	I_C @ T_S= 25°C	**I_{Cnom}**	**$V_{CE(sat)}$ @ T_j = 25°C typ.**	**E_{on}**	**E_{off}**	**$R_{th(j-s)}$**	**I_F@ T_S = 25°C**	**V_F @ T_j = 25°C typ.**	**E_{rr}**	**$R_{th(j-s)}$**	**I_{FSM} @ T_j = 25°C**	**$R_{th(j-s)}$**	**Case**	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W	A	K/W		Circuit
1200V - IGBT4 (Fast Trench)														
SKiiP35TMLI12F4V2[8]	54	40	2.05	-	-	0.763	44	2.3	-	1.225	-	-	II 3	
SKiiP 28TMLI12F4V1[1]	93	80	2.05	3.4	2.2	0.49	76	2.2	1.7	0.86	-	-	II 2	
SKiiP 29TMLI12F4V1[8]	-	150	2.05	-	-	0.33	-	2.2	-	0.45	-	-	II 2	
1700V - IGBT3 (Trench)														
SKiiP 38AC176V2[1]	-	100	2.00	23.8	32.2	-	-	1.8	26.2	-	-	-	II 3	
SKiiP 24NAB176V1[1]	38	29	2.00	5.1	6.3	0.91	48	2	4.9	1.14	370	1.32	II 2	
SKiiP 34NAB176V3[1]	67	58	2.00	11.2	12.8	0.57	66	2.1	6.6	0.84	635	0.86	II 3	
1700V - IGBT4 (Trench)														
SKiiP 22GB17E4V1[1]	117	100	1.90	22.2	30.7	0.43	91	2	20.9	0.7	-	-	II 2	
SKiiP 24GB17E4V1[1]	177	150	1.90	26	46	0.28	149	2	32.4	0.41	-	-	II 2	
SKiiP 36GB17E4V1[1]	224	200	1.90	37	66	0.23	193	2	47	0.32	-	-	II 3	
SKiiP 38GB17E4V1[1]	341	300	1.90	47	102	0.15	267	2	69	0.24	-	-	II 3	

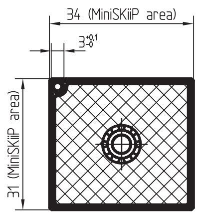
Footnotes: 1) New product / 2) Not for new design / 8) Target data

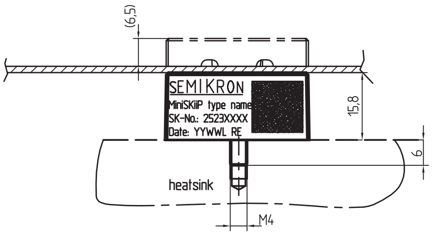
IGBT Modules / MiniSKiiP

Cases

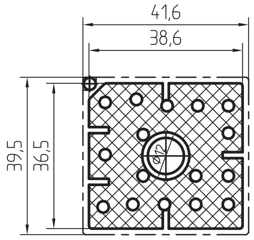
MiniSKiiP II 0

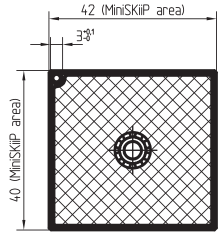




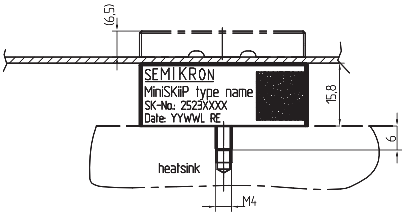


MiniSKiiP II 1

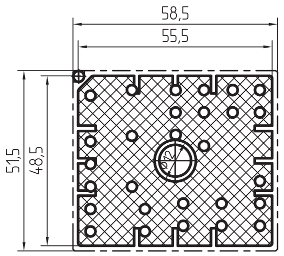


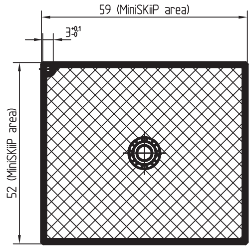


pin configuration depends on circuit
(details in data sheet)

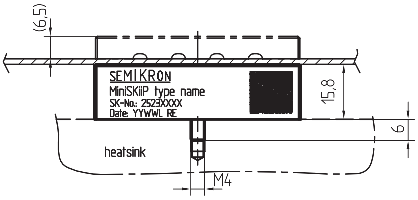


MiniSKiiP II 2

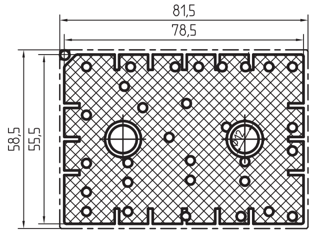


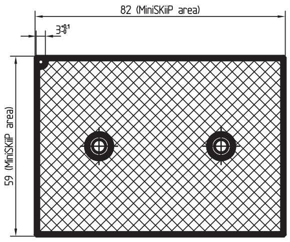


pin configuration depends on circuit
(details in data sheet)

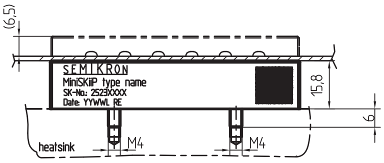


MiniSKiiP II 3



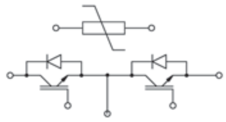
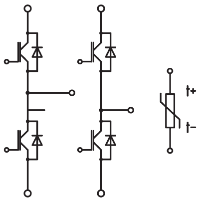
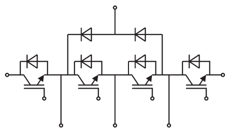
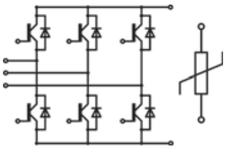
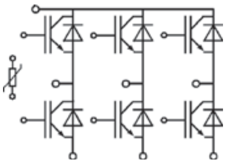
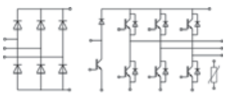
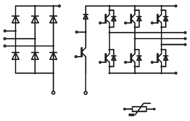
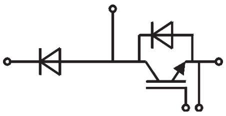


pin configuration depends on circuit
(details in data sheet)



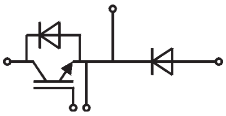
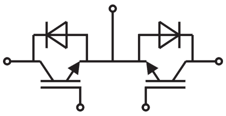
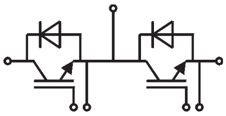
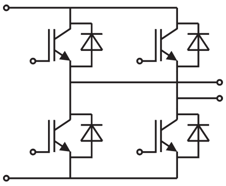
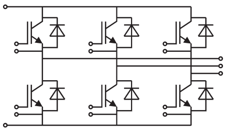
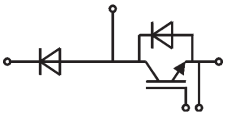
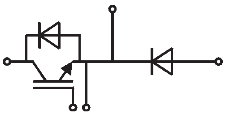
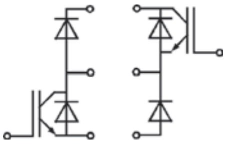
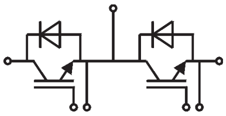
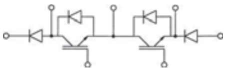
Dimensions in mm

IGBT Modules / SEMITOP

Type	**IGBT**						**Diode**				**Rectifier**		**Module**	
	I_C @ T_S = 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-s)}$	I_F @ T_S = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-s)}$	$R_{th(j-s)}$	I_{FSM} @ T_j = 25°C	Case	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W	K/W	A		Circuit
600V - IGBT3 (Trench)														
SK 75 GB 066 T	77	75	1.45	3.1	2.8	0.94	62	1.35	0.85	1.55	-	-	3	
SK 100 GB 066 T	96	100	1.45	7	6	0.78	108	1.35	1.7	0.91	-	-	3	
SK 150 GB 066 T	124	150	1.45	6.25	5.7	0.55	135	1.35	1.7	0.73	-	-	3	
SK 30 GBB 066 T	40	30	1.45	0.97	1.77	1.65	36	1.45	0.26	2.1	-	-	3	 t+ t-
SK 50 GBB 066 T	60	50	1.45	2.2	1.73	1.11	56	1.50	0.72	1.7	-	-	3	
SK 75 GBB 066 T	77	75	1.45	3.1	2.8	0.94	77	1.35	0.85	1.55	-	-	3	
SK 20 MLI 066	30	20	1.45	0.4	1.07	1.95	30	1.60	0.2	2.46	-	-	3	
SK 30 MLI 066	40	30	1.45	0.97	1.77	1.65	37	1.50	0.26	2.3	-	-	3	
SK 30 MLI 066p[8]	37	30	1.45	0.97	1.77	1.65	34	1.50	0.26	2.3	-	-	3p	
SK 50 MLI 066	60	50	1.45	1.46	2.02	1.11	56	1.50	1.07	1.7	-	-	3	
SK 75 MLI 066 T	83	75	1.45	1.7	2.8	0.75	92	1.50	1.1	1.2	-	-	4	
SK 100 MLI 066 T	105	100	1.45	2.5	4.2	0.65	110	1.35	1.9	0.9	-	-	4	
SK 150 MLI 066 T	151	150	1.45	2.7	5.9	0.55	115	1.50	2.6	0.72	-	-	4	
SK 75 GD 066 T	83	75	1.45	3.1	2.8	0.75	92	1.35	0.85	1.2	-	-	4	
SK 100 GD 066 T	105	100	1.45	7	6	0.65	99	1.30	1.7	0.8	-	-	4	
SK 150 GD 066 T	151	150	1.45	6.25	5.7	0.55	198	1.30	1.7	0.54	-	-	4	
SK 200 GD 066 T	174	200	1.45	13.9	12	0.45	99	1.30	3.4	0.8	-	-	4	
SK 20 GD 066 ET	30	20	1.45	0.34	0.63	1.95	31	1.45	0.2	2.46	-	-	3	
SK 30 GD 066 ET	40	30	1.45	0.97	1.77	1.65	36	1.45	0.26	2.1	-	-	3	
SK 50 GD 066 ET	60	50	1.45	2.2	1.73	1.11	56	1.50	0.72	1.7	-	-	3	
SK 20 DGDL 066 ET	30	20	1.45	0.3	0.6	1.95	27	1.40	0.2	2.46	2.15	220	3	
SK 30 DGDL 066 ET	40	30	1.45	0.55	1.15	1.65	36	1.50	0.53	2.3	1.7	370	3	
SK 50 DGDL 066 T	69	50	1.45	2.2	1.74	0.95	54	1.35	0.73	1.6	1.5	370	4	
SK 75 DGDL 066 T	81	75	1.45	3.1	2.8	0.75	64	1.35	0.9	1.2	0.9	700	4	
SK 100 DGDL 066 T	106	100	1.45	4.4	3.5	0.65	99	1.10	1.45	0.8	0.9	700	4	
600V - NPT IGBT (Standard)														
SK 45 GAL 063	45	50	2.10	1.4	1.2	1	57	1.45	0.25	1.2	-	-	2	

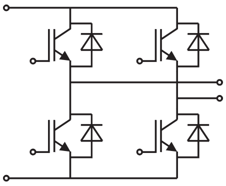
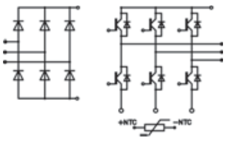
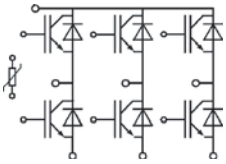
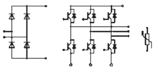
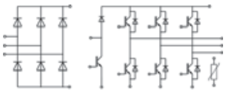
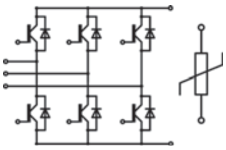
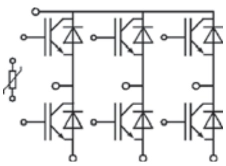
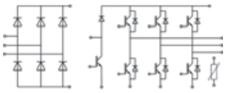
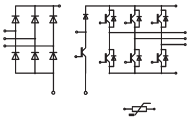
Footnotes: 8) Target data

IGBT Modules / SEMITOP

Type	IGBT						Diode				Rectifier		Module	
	I_C @ T_S = 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-s)}$	I_F@ T_S = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-s)}$	$R_{th(j-s)}$	I_{FSM} @ T_j = 25°C	Case	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W	K/W	A		Circuit
600V - NPT IGBT (Standard)														
SK 45 GAR 063	45	50	2.10	1.4	1.2	1	57	1.45	0.25	1.2	-	-	2	
SK 80 GM 063	81	100	2.00	3	2.3	0.6	105	1.30	0.2	1.2	-	-	2	
SK 45 GB 063	45	50	2.10	1.4	1.2	1	57	1.45	0.25	1.2	-	-	2	
SK 80 GB 063	81	100	2.10	4	3	0.6	79	1.40	1.2	0.9	-	-	3	
SK 15 GH 063	20	15	2.00	0.71	0.4	1.9	20	1.45	0.45	1.2	-	-	2	
SK 25 GH 063	30	30	2.10	1.1	0.8	1.4	36	1.45	0.25	1.7	-	-	2	
SK 45 GH 063	45	50	2.10	1.4	1.2	1	57	1.30	0.9	1.2	-	-	3	
SK 13 GD 063	18	10	2.10	0.6	0.4	2	22	1.45	0.1	2.3	-	-	3	
SK 25 GD 063	30	30	2.10	1.3	0.9	1.4	36	1.45	0.25	1.7	-	-	3	
SK 45 GD 063	45	50	2.10	1.4	1.2	1	36	1.45	0.25	1.7	-	-	3	
600V - NPT IGBT (Ultrafast)														
SK 50 GAL 065	54	60	2.00	1.1	0.7	0.85	57	1.30	0.2	1.2	-	-	2	
SK 50 GAR 065	54	60	2.00	1.1	0.7	0.85	57	1.30	0.2	1.2	-	-	2	
SK 55 GARL 065 E	54	60	1.70	1.1	0.76	0.85	36	1.45	0.9	1.7	-	-	3	
SK 75 GARL 065 E	80	90	1.70	2.71	2.75	0.6	57	1.30	0.2	1.2	-	-	3	
SK 50 GB 065	54	60	2.00	1.1	0.7	0.85	64	1.45	0.55	1.1	-	-	2	
SK 50 GARL 065 F	54	60	1.70	1.03	0.8	0.85	82	1.70	-	2.3	-	-	2	
SK 50 GARL 065 USA	54	60	1.70	1.07	0.76	0.85	64	1.40	-	2.3	-	-	2	

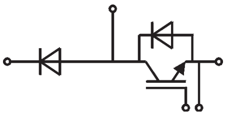
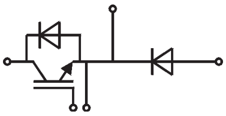
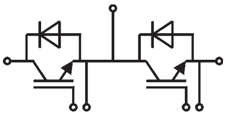
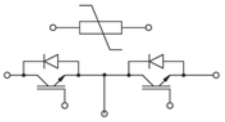
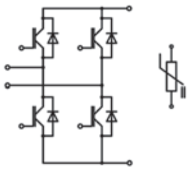
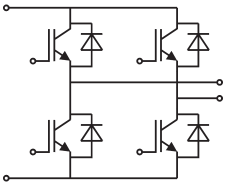
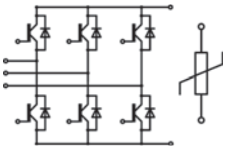
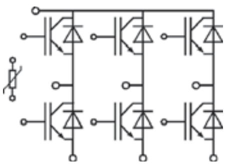
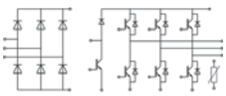
Footnotes: 8) Target data

IGBT Modules / SEMITOP

Type	IGBT						Diode				Rectifier		Module	
	I_C @ T_S = 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-s)}$ K/W	I_F @ T_S = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-s)}$ K/W	$R_{th(j-s)}$ K/W	I_{FSM} @ T_j = 25°C A	Case	Circuit
600V - NPT IGBT (Ultrafast)														
SK 50 GH 065 F	54	60	2.00	1.07	1.76	0.85	82	1.10	0.42	1.1	-	-	3	
SK 9 DGD 065 ET	12	6	2.00	0.22	0.12	2.6	20	1.35	0.31	2.7	2.15	220	3	
SK 20 DGD 065 ET	26	20	2.00	0.66	0.4	1.7	25	1.60	-	1.7	1.7	370	3	
SK 35 GD 065 ET	45	50	2.00	1.3	0.6	1	36	1.90	0.9	1.7	-	-	3	
SK 10 BGD 065 ET	17	6	2.00	0.18	0.13	2	22	1.30	0.18	2.3	2.7	220	3	
SK 9 BGD 065 ET	12	6	2.00	0.22	0.12	2.6	20	1.35	0.31	2.7	2.15	220	3	
SK 10 DGDL 065 ET	17	6	2.00	0.18	0.13	2	22	1.30	0.18	2.3	2.7	220	3	
SK 20 DGDL 065 ET	24	20	2.00	0.69	0.39	1.7	25	1.60	-	1.7	2	220	3	
1200V - IGBT3 (Trench)														
SK 50 GD 126 T	68	50	1.70	4.6	6.3	0.6	62	1.35	3.6	1	-	-	4	
SK 75 GD 126 T	88	75	1.70	11.3	10	0.5	91	1.46	6	0.7	-	-	4	
SK 100 GD 126 T	114	100	1.70	9.8	11.7	0.4	118	1.50	7.3	0.55	-	-	4	
SK 10 GD 126 ET	15	8	1.70	1	1	2	25	1.90	1.4	2.1	-	-	3	
SK 15 GD 126 ET	22	15	1.70	2	1.8	1.6	25	1.60	1.4	2.1	-	-	3	
SK 25 GD 126 ET	32	25	1.70	3.3	3.1	1.2	28	1.80	2.1	1.9	-	-	3	
SK 35 GD 126 ET	40	35	1.70	4.6	4.3	1.05	34	1.80	2.9	1.7	-	-	3	
SK 10 DGDL 126 ET	15	8	1.70	1	1	2	25	1.90	1.4	2.1	2.7	220	3	
SK 15 DGDL 126 ET	22	15	1.70	2	1.8	1.6	25	1.60	1.1	2.1	2	220	3	
SK 25 DGDL 126 T	41	25	1.70	2.8	3.1	0.9	30	1.50	2	1.7	1.5	370	4	
SK 35 DGDL 126 T	52	35	1.70	3.7	4.8	0.75	38	1.50	3	1.5	1.25	370	4	
SK 50 DGDL 126 T	68	50	1.70	4.6	6.3	0.6	62	1.35	3.6	1	0.9	700	4	

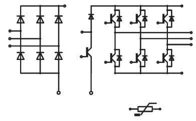
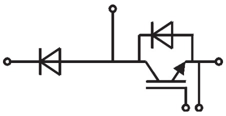
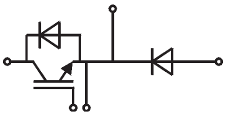
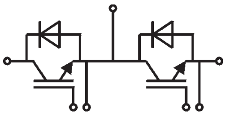
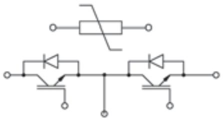
Footnotes: 8) Target data

IGBT Modules / SEMITOP

Type	IGBT						Diode				Rectifier		Module	
	I_C @ T_S = 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-s)}$ K/W	I_F @ T_S = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-s)}$ K/W	$R_{th(j-s)}$ K/W	I_{FSM} @ T_j = 25°C A	Case	Circuit
1200V - IGBT4 (Trench)														
SK 35 GAL 12T4	44	35	1.85	3.27	3.3	1.21	38	2.3	1.46	1.55	-	225	2	
SK 35 GAR 12T4	44	35	1.85	3.27	3.3	1.21	38	2.3	1.46	1.55	-	225	2	
SK 25 GB 12T4	37	25	1.85	2.27	2.7	1.31	30	2.40	1.28	1.91	-	-	2	
SK 35 GB 12T4	44	35	1.85	3.27	3.3	1.21	40	2.30	1.46	1.55	-	-	2	
SK 50 GB 12T4 T	71	50	1.85	8.3	5	0.9	50	2.20	2.15	1.24	-	-	3	
SK 75 GB 12T4 T	80	75	1.85	13.6	8.2	0.74	70	2.10	3.39	0.97	-	-	3	
SK 100 GB 12T4 T	100	100	1.85	16.6	10	0.6	85	2.25	5.2	0.87	-	-	3	
SK 50 GH 12T4 T	75	50	1.80	8.3	5	0.65	56	2.20	2.15	1.05	-	-	4	
SK 100 GH 12T4 T	126	100	1.80	16.6	10	0.43	102	2.20	5.2	0.62	-	-	4	
SK 25 GH 12T4	35	25	1.85	2.27	2.7	1.31	28	2.41	1.28	1.91	-	-	3	
SK 50 GD 12T4 T	75	50	1.85	8.3	5	0.65	60	2.20	2.15	0.97	-	-	4	
SK 50 GD 12T4 Tp	75	50	1.85	8.3	5	0.65	60	2.22	2.15	0.97	-	-	4p	
SK 75 GD 12T4 T	102	75	1.85	13.6	8.2	0.51	83	2.20	3.38	0.75	-	-	4	
SK 75 GD 12T4 Tp[8]	99	75	1.85	13.6	8.2	0.51	83	2.17	3.38	0.75	-	-	4p	
SK 100 GD 12T4 T	126	100	1.85	16.6	10	0.43	102	2.25	5.2	0.62	-	-	4	
SK 10 GD 12T4 ET	17	8	1.85	0.41	0.76	2.2	15	2.38	0.41	2.7	-	-	3	
SK 15 GD 12T4 ET	27	15	1.85	0.83	1.52	1.65	21	2.38	0.82	2.34	-	-	3	
SK 25 GD 12T4 ET	37	25	1.85	2.27	2.7	1.31	30	2.40	1.28	1.91	-	-	3	
SK 25 GD 12T4 ETpNEW	37	25	1.85	2.27	2.7	1.31	28	2.41	1.28	1.91	-	-	3p	
SK 35 GD 12T4 ET	44	35	1.85	3.27	3.3	1.21	40	2.30	1.46	1.55	-	-	3	
SK 10 DGDL 12T4 ET	17	8	1.85	0.41	0.75	2.2	15	2.38	0.41	2.7	2	220	3	
SK 15 DGDL 12T4 ET	27	15	1.85	0.82	1.52	1.65	21	2.38	0.82	2.34	2	220	3	

Footnotes: 8) Target data

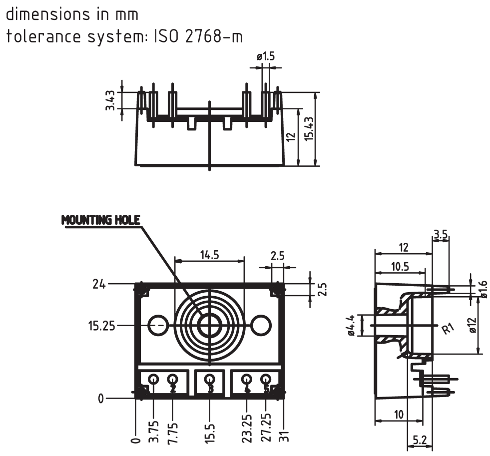
IGBT Modules / SEMITOP

Type	IGBT						Diode				Rectifier		Module	
	I_C @ T_S= 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-s)}$ K/W	I_F@ T_S = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-s)}$ K/W	$R_{th(j-s)}$ K/W	I_{FSM} @ T_j = 25°C A	Case	Circuit
1200V - IGBT4 (Trench)														
SK 25 DGDL 12T4 T	45	25	1.85	2.27	2.7	0.96	30	2.40	-	1.7	1.25	370	4	
SK 35 DGDL 12T4 T	58	35	1.85	3.27	3.3	0.8	46	2.30	1.46	1.37	1.25	370	4	
SK 50 DGDL 12T4 T	75	50	1.85	8.3	5	0.65	60	2.22	2.15	0.97	0.9	700	4	
1200V - NPT IGBT (Ultrafast)														
SK 60 GAL 125	51	50	3.20	8.36	3.32	0.6	43	2.00	2	1.16	-	-	2	
SK 60 GAR 125	51	50	3.20	8.36	3.32	0.6	43	2.00	2	1.16	-	-	2	
SK 60 GB 125	51	50	3.20	8.36	3.32	0.6	57	-	2	0.9	-	-	3	
SK 80 GB 125 T	85	75	3.20	9.9	5	0.32	90	2.00	1	0.65	-	-	3	

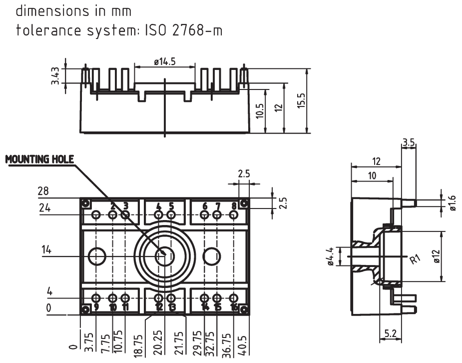
Footnotes: 8) Target data

Cases

SEMITOP 1



SEMITOP 2

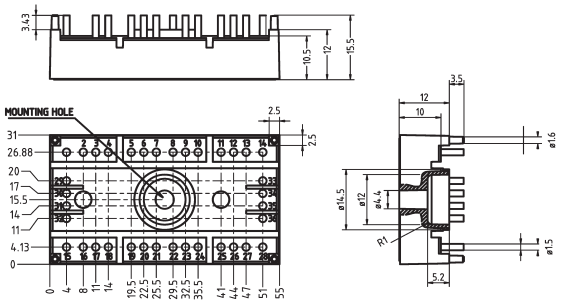


Dimensions in mm

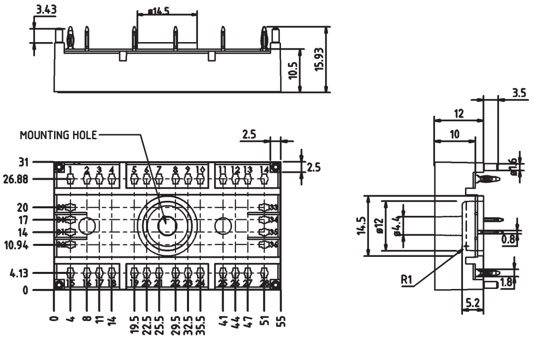
Cases

SEMITOP 3

dimensions in mm
tolerance system: ISO 2768-m

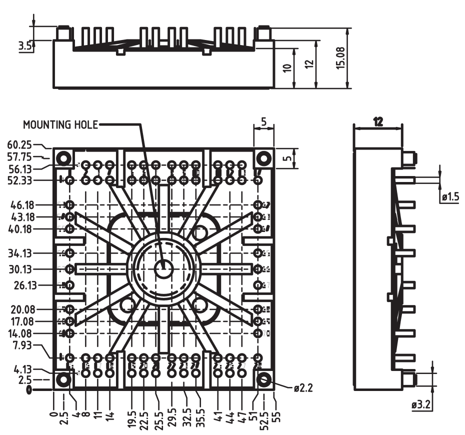


SEMITOP 3 Press-Fit

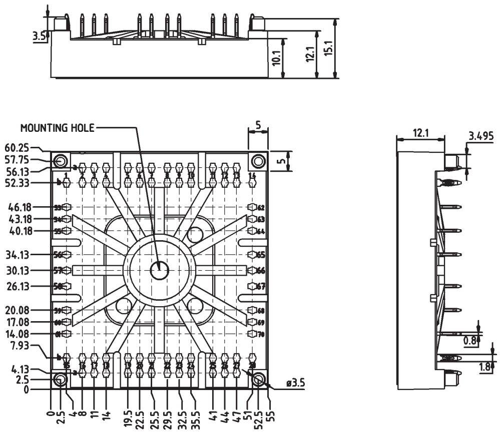


SEMITOP 4

dimensions in mm
tolerance system: ISO 2768-m



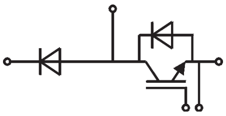
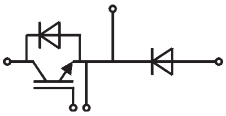
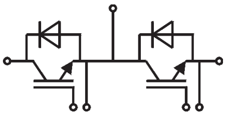
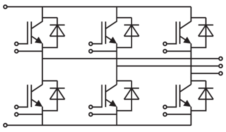
SEMITOP 4 Press-Fit



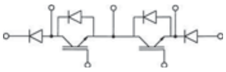
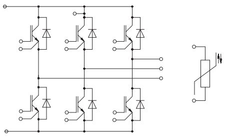
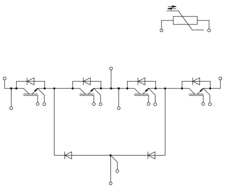
Dimensions in mm

IGBT Modules / SEMiX

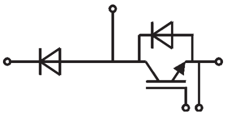
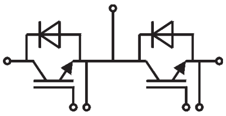
600V - IGBT3 (Trench)

Type	IGBT I_C @ T_C= 25°C A	 I_{Cnom} A	 $V_{CE(sat)}$ @ T_j = 25°C typ. V	 E_{on} mJ	 E_{off} mJ	 $R_{th(j-c)}$ K/W	Diode I_F@ T_C = 25°C A	 V_F @ T_j = 25°C typ. V	 E_{rr} mJ	 $R_{th(j-c)}$ K/W	Module Case	 $R_{th(c-s)}$ K/W	Circuit
SEMiX402GAL066HDs	502	400	1.45	22	24	0.12	543	1.40	10	0.15	2s	0.045	
SEMiX603GAL066HDs	720	600	1.45	12	43	0.087	771	1.40	13	0.11	3s	0.04	
SEMiX402GAR066HDs	502	400	1.45	22	24	0.12	543	1.40	10	0.15	2s	0.045	
SEMiX603GAR066HDs	720	600	1.45	12	43	0.087	771	1.40	13	0.11	3s	0.04	
SEMiX202GB066HDs	272	200	1.45	6	8	0.21	291	1.40	6.5	0.27	2s	0.045	
SEMiX302GB066HDs	379	300	1.45	11.5	15	0.16	419	1.40	7.5	0.19	2s	0.045	
SEMiX402GB066HDs	502	400	1.45	22	24	0.12	543	1.40	10	0.15	2s	0.045	
SEMiX603GB066HDs	720	600	1.45	12	43	0.087	771	1.40	13	0.11	3s	0.04	
SEMiX101GD066HDs	139	100	1.45	3	4	0.41	151	1.40	4.5	0.51	13	0.04	
SEMiX151GD066HDs	200	150	1.45	3.8	6.1	0.29	219	1.40	5.8	0.36	13	0.04	
SEMiX201GD066HDs	258	200	1.45	5	8	0.23	284	1.40	7.5	0.28	13	0.04	

650V - IGBT4 (Trench)

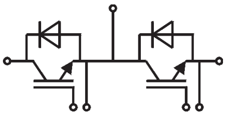
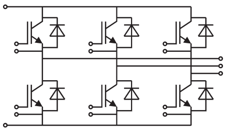
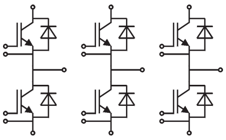
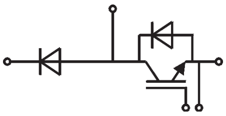
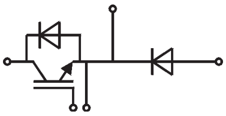
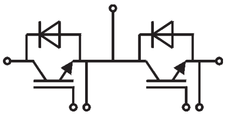
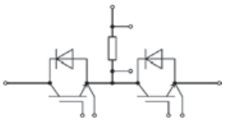
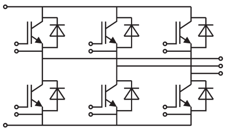
Type	IGBT I_C @ T_C= 25°C A	 I_{Cnom} A	 $V_{CE(sat)}$ @ T_j = 25°C typ. V	 E_{on} mJ	 E_{off} mJ	 $R_{th(j-c)}$ K/W	Diode I_F@ T_C = 25°C A	 V_F @ T_j = 25°C typ. V	 E_{rr} mJ	 $R_{th(j-c)}$ K/W	Module Case	 $R_{th(c-s)}$ K/W	Circuit
SEMiX205GARL07E4[8]	222	200	1.55	2.24	7.89	0.28	67	1.37	5.5	1.2	5p	0.009	
SEMiX305GARL07E4[8]	319	300	1.55	3.36	11.8	0.2	67	1.37	8.25	1.2	5p	0.009	
SEMiX405GARL07E4[8]	443	400	1.55	4.49	15.78	0.15	67	1.37	11	1.2	5p	0.009	
SEMiX305GD07E4[8]	310	300	1.55	5.54	20.52	0.21	277	1.40	4.96	0.33	5p	0.009	
SEMiX155MLI07E4[8]	187	150	1.55	1.5	7	0.31	125	1.40	3	0.64	5p	0.009	
SEMiX205MLI07E4[8]	258	200	1.55	2.5	14	0.22	250	1.40	4	0.32	5p	0.009	
SEMiX305MLI07E4[8]	367	300	1.55	2.5	18	0.16	250	1.40	7	0.32	5p	0.009	
SEMiX405MLI07E4[8]	507	400	1.55	4	20	0.12	366	1.40	9	0.22	5p	0.009	

1200V - V-IGBT

Type	IGBT I_C @ T_C= 25°C A	 I_{Cnom} A	 $V_{CE(sat)}$ @ T_j = 25°C typ. V	 E_{on} mJ	 E_{off} mJ	 $R_{th(j-c)}$ K/W	Diode I_F@ T_C = 25°C A	 V_F @ T_j = 25°C typ. V	 E_{rr} mJ	 $R_{th(j-c)}$ K/W	Module Case	 $R_{th(c-s)}$ K/W	Circuit
SEMiX151GAL12Vs	231	150	1.75	19.4	17.1	0.19	189	2.14	11.5	0.31	1s	0.075	
SEMiX151GB12Vs	231	150	1.75	19.4	17.1	0.19	189	2.14	11.5	0.31	1s	0.075	
SEMiX202GB12Vs	310	200	1.75	24.9	24.1	0.14	229	2.20	14.5	0.26	2s	0.045	
SEMiX223GB12Vs	323	225	1.85	19.9	27.2	0.14	263	2.17	16.4	0.23	3s	0.04	
SEMiX302GB12Vs	448	300	1.75	37.3	36.1	0.1	356	2.14	21.8	0.17	2s	0.045	
SEMiX303GB12Vs	448	300	1.75	26.5	36.3	0.1	327	2.20	21.4	0.19	3s	0.04	
SEMiX404GB12Vs	596	400	1.75	39.1	52.3	0.075	440	2.20	34.3	0.14	4s	0.03	
SEMiX453GB12Vs	673	450	1.75	39.8	54.4	0.067	516	2.14	32.7	0.12	3s	0.04	
SEMiX603GB12Vs	800	600	1.85	50	83	0.057	516	2.42	40	0.12	3s	0.04	

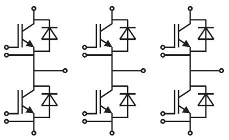
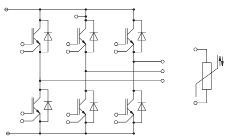
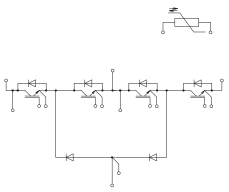
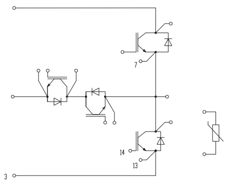
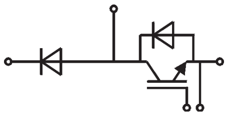
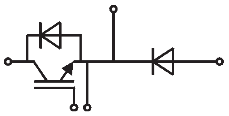
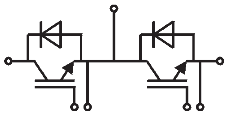
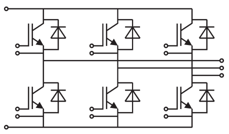
Footnotes: 8) Target data

IGBT Modules / SEMiX

Type	IGBT						Diode				Module		
	I_C @ T_C= 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-c)}$ K/W	I_F@ T_C = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-c)}$ K/W	Case	$R_{th(c-s)}$ K/W	Circuit
1200V - V-IGBT													
SEMiX604GB12Vs	880	600	1.75	58.7	78.5	0.051	707	2.14	49.5	0.086	4s	0.03	
SEMiX101GD12Vs	159	100	1.75	12.9	11.4	0.27	121	2.20	7.7	0.48	13	0.04	
SEMiX151GD12Vs	231	150	1.75	19.4	17.1	0.19	189	2.14	11.5	0.31	13	0.04	
SEMiX223GD12Vc	323	225	1.85	19.9	27.2	0.14	263	2.17	16.4	0.23	33c	0.014	
SEMiX303GD12Vc	448	300	1.75	26.5	36.3	0.1	327	2.20	21.4	0.19	33c	0.014	
SEMiX453GD12Vc	673	450	1.75	39.8	54.4	0.067	516	2.14	32.7	0.12	33c	0.014	
1200V - IGBT4 (Trench)													
SEMiX151GAL12E4s	232	150	1.80	16.6	18.4	0.19	189	2.14	8.9	0.31	1s	0.075	
SEMiX302GAL12E4s	463	300	1.80	30	44	0.096	356	2.14	19	0.17	2s	0.045	
SEMiX453GAL12E4s	683	450	1.80	45	66.5	0.065	544	2.14	28	0.11	3s	0.04	
SEMiX604GAL12E4s	916	600	1.80	35	110	0.049	707	2.14	44	0.086	4s	0.03	
SEMiX151GAR12E4s	232	150	1.80	16.6	18.4	0.19	189	2.14	8.9	0.31	1s	0.075	
SEMiX302GAR12E4s	463	300	1.80	30	44	0.096	356	2.14	19	0.17	2s	0.045	
SEMiX453GAR12E4s	683	450	1.80	45	66.5	0.065	544	2.14	28	0.11	3s	0.04	
SEMiX604GAR12E4s	916	600	1.80	35	110	0.049	707	2.14	44	0.086	4s	0.03	
SEMiX151GB12E4s	232	150	1.80	16.6	18.4	0.19	189	2.14	8.9	0.31	1s	0.075	
SEMiX202GB12E4s	312	200	1.80	22	27.9	0.14	229	2.20	12	0.26	2s	0.045	
SEMiX302GB12E4s	463	300	1.80	30	44	0.096	356	2.14	19	0.17	2s	0.045	
SEMiX303GB12E4s	466	300	1.80	30	41.2	0.095	338	2.20	17.7	0.18	3s	0.04	
SEMiX303GB12E4p	469	300	1.80	23	38	0.094	378	2.20	23	0.15	3p	0.009	
SEMiX404GB12E4s	618	400	1.80	27	59.7	0.072	440	2.20	26.4	0.14	4s	0.03	
SEMiX453GB12E4s	683	450	1.80	45	66.5	0.065	544	2.14	28	0.11	3s	0.04	
SEMiX453GB12E4p	678	450	1.80	25	57	0.066	578	2.14	37	0.1	3p	0.009	
SEMiX604GB12E4s	916	600	1.80	35	110	0.049	707	2.14	44	0.086	4s	0.03	
SEMiX603GB12E4p	1110	600	1.80	69	80	0.037	856	2.08	40	0.065	3p	0.009	
SEMiX453GB12E4Ip	678	450	1.80	33	57	0.066	578	2.14	39	0.1	3Ip	0.009	
SEMiX603GB12E4Ip	1110	600	1.80	63	80	0.037	856	2.08	40	0.065	3Ip	0.009	
SEMiX71GD12E4s	115	75	1.85	7.5	9	0.38	97	2.17	5.3	0.58	13	0.04	
SEMiX101GD12E4s	160	100	1.80	10.8	13.3	0.27	121	2.20	6.5	0.48	13	0.04	
SEMiX151GD12E4s	232	150	1.80	14.1	19.2	0.19	189	2.14	8.9	0.31	13	0.04	

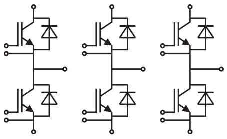
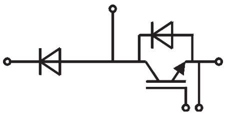
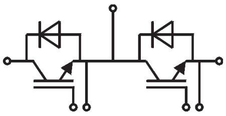
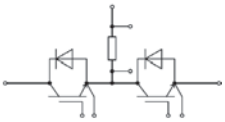
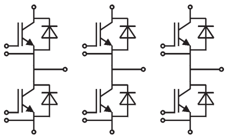
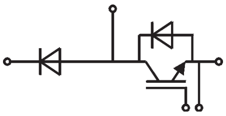
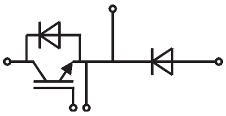
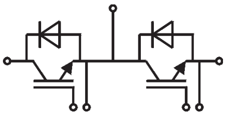
Footnotes: 8) Target data

IGBT Modules / SEMiX

Type	IGBT						Diode				Module		
	I_C @ T_C= 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-c)}$	I_F@ T_C = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-c)}$	Case	$R_{th(c-s)}$	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		K/W	Circuit
1200V - IGBT4 (Trench)													
SEMiX223GD12E4c	333	225	1.85	22	31.4	0.135	270	2.17	17.2	0.22	33c	0.014	
SEMiX303GD12E4c	466	300	1.80	29.4	41.8	0.095	338	2.20	22.9	0.18	33c	0.014	
SEMiX453GD12E4c	683	450	1.80	52	67.8	0.065	544	2.14	28	0.11	33c	0.014	
SEMiX205GD12E4[8]	326	200	1.80	24.53	38.62	0.14	235	2.20	23.14	0.25	5p	0.009	
SEMiX155MLI12E4[8]	164	75	1.85	3.5	19.6	0.2	115	2.17	5.6	0.44	5p	0.009	
SEMiX205MLI12E4[8]	301	200	1.80	5	28	0.15	180	2.20	8	0.38	5p	0.009	
SEMiX205TMLI12E4B[8]	271	200	1.80	3	11.25	0.18	268	1.75	5.2	0.3	5p	0.009	
SEMiX205TMLI12E4C[8]	313	200	1.80	8	15	0.14	268	1.75	16	0.3	5p	0.009	
SEMiX305TMLI12E4B[8]	407	300	1.80	4.5	21	0.12	405	1.98	8.8	0.16	5p	0.009	
SEMiX305TMLI12E4C[8]	451	300	1.80	10	20	0.1	408	1.72	21	0.2	5p	0.009	
SEMiX405TMLI12E4B[8]	543	400	1.80	6	28	0.09	422	2.20	11.8	0.15	5p	0.009	
1200V - IGBT3 (Trench)													
SEMiX452GAL126HDs	455	300	1.70	35	45	0.083	394	1.60	33	0.15	2s	0.045	
SEMiX703GAL126HDs	642	450	1.70	32	68	0.061	561	1.60	60	0.11	3s	0.04	
SEMiX703GAR126HDs	642	450	1.70	32	68	0.061	561	1.60	60	0.11	3s	0.04	
SEMiX252GB126HDs	242	150	1.70	20	21	0.15	228	1.60	18	0.24	2s	0.045	
SEMiX302GB126HDs	311	200	1.70	30	26	0.12	292	1.60	22.5	0.19	2s	0.045	
SEMiX353GB126HDs	364	225	1.70	26.5	32.5	0.1	329	1.60	29	0.17	3s	0.04	
SEMiX452GB126HDs	455	300	1.70	35	45	0.083	394	1.60	33	0.15	2s	0.045	
SEMiX503GB126HDs	466	300	1.70	28	44	0.08	431	1.60	32.5	0.13	3s	0.04	
SEMiX604GB126HDs	590	400	1.70	36	60	0.065	533	1.60	46	0.11	4s	0.03	
SEMiX703GB126HDs	642	450	1.70	32	68	0.061	561	1.60	60	0.11	3s	0.04	
SEMiX904GB126HDs	821	600	1.70	60	88	0.05	752	1.60	75	0.081	4s	0.03	
SEMiX101GD126HDs	129	75	1.70	10	11	0.27	117	1.60	9	0.46	13	0.04	
SEMiX151GD126HDs	168	100	1.70	12	14	0.21	152	1.60	11.5	0.36	13	0.04	
SEMiX251GD126HDs	242	150	1.70	19	22	0.15	207	1.60	14.5	0.28	13	0.04	

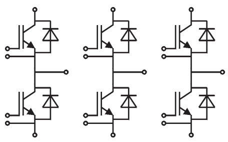
Footnotes: 8) Target data

IGBT Modules / SEMiX

Type	**IGBT**						**Diode**				**Module**		
	I_C @ T_C= 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-c)}$ K/W	I_F@ T_C = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-c)}$ K/W	Case	$R_{th(c-s)}$ K/W	Circuit
1200V - IGBT3 (Trench)													
SEMiX353GD126HDc	364	225	1.70	26.5	32.5	0.1	329	1.60	29	0.17	33c	0.014	
SEMiX503GD126HDc	466	300	1.70	28	44	0.08	412	1.60	32.5	0.14	33c	0.014	
SEMiX703GD126HDc	642	450	1.70	32	68	0.061	561	1.59	60	0.11	33c	0.014	
1700V - IGBT4 (Trench)													
SEMiX302GAL17E4s	516	300	1.90	140	122	0.083	324	1.98	70	0.184	2s	0.045	
SEMiX453GAL17E4s	762	450	1.90	250	190	0.056	482	1.98	100	0.125	3s	0.04	
SEMiX151GB17E4s	260	150	1.90	52	60	0.162	169	1.98	41	0.345	1s	0.075	
SEMiX202GB17E4s	321	200	1.90	75	82	0.122	213	2.00	55	0.276	2s	0.045	
SEMiX302GB17E4s	516	300	1.90	140	122	0.083	324	1.98	70	0.184	2s	0.045	
SEMiX303GB17E4s	477	300	1.90	140	125	0.083	311	2.00	85	0.191	3s	0.04	
SEMiX404GB17E4s	633	400	1.90	190	165	0.062	412	2.00	97	0.145	4s	0.03	
SEMiX453GB17E4s	762	450	1.90	250	190	0.056	482	1.98	100	0.125	3s	0.04	
SEMiX604GB17E4s	1015	600	1.90	255	255	0.042	629	1.98	150	0.095	4s	0.03	
SEMiX453GB17E4Ip	731	450	1.90	153	150	0.06	557	1.98	73	0.1	3Ip	0.009	
SEMiX453GD17E4c	762	450	1.90	186	183	0.056	482	1.98	122	0.125	33c	0.014	
1700V - IGBT3 (Trench)													
SEMiX653GAL176HDs	619	450	2.00	300	180	0.054	545	1.70	73	0.11	3s	0.04	
SEMiX653GAR176HDs	619	450	2.00	300	180	0.054	545	1.70	73	0.11	3s	0.04	
SEMiX252GB176HDs	246	150	2.00	90	55	0.12	288	1.55	32	0.19	2s	0.045	
SEMiX302GB176HDs	308	200	2.00	130	77	0.1	389	1.50	43	0.15	2s	0.045	
SEMiX353GB176HDs	353	225	2.00	155	85	0.086	428	1.55	45	0.13	3s	0.04	
SEMiX452GB176HDs	437	300	2.00	180	110	0.073	389	1.70	46	0.15	2s	0.045	
SEMiX453GB176HDs	444	300	2.00	215	125	0.071	545	1.50	65	0.11	3s	0.04	
SEMiX604GB176HDs	567	400	2.00	215	165	0.058	740	1.50	95	0.081	4s	0.03	
SEMiX653GB176HDs	619	450	2.00	300	180	0.054	545	1.70	73	0.11	3s	0.04	
SEMiX854GB176HDs	779	600	2.00	300	250	0.045	740	1.70	170	0.081	4s	0.03	

Footnotes: 8) Target data

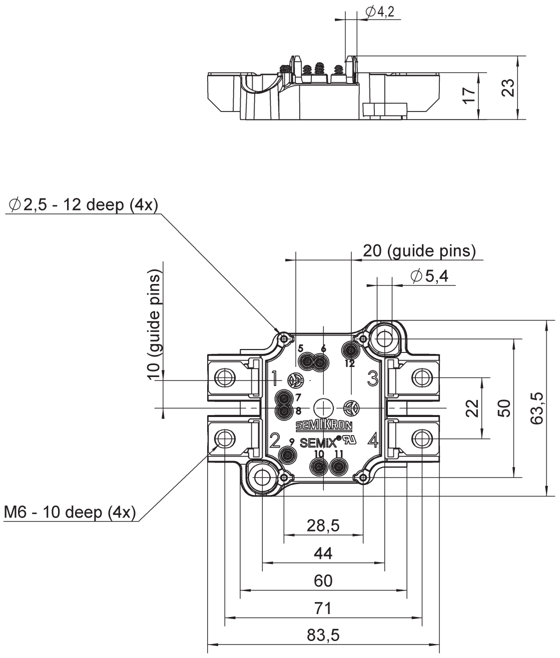
IGBT Modules / SEMiX

Type	IGBT						Diode				Module		
	I_C @ T_C = 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-c)}$	I_F @ T_C = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-c)}$	Case	$R_{th(c-s)}$	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		K/W	Circuit
1700V - IGBT3 (Trench)													
SEMiX353GD176HDc	353	225	2.00	155	85	0.086	428	1.55	45	0.13	33c	0.014	
SEMiX453GD176HDc	444	300	2.00	215	125	0.071	545	1.50	65	0.11	33c	0.014	
SEMiX653GD176HDc	619	450	2.00	300	180	0.054	545	1.70	73	0.11	33c	0.014	

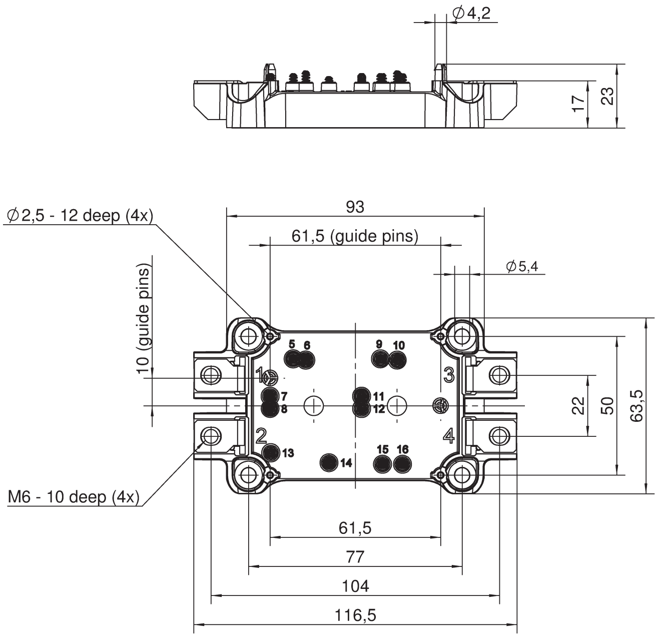
Footnotes: 8) Target data

Cases

SEMiX 1s



SEMiX 2s

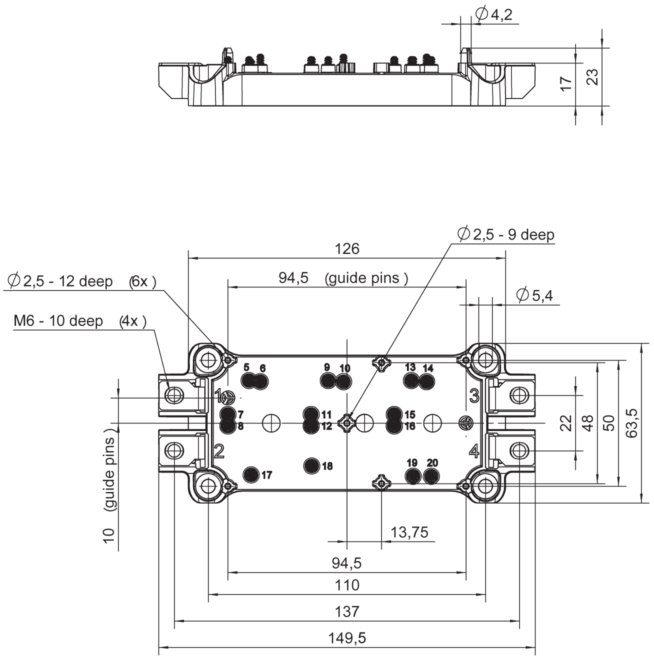


Dimensions in mm

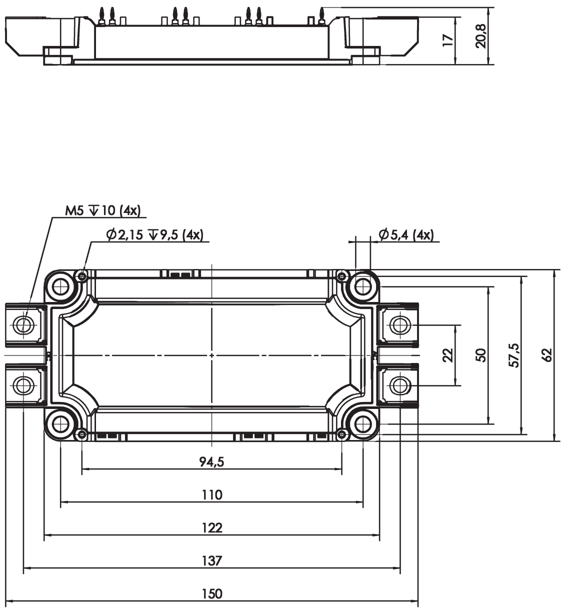
IGBT Modules / SEMiX

Cases

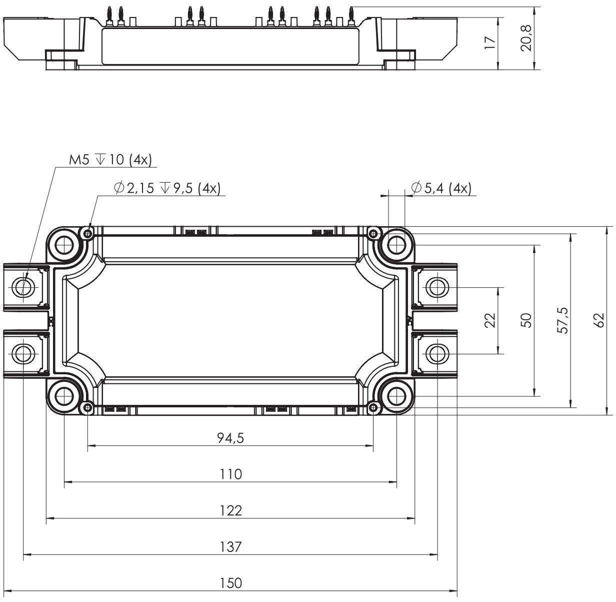
SEMiX 3s



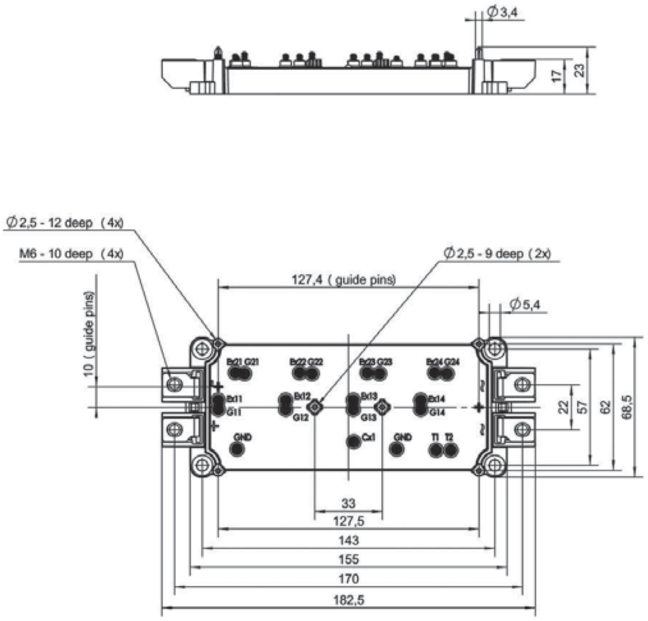
SEMiX 3p



SEMiX 3Ip



SEMiX 4s

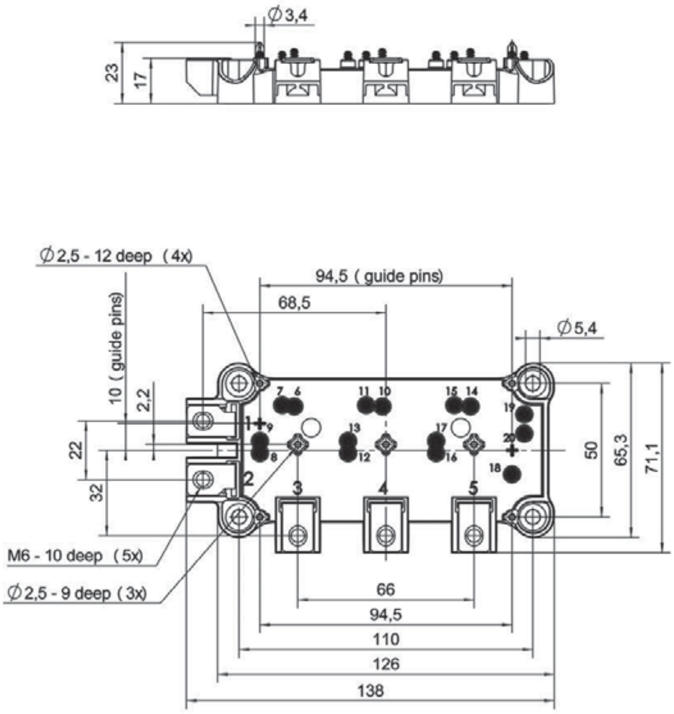


Dimensions in mm

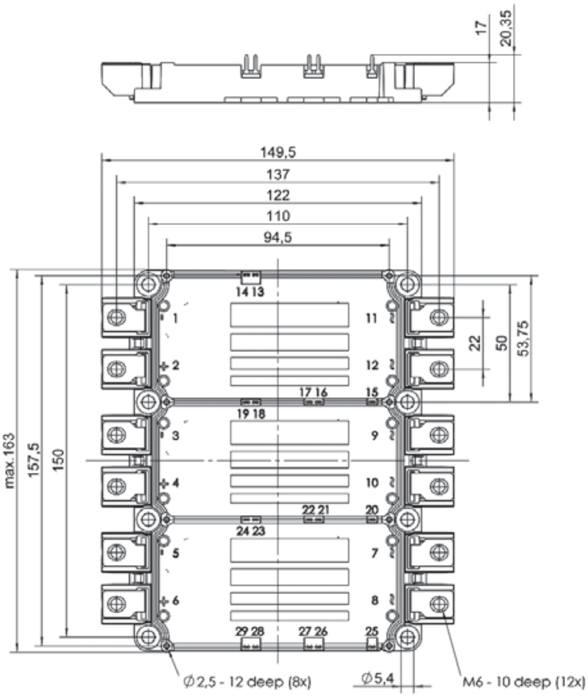
IGBT Modules / SEMiX

Cases

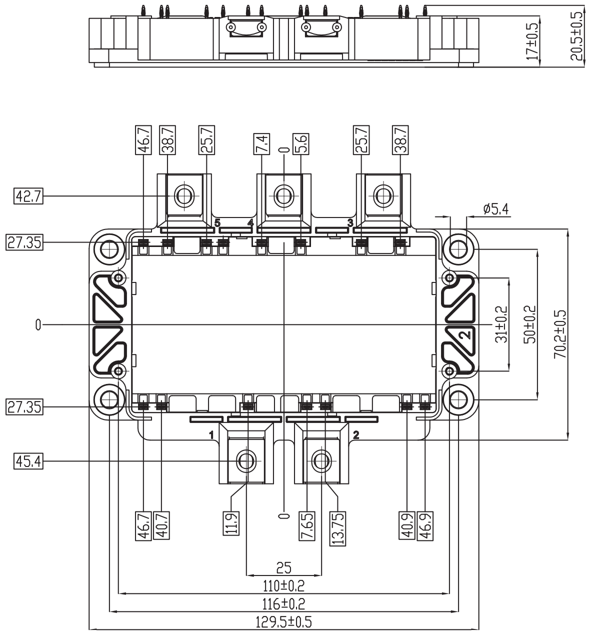
SEMiX 13



SEMiX 33c

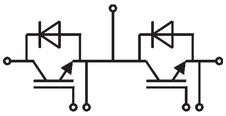
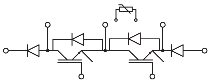
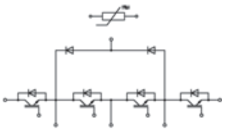
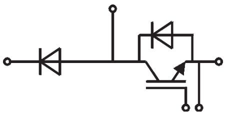
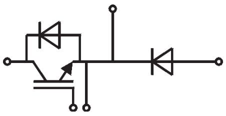
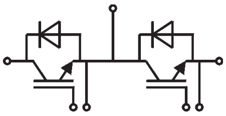
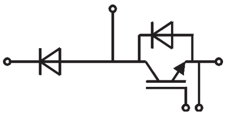
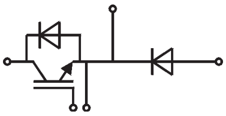
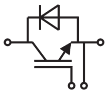
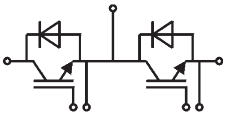


SEMiX 5p



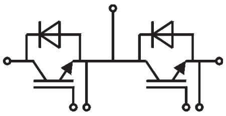
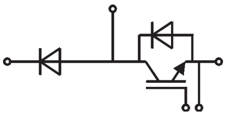
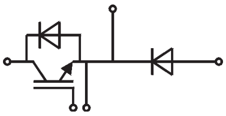
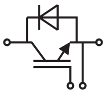
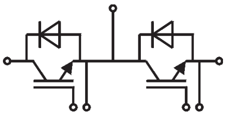
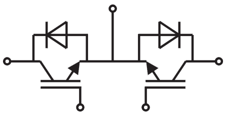
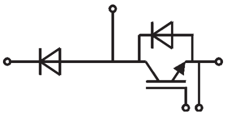
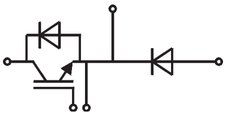
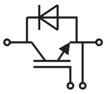
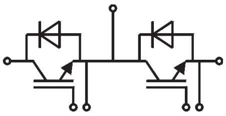
Dimensions in mm

IGBT Modules / SEMITRANS

Type	**IGBT**						**Diode**				**Module**		
	I_C @ T_C= 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-c)}$	I_F@ T_C = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-c)}$	**Case**	$R_{th(c-s)}$	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		K/W	Circuit
600V - IGBT3 (Trench)													
SKM145GB066D	195	150	1.45	8.5	5.5	0.3	150	1.40	3.5	0.5	2	0.05	
SKM195GB066D	265	200	1.45	14	8	0.22	200	1.40	5.6	0.4	2	0.05	
SKM300GB066D	390	300	1.45	7.5	11.5	0.15	350	1.38	10.5	0.25	3	0.038	
SKM400GB066D	500	400	1.45	8	16	0.12	450	1.40	14	0.2	3	0.038	
SKM600GB066D	760	600	1.45	7.5	29.5	0.08	700	1.38	25	0.125	3	0.038	
SKM200GARL066T 1)	280	200	1.45	2.24	7.89	0.21	270	1.45	4	0.39	5	0.038	
SKM300GARL066T 1)	400	300	1.45	3.5	10.1	0.15	400	1.45	4	0.26	5	0.038	
SKM400GARL066T 1)	504	400	1.45	4.48	15.78	0.12	421	1.54	8	0.28	5	0.038	
SKM150MLI066TAT 1)	200	150	1.45	1.7	5.1	0.29	200	1.35	2	0.52	5	0.038	
SKM200MLI066TAT 1)	280	200	1.45	2.53	6.82	0.21	270	1.4	4	0.39	5	0.038	
SKM300MLI066TAT 1)	400	300	1.45	3.5	10.1	0.15	324	1.35	4	0.25	5	0.038	
600V - NPT IGBT (Standard)													
SKM75GAL063D	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	0.05	
SKM300GAL063D	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	0.038	
SKM75GAR063D	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	0.05	
SKM300GAR063D	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	0.038	
SKM50GB063D	70	50	2.10	2.5	1.8	0.5	75	1.35	0.48	1	2	0.05	
SKM75GB063D	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	0.05	
SKM100GB063D	130	100	2.1	4	3	0.27	100	1.55	1.5	0.6	2	0.05	
SKM200GB063D	260	200	2.1	11	7.5	0.14	200	1.55	2.1	0.3	3	0.038	
SKM300GB063D	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	0.038	
1200V - V-IGBT													
SKM150GAL12V	231	150	1.75	13.5	14.2	0.19	189	2.14	8.9	0.31	2	0.05	
SKM400GAL12V	612	400	1.75	39	42	0.072	440	2.20	26	0.14	3	0.038	
SKM400GAR12V	612	400	1.75	39	42	0.072	440	2.20	26	0.14	3	0.038	
SKM300GA12V	420	300	1.85	23	33	0.11	353	2.17	21	0.17	4	0.038	
SKM400GA12V	612	400	1.75	39	42	0.072	440	2.20	26	0.14	4	0.038	
SKM600GA12V	908	600	1.75	76	76	0.049	707	2.14	43	0.086	4	0.038	
SKM50GB12V	77	50	1.85	5	4	0.53	65	2.22	3.6	0.84	2	0.05	
SKM75GB12V	114	75	1.85	6.7	7.1	0.38	97	2.17	4.2	0.58	2	0.05	
SKM100GB12V	159	100	1.75	10.7	8.7	0.27	121	2.20	5.7	0.48	2	0.05	
SKM150GB12V	231	150	1.75	13.5	14.2	0.19	189	2.14	8.9	0.31	2	0.05	
SKM150GB12VG	222	150	1.85	10	16.5	0.2	187	2.17	11	0.31	3	0.038	

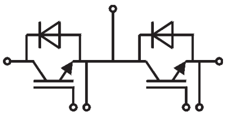
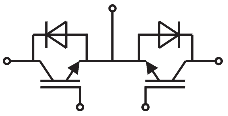
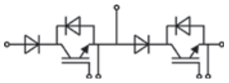
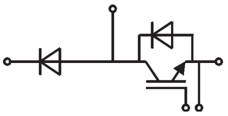
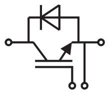
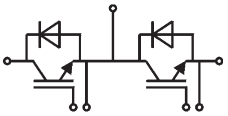
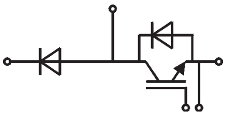
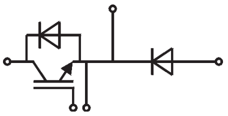
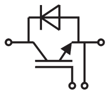
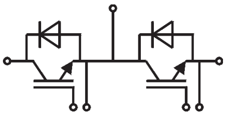
Footnotes: 1) New product

IGBT Modules / SEMITRANS

Type	IGBT						Diode				Module		
	I_C @ T_C= 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-c)}$ K/W	I_F@ T_C = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-c)}$ K/W	Case	$R_{th(c-s)}$ K/W	Circuit
1200V - V-IGBT													
SKM200GB12V	311	200	1.75	14	22	0.14	229	2.20	13	0.26	3	0.038	
SKM300GB12V	420	300	1.85	23	33	0.11	353	2.17	21	0.17	3	0.038	
SKM400GB12V	612	400	1.75	39	42	0.072	440	2.20	26	0.14	3	0.038	
1200V - IGBT4 (Trench)													
SKM200GAL12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	0.038	
SKM300GAL12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	0.038	
SKM400GAL12E4	616	400	1.80	33	56	0.072	440	2.20	30.5	0.14	3	0.038	
SKM200GAR12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	0.038	
SKM300GAR12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	0.038	
SKM400GAR12E4	616	400	1.80	33	56	0.072	440	2.20	30.5	0.14	3	0.038	
SKM300GA12E4	422	300	1.85	23.4	35	0.11	353	2.17	22.2	0.17	4	0.038	
SKM400GA12E4	616	400	1.80	28	59	0.072	440	2.20	37	0.14	4	0.038	
SKM600GA12E4	913	600	1.80	74	84	0.049	707	2.14	38	0.086	4	0.038	
SKM900GA12E4	1305	900	1.83	130	121	0.035	871	2.31	53	0.07	4	0.038	
SKM200GB12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	0.038	
SKM300GB12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	0.038	
SKM400GB12E4	616	400	1.80	33	56	0.072	440	2.20	30.5	0.14	3	0.038	
SKM450GB12E4	700	450	1.82	32	60	0.062	440	2.31	28	0.14	3	0.038	
SKM450GM12E4(1)	700	450	1.82	32	60	0.062	440	2.31	28	0.14	3	0.038	
1200V - IGBT4 Fast (Trench)													
SKM50GAL12T4	81	50	1.85	5.5	4.5	0.53	65	2.22	3.6	0.84	2	0.05	
SKM100GAL12T4	160	100	1.80	15	10.2	0.27	121	2.20	5.9	0.48	2	0.05	
SKM150GAL12T4	232	150	1.80	19.2	15.8	0.19	189	2.14	13	0.31	2	0.05	
SKM200GAL12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	0.038	
SKM300GAL12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	0.038	
SKM400GAL12T4	616	400	1.80	33	42	0.072	440	2.20	30.5	0.14	3	0.038	
SKM150GAR12T4	232	150	1.80	19.2	15.8	0.19	189	2.14	13	0.31	2	0.05	
SKM400GAR12T4	616	400	1.80	33	42	0.072	440	2.20	30.5	0.14	3	0.038	
SKM300GA12T4	422	300	1.85	23.4	26	0.11	353	2.17	22.2	0.17	4	0.038	
SKM400GA12T4	616	400	1.80	28	44	0.072	440	2.20	37	0.14	4	0.038	
SKM600GA12T4	913	600	1.80	74	63	0.049	707	2.14	38	0.086	4	0.038	
SKM50GB12T4	81	50	1.85	5.5	4.5	0.53	65	2.22	3.8	0.84	2	0.05	
SKM75GB12T4	115	75	1.85	11	6.9	0.38	97	2.17	4.7	0.58	2	0.05	
SKM100GB12T4	160	100	1.80	15	10.2	0.27	121	2.20	5.9	0.48	2	0.05	
SKM100GB12T4G	154	100	1.85	16.1	8.6	0.29	118	2.22	6	0.49	3	0.038	
SKM150GB12T4	232	150	1.80	19.2	15.8	0.19	189	2.14	13	0.31	2	0.05	

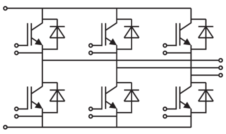
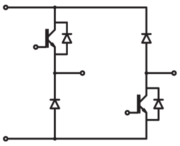
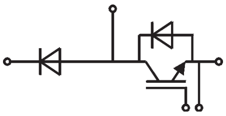
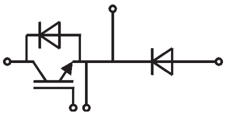
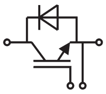
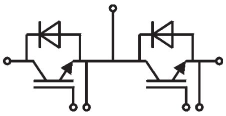
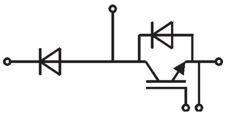
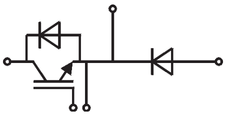
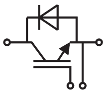
Footnotes: 1) New product

IGBT Modules / SEMITRANS

Type	IGBT						Diode				Module		
	I_C @ T_C= 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-c)}$ K/W	I_F@ T_C = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-c)}$ K/W	Case	$R_{th(c-s)}$ K/W	Circuit
1200V - IGBT4 Fast (Trench)													
SKM150GB12T4G	223	150	1.85	18.7	14.1	0.2	183	2.17	9	0.32	3	0.038	
SKM200GB12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	0.038	
SKM300GB12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	0.038	
SKM400GB12T4	616	400	1.80	33	42	0.072	440	2.20	30.5	0.14	3	0.038	
SKM150GM12T4G	229	150	1.85	19.2	15.8	0.19	187	2.17	13	0.31	3	0.038	
SKM200GM12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	0.038	
SKM300GM12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	0.038	
SKM400GM12T4	616	400	1.80	33	42	0.072	440	2.20	30.5	0.14	3	0.038	
SKM300GBD12T4	422	300	1.85	27	29	0.11	56	2.41	30.5	0.94	3	0.038	
1200V - IGBT3 (Trench)													
SKM195GAL126D	220	150	1.70	16	24.5	0.16	170	2.00	5.8	0.32	2	0.05	
SKM200GAL126D	260	150	1.70	18	24	0.13	200	1.60	18	0.3	3	0.038	
SKM400GAL126D	470	300	1.70	29	48	0.08	400	1.60	27	0.18	3	0.038	
SKM600GAL126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	3	0.038	
SKM600GA126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	4	0.038	
SKM800GA126D	960	600	1.70	65	95	0.042	680	1.69	59	0.09	4	0.038	
SKM195GB126D	220	150	1.70	16	24.5	0.16	170	2.00	5.8	0.32	2	0.05	
SKM200GB126D	260	150	1.70	18	24	0.13	200	1.60	18	0.3	3	0.038	
SKM300GB126D	310	200	1.70	21	33	0.12	250	1.60	18	0.25	3	0.038	
SKM400GB126D	470	300	1.70	29	48	0.08	400	1.64	27	0.18	3	0.038	
SKM600GB126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	3	0.038	
1200V - NPT IGBT (Ultrafast)													
SKM200GAL125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	0.038	
SKM400GAL125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	0.038	
SKM200GAR125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	0.038	
SKM400GAR125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	0.038	
SKM600GA125D	580	400	3.3	30	22	0.041	500	2.00	24	0.09	4	0.038	
SKM800GA125D	760	600	3.20	88	48	0.03	720	2.3	28	0.07	4	0.038	
SKM100GB125DN	100	75	3.3	9	3.5	0.18	95	2.06	4	0.5	2N	0.05	
SKM200GB125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	0.038	
SKM300GB125D	300	200	3.3	16	11	0.075	260	2.00	13	0.18	3	0.038	
SKM400GB125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	0.038	

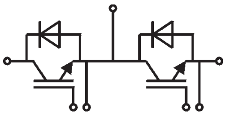
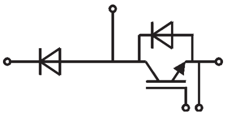
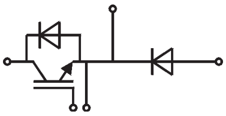
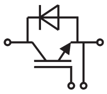
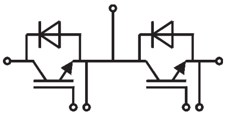
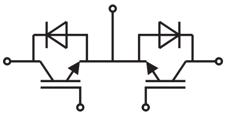
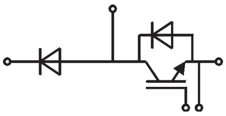
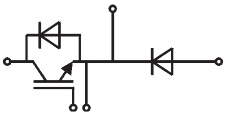
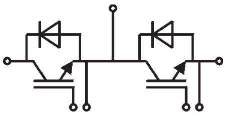
Footnotes: 1) New product

IGBT Modules / SEMITRANS

Type	IGBT						Diode				Module		
	I_C @ T_C= 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-c)}$ K/W	I_F@ T_C = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-c)}$ K/W	Case	$R_{th(c-s)}$ K/W	Circuit
1200V - NPT IGBT (Ultrafast)													
SKM25GD125D[1)]	39	25	3.20	3.9	1.6	0.56	47	2.13	1.1	1	6	0.05	
SKM50GD125D[1)]	73	50	3.20	8	3.2	0.32	77	2.00	2.1	0.6	6	0.05	
SKM25GAH125D[1)]	39	25	3.20	3.9	1.6	0.56	47	2.13	1.1	1	6	0.05	
1700V - IGBT3 (Trench)													
SKM145GAL176D	160	100	2.00	60	38	0.19	140	1.6	27.5	0.36	2	0.05	
SKM200GAL176D	260	150	2.00	93	58	0.12	210	1.70	31	0.25	3	0.038	
SKM400GAL176D	432	300	2.00	170	118	0.075	440	1.70	78	0.125	3	0.038	
SKM400GAR176D	432	300	2.00	170	118	0.075	440	1.70	78	0.125	3	0.038	
SKM600GA176D	660	400	2.00	255	155	0.044	600	1.6	102	0.09	4	0.038	
SKM800GA176D	830	600	2.00	335	245	0.04	630	1.6	155	0.07	4	0.038	
SKM75GB176D	80	50	2.00	25	18	0.38	80	1.70	14.5	0.55	2	0.05	
SKM100GB176D	125	75	2.00	44	28.5	0.24	100	1.6	21.4	0.45	2	0.05	
SKM145GB176D	160	100	2.00	60	38	0.19	140	1.6	27.5	0.36	2	0.05	
SKM200GB176D	260	150	2.00	93	58	0.12	210	1.70	31	0.25	3	0.038	
SKM400GB176D	432	300	2.00	170	118	0.075	440	1.70	78	0.125	3	0.038	
1700V - NPT IGBT (Standard)													
SKM200GAL173D	220	150	3.4	95	45	0.1	150	2.2	21	0.32	3	0.038	
SKM200GAR173D	220	150	3.4	95	45	0.1	150	2.2	21	0.32	3	0.038	
SKM400GA173D	440	300	3	180	10	0.05	300	2.2	46	0.17	4	0.038	

Footnotes: 1) New product

IGBT Modules / SEMITRANS

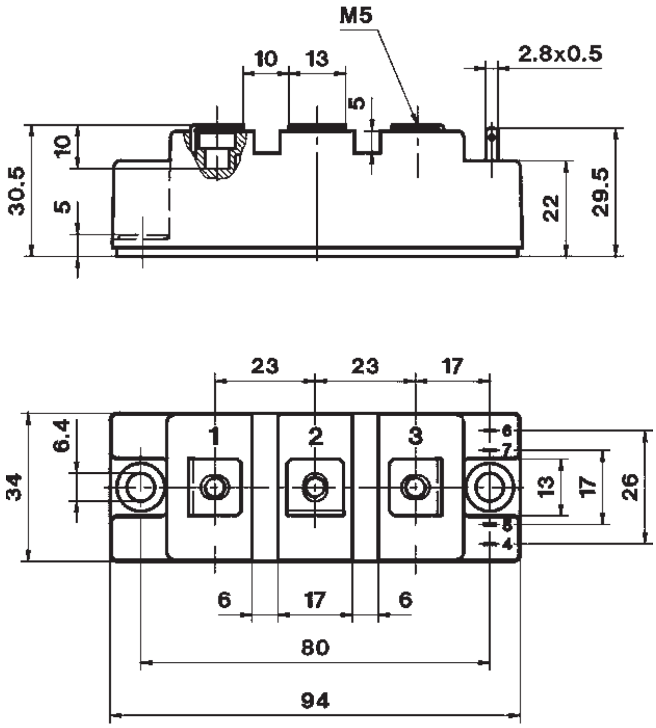
Type	IGBT						Diode				Module		
	I_C @ T_C= 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-c)}$	I_F@ T_C = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-c)}$	Case	$R_{th(c-s)}$	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		K/W	Circuit
1700V - NPT IGBT (Standard)													
SKM75GB173D	75	50	3.4	18	13	0.25	60	2.2	10.5	0.75	2	0.05	
SKM100GB173D	110	75	3.4	35	21	0.2	80	2.2	11.5	0.63	2	0.05	
SKM150GB173D	150	100	3.4	60	32	0.125	125	2.2	14	0.4	3	0.038	
SKM200GB173D	220	150	3.4	95	45	0.1	150	2.2	21	0.32	3	0.038	
1700V - IGBT4 (Trench) (new product series, target data)													
SKM100GAL17E4[1]	164	100	1.90	43	39	0.234	113	2.00	26	0.504	2	0.05	
SKM200GAL17E4[1]	321	200	1.90	69	79	0.122	213	2.00	45	0.276	3	0.038	
SKM400GAL17E4[1]	614	400	1.90	156.5	180	0.066	443	2.00	130	0.13	3	0.038	
SKM100GAR17E4[1]	164	100	1.90	43	39	0.234	113	2.00	26	0.504	2	0.05	
SKM200GAR17E4[1]	321	200	1.90	69	79	0.122	213	2.00	45	0.276	3	0.038	
SKM400GAR17E4[1]	614	400	1.90	156.5	180	0.066	443	2.00	130	0.13	3	0.038	
SKM600GA17E4[1]	1021	600	1.90	234	270	0.042	629	1.98	140	0.095	4	0.038	
SKM75GB17E4[1]	125	75	1.90	22	34	0.304	88	2.00	24	0.632	2	0.05	
SKM100GB17E4[1]	164	100	1.90	43	39	0.234	113	2.00	26	0.504	2	0.05	
SKM150GB17E4[1]	261	150	1.90	67	59	0.162	169	1.98	32	0.345	2	0.05	
SKM200GB17E4[1]	321	200	1.90	69	79	0.122	213	2.00	45	0.276	3	0.038	
SKM300GB17E4[1]	476	300	1.90	88	121	0.083	314	2.00	77	0.19	3	0.038	
SKM400GB17E4[1]	614	400	1.90	156.5	180	0.066	443	2.00	130	0.13	3	0.038	
SKM400GM17E4[1]	614	400	1.90	156.5	180	0.066	443	2.00	130	0.13	3	0.038	
1700V - SPT ++ (new product series, target data)													
SKM1000GAL17S2	1460	1000	2.30	395	326	0.027	1344	1.78	185	0.043	10	0.003	
SKM1400GAL17S2	2000	1400	2.32	-	-	0.022	1874	1.84	-	0.032	10	0.003	
SKM1000GAR17S2	1460	1000	2.30	395	326	0.027	1344	1.78	185	0.043	10	0.003	
SKM1400GAR17S2	2000	1400	2.32	-	-	0.022	1874	1.84	-	0.032	10	0.003	
SKM1000GB17S2	1460	1000	2.30	395	326	0.027	1344	1.78	185	0.043	10	0.003	
SKM1400GB17S2	2000	1400	2.32	-	-	0.022	1874	1.84	-	0.032	10	0.003	

Footnotes: 1) New product

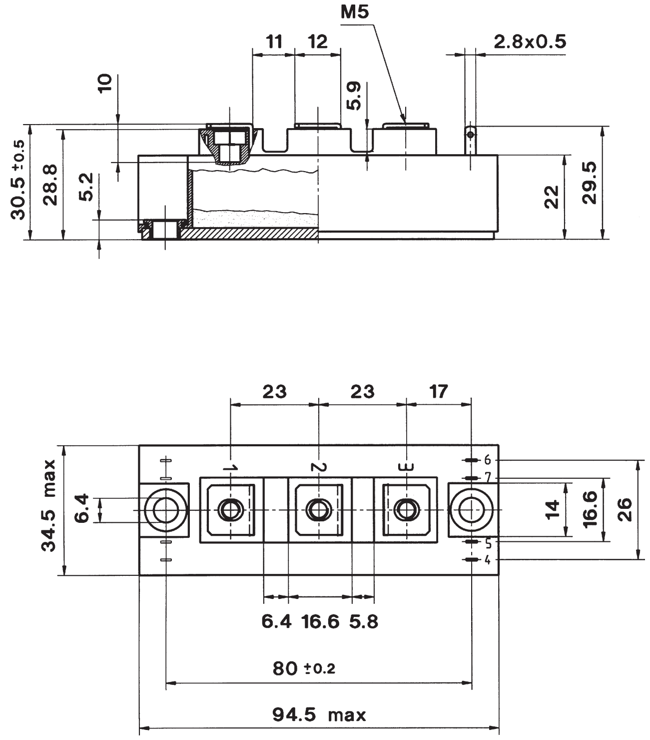
IGBT Modules / SEMITRANS

Cases

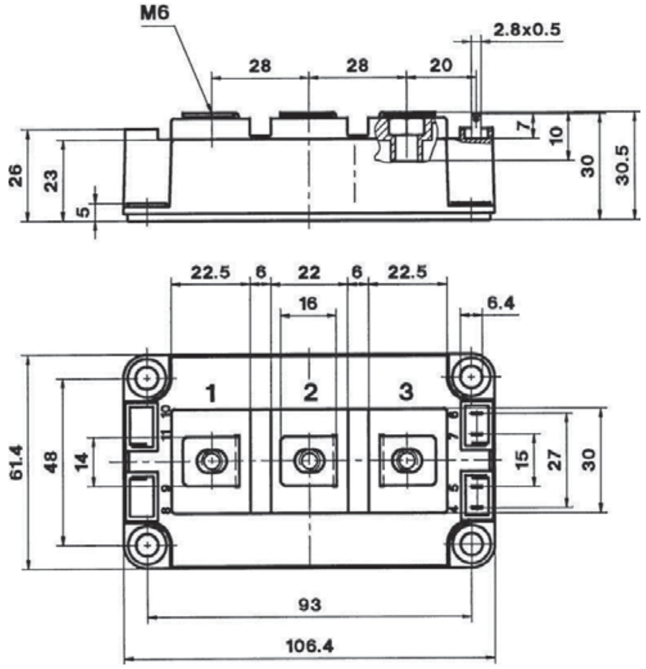
SEMITRANS 2



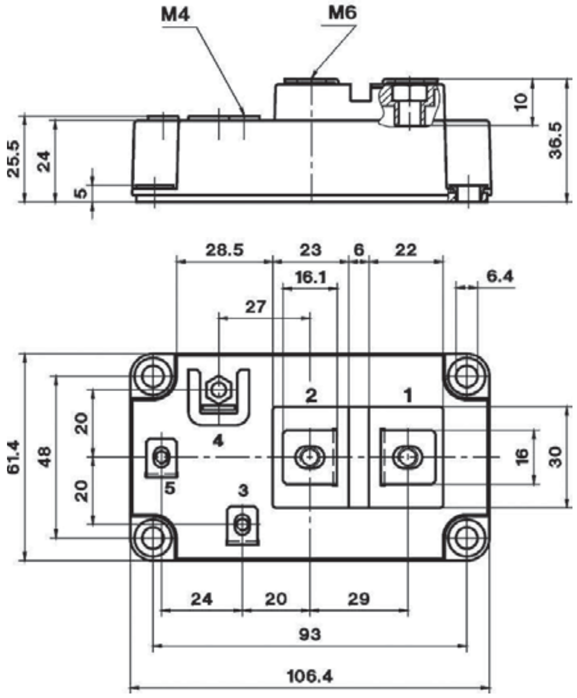
SEMITRANS 2N



SEMITRANS 3



SEMITRANS 4

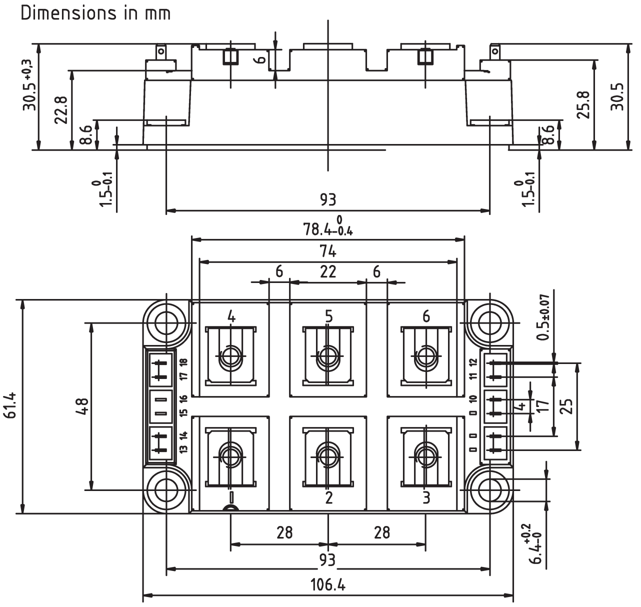


Dimensions in mm

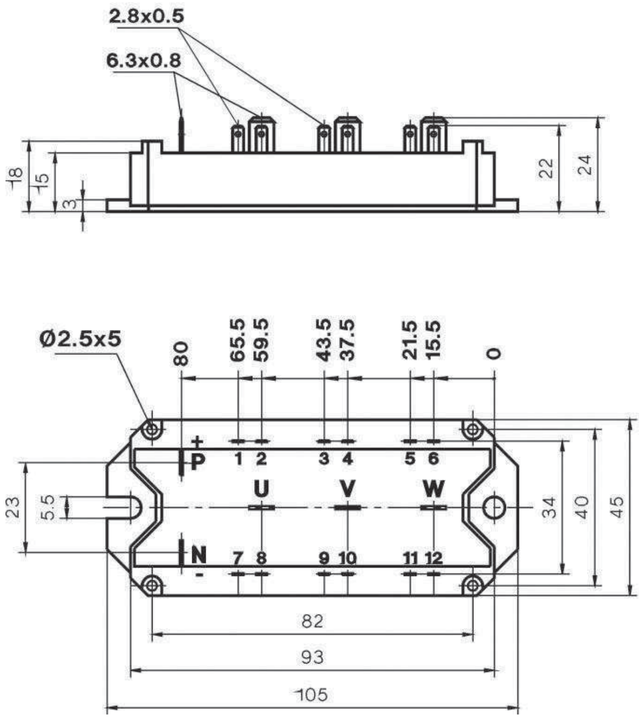
Cases

SEMITRANS 5

Dimensions in mm



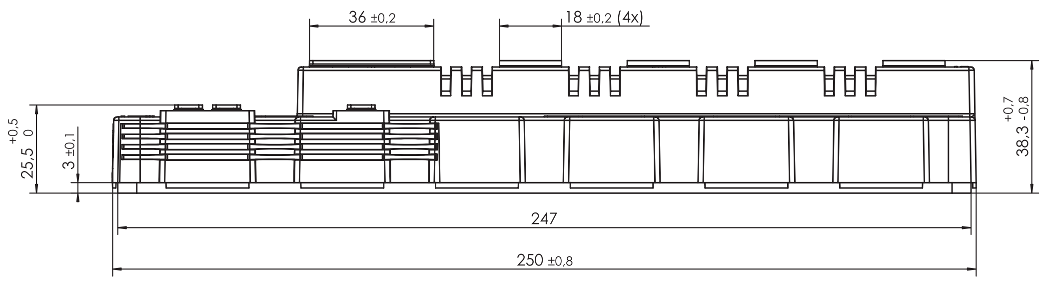
SEMITRANS 6

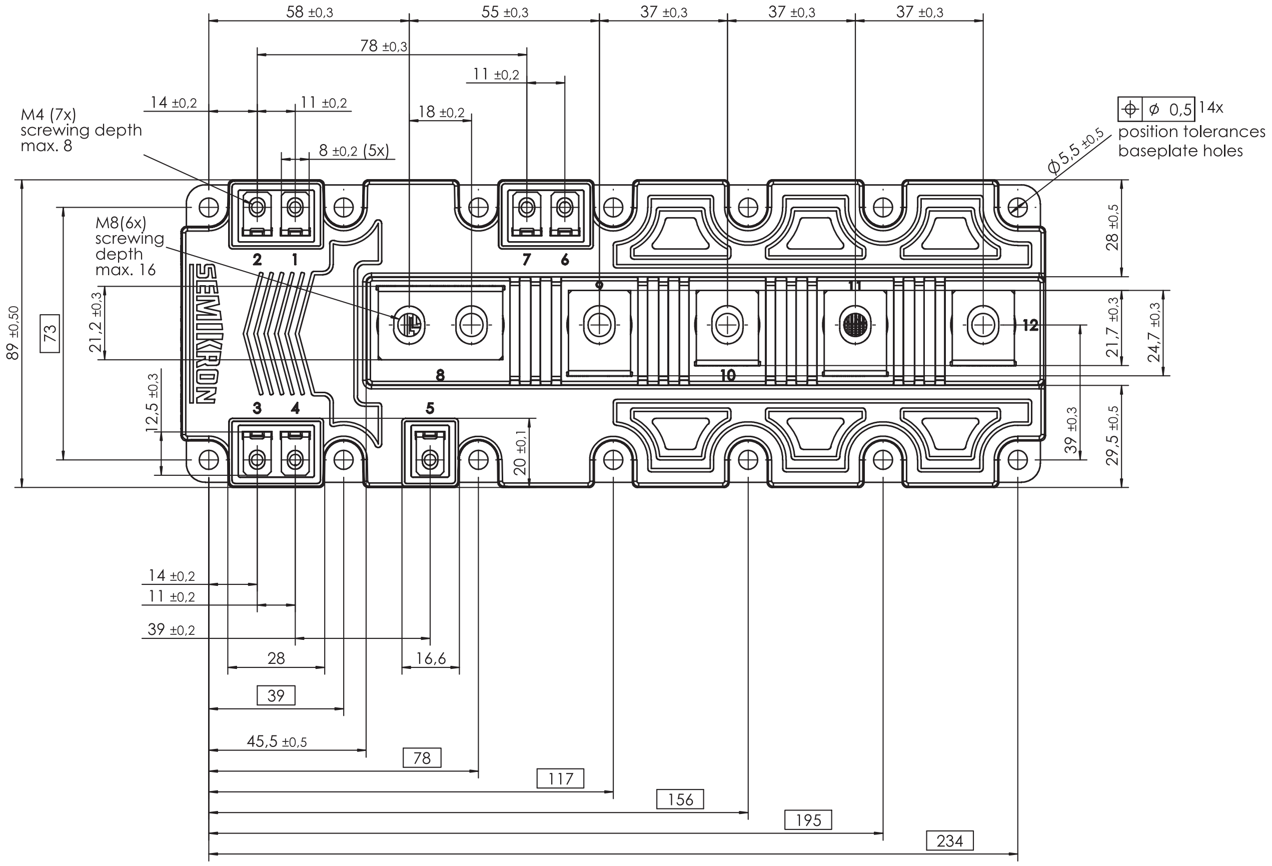


Dimensions in mm

Cases

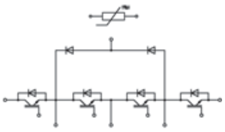
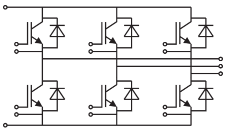
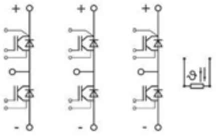
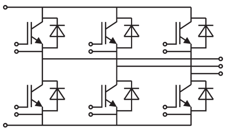
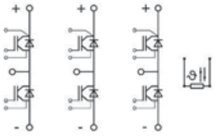
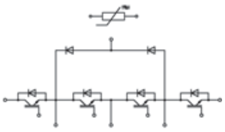
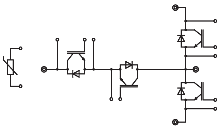
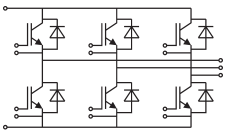
SEMITRANS 10



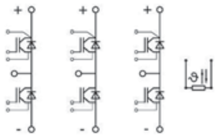


Dimensions in mm

IGBT Modules / SKiM 4/5

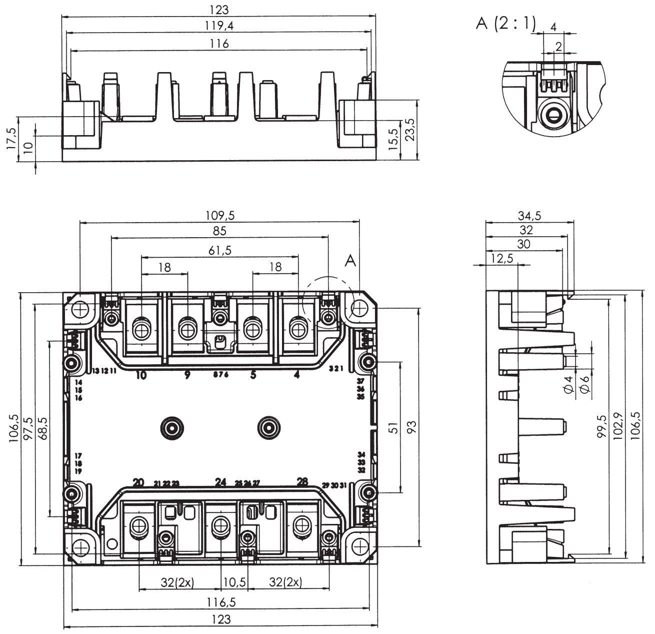
Type	IGBT						Diode				Module	
	I_C @ T_S= 25°C A	I_{Cnom} A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-s)}$ K/W	I_F@ T_S = 25°C A	V_F @ T_j = 25°C typ. V	E_{rr} mJ	$R_{th(j-s)}$ K/W	Case	Circuit
600V - IGBT3 (Trench)												
SKiM301MLI07E4	248	300	1.55	2.78	17.48	0.3	177	1.40	-	0.53	4	
SKiM401MLI07E4	319	400	1.55	3.32	20.91	0.25	289	1.40	1.8	0.31	4	
SKiM601MLI07E4	440	600	1.55	6.05	44	0.19	318	1.39	2.4	0.31	4	
1200V - IGBT3 (Trench)												
SKiM200GD126D	-	200	1.65	15	25	-	152	2.4	-	0.35	4	
SKiM300GD126D	265	300	1.70	28	47	0.2	260	1.9	-	0.285	4	
SKiM300GD126DL	265	300	1.65	28	47	0.2	260	1.9	-	0.285	4	
SKiM400GD126DM	330	300	1.70	29	46	0.134	300	1.9	-	0.19	4	
SKiM400GD126DLM	330	300	1.65	29	46	0.134	300	1.9	-	0.19	4	
SKiM450GD126D	390	450	1.70	42	70	0.13	345	1.9	-	0.19	5	
SKiM450GD126DL	390	450	1.65	42	70	0.13	345	1.9	-	0.19	5	
SKiM600GD126DLM	480	450	1.65	42	70	0.09	450	1.9	-	0.125	5	
SKiM601GD126DM	480	450	1.70	42	70	0.09	450	1.9	-	0.125	5	
1200V - IGBT4 (Trench)												
SKiM304GD12T4D	312	300	1.80	-	-	0.19	221	2.3	-	0.25	4	
SKiM455GD12T4D1	400	450	1.80	34	40	0.14	295	2.3	28	0.19	5	
SKiM201MLI12E4	206	200	1.80	14.81	22.6	0.29	187	2.20	14.78	0.36	4	
SKiM301MLI12E4	311	300	1.80	22.2	33.9	0.19	282	2.20	21.8	0.24	4	
SKiM301TMLI12E4B	311	300	1.80	6.62	19.37	0.19	249	2.20	1.79	0.29	4	
SKiM301TMLI12E4C	294	300	1.80	6.619	19.376	0.21	274	2.20	1.79	0.25	4	
SKiM401TMLI12E4B	411	400	1.80	8.83	25.83	0.145	365	2.20	2.391	0.188	4	
SKiM601TMLI12E4B	529	600	1.80	11.44	44.88	0.125	495	2.14	4.37	0.15	4	
1700V - IGBT3 (Trench)												
SKiM120GD176D	110	125	2	72	46	0.4	105	1.6	22	0.56	4	
SKiM220GD176DH4	220	250	2	145	100	0.21	220	1.7	65	0.26	4	

IGBT Modules / SKiM 4/5

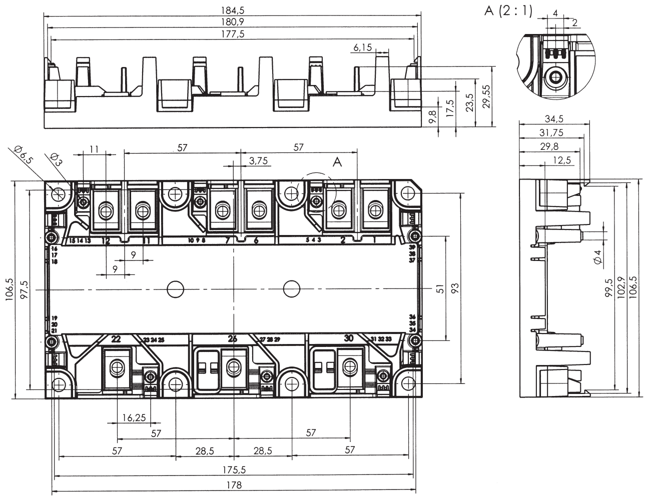
Type	IGBT						Diode				Module	
	I_C @ T_S= 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j\text{-}s)}$	I_F@ T_S = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j\text{-}s)}$	Case	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		Circuit
1700V - IGBT3 (Trench)												
SKiM270GD176D	260	300	2.00	170	120	0.175	215	1.7	-	0.29	5	

Cases

SKiM 4

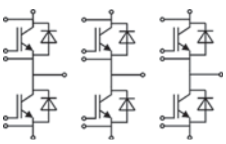
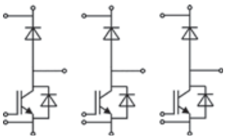
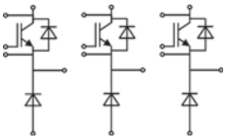
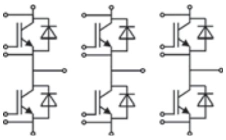
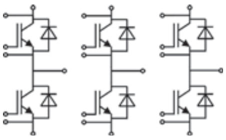


SKiM 5



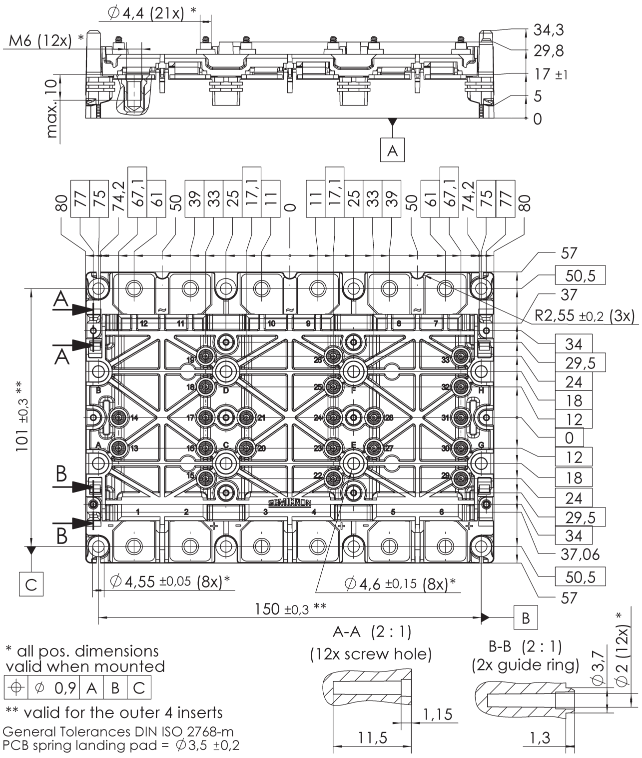
Dimensions in mm

IGBT Modules / SKiM 63/93

Type	IGBT						Diode				Module	
	I_C @ T_S= 25°C	I_{Cnom}	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-s)}$	I_F@ T_S = 25°C	V_F @ T_j = 25°C typ.	E_{rr}	$R_{th(j-s)}$	Case	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		Circuit
600V - IGBT3 (Trench)												
SKiM406GD066HD	468	400	1.45	8	25	0.135	360	1.5	12	0.243	63	
SKiM606GD066HD	641	600	1.45	16	53	0.105	453	1.6	21	0.201	63	
SKiM909GD066HD	899	900	1.45	36	88	0.078	712	1.5	29	0.135	93	
1200V - IGBT4 (Trench)												
SKiM609GAL12E4	748	600	1.85	136	83	0.068	1397	1.7	39	0.048	93	
SKiM609GAR12E4	748	600	1.85	136	83	0.068	1397	1.7	39	0.048	93	
SKiM306GD12E4	410	300	1.85	19	39	0.116	302	2.1	21	0.218	63	
SKiM459GD12E4	554	450	1.85	22	57	0.092	438	2.1	40	0.155	93	
1700V - IGBT4 (Trench)												
SKiM429GD17E4HD	595	420	1.90	245	180	0.079	413	1.7	99	0.169	93	

Cases

SKiM 63



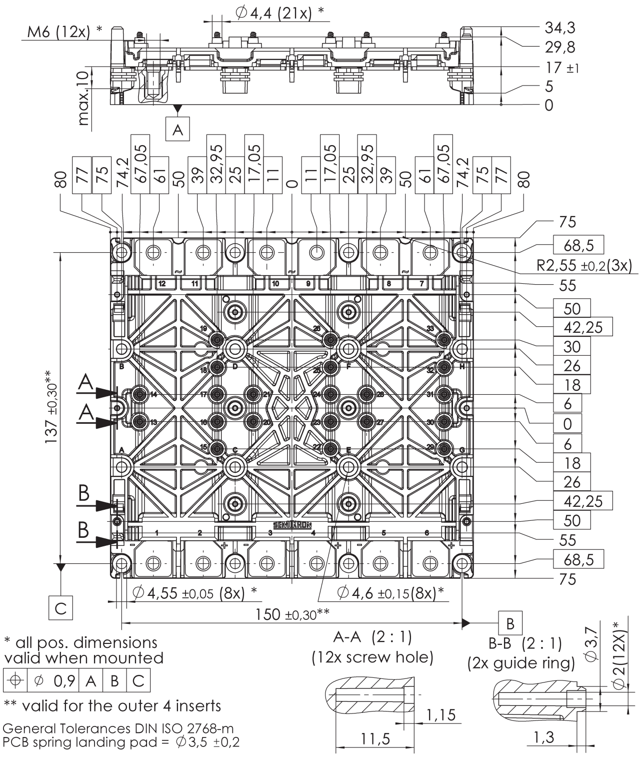
* all pos. dimensions valid when mounted

⌖	∅ 0,9	A	B	C

** valid for the outer 4 inserts

General Tolerances DIN ISO 2768-m
PCB spring landing pad = ∅3,5 ±0,2

SKiM 93



* all pos. dimensions valid when mounted

⌖	∅ 0,9	A	B	C

** valid for the outer 4 inserts

General Tolerances DIN ISO 2768-m
PCB spring landing pad = ∅3,5 ±0,2

Dimensions in mm

Silicon Carbide Modules for Highest Energy Efficiency

SEMIKRON offers hybrid and full silicon carbide power modules in MiniSKiiP, SEMITOP, SEMITRANS 3 and SKiM63/93. Latest IGBT technology is combined with SiC Schottky diodes to increase the switching frequency and reduce power losses at the same time. Silicon carbide MOSFETs, either with or without anti-parallel SiC Schottky diodes, create even higher gains in switching frequency and power density.

The SEMIKRON silicon carbide power modules are available from 8A to 500A in 1200V. Covered topologies are 6-packs, also with split output configurations, half bridges and triple boost converters. Additionally further topologies like 3-level or H-bridge designs are easily adaptable to silicon carbide and will complete the portfolio.

Product Page

Full SiC

Hybrid SiC

For detailed information
please refer data sheets.

Further information:
http://www.semikron.com/full-sic
http://www.semikron.com/hybrid-sic

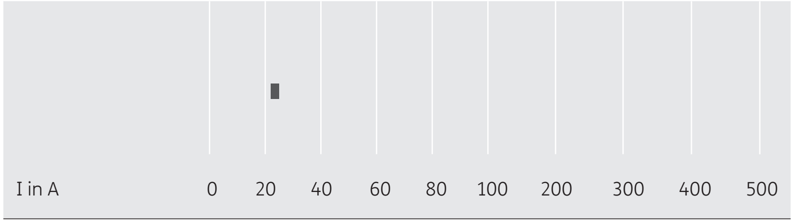
Silicon Carbide Modules

Full SiC

MiniSKiiP®

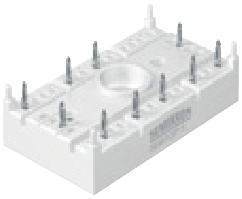
6-pack
H-bridge

1200V

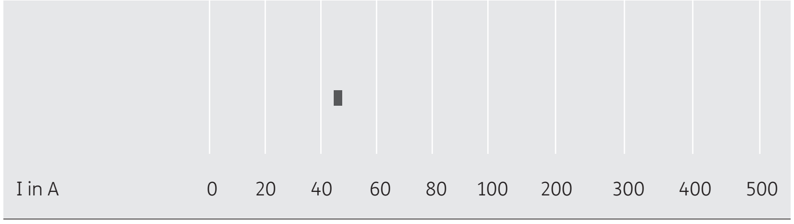


SEMITOP®

half bridge
6-pack
chopper
H-bridge



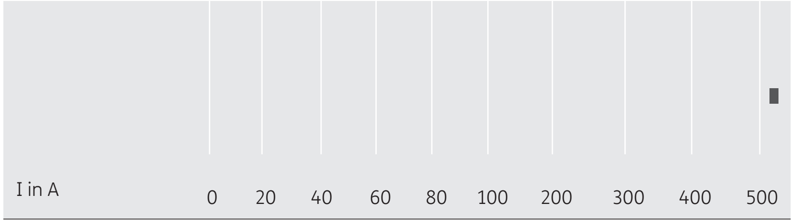
1200V



SEMITRANS®

half bridge

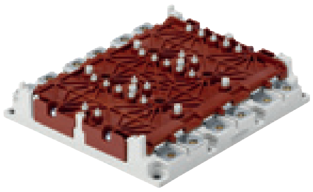
1200V



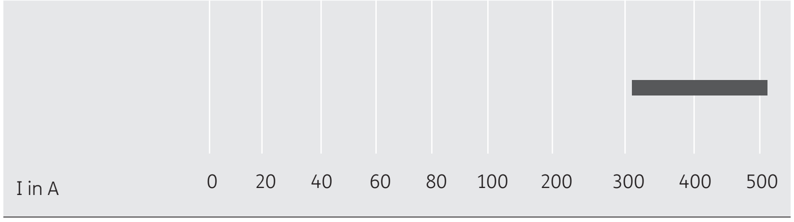
Hybrid SiC

SKiM® 63/93

6-pack



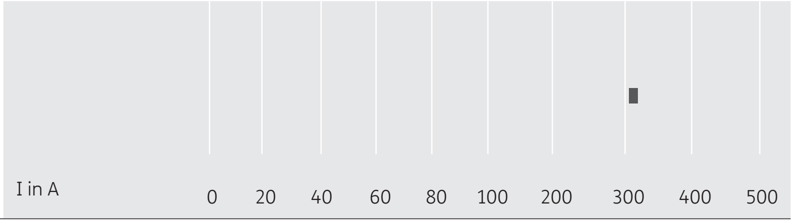
1200V



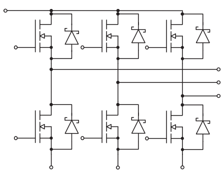
SEMITRANS®

half bridge

1200V



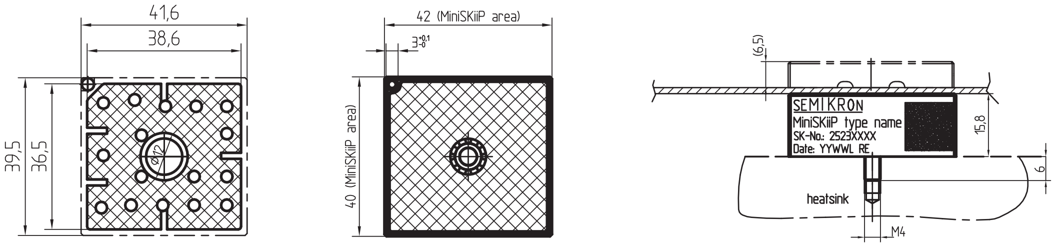
SiC Modules / Full SiC / MiniSKiiP

Type	V_{DS} V	I_D @ T_c = 25°C A	$R_{DS(on)}$ @ T_j = 25°C typ. mΩ	$R_{th(j-s)}$ K/W	Case	Circuit
1200V - IGBT4 (Trench)						
SKiiP 13ACM12V15[8)]	1200	22	80	1.25	II 1	

Footnotes: 8) Target data

Cases

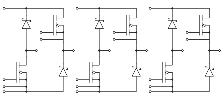
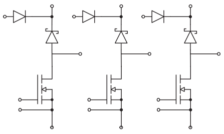
MiniSKiiP II 1



pin configuration depends on circuit
(details in data sheet)

Dimensions in mm

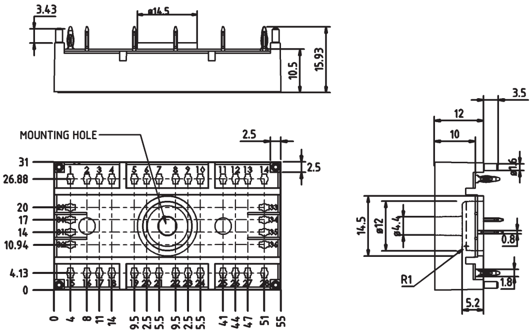
SiC Modules / Full SiC / SEMITOP

Type	V_{DS} V	I_D @ T_C = 25°C A	$R_{DS(on)}$ @ T_j = 25°C typ. mΩ	$R_{th(j-s)}$ K/W	Case	Circuit
1200V - IGBT4 (Trench)						
SK45MAHT12SCp[8)]	1200	45	45	0.87	3p	
SK45MLET12SCp[8)]	1200	45	45	0.87	3p	

Footnotes: 8) Target data

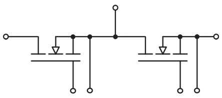
Cases

SEMITOP 3 Press-Fit



Dimensions in mm

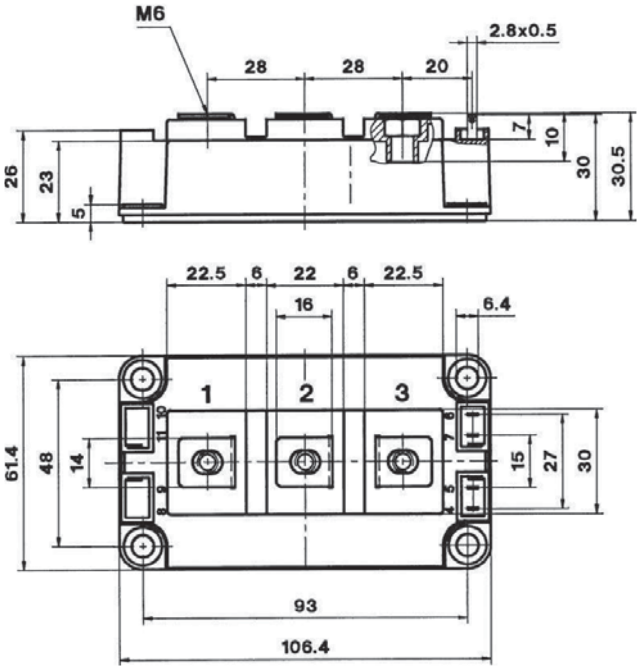
SiC Modules / Full SiC / SEMITRANS

Type	V_{DS} V	I_D @ T_C = 25°C A	$R_{DS(on)}$ @ T_j = 25°C typ. mΩ	$R_{th(j-c)}$ K/W	Case	Circuit
SKM500MB120SC[8]	1200	541	3.75	0.07	3	

Footnotes: 8) Target data

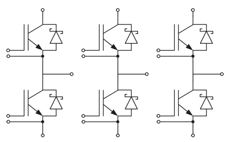
Cases

SEMITRANS 3



Dimensions in mm

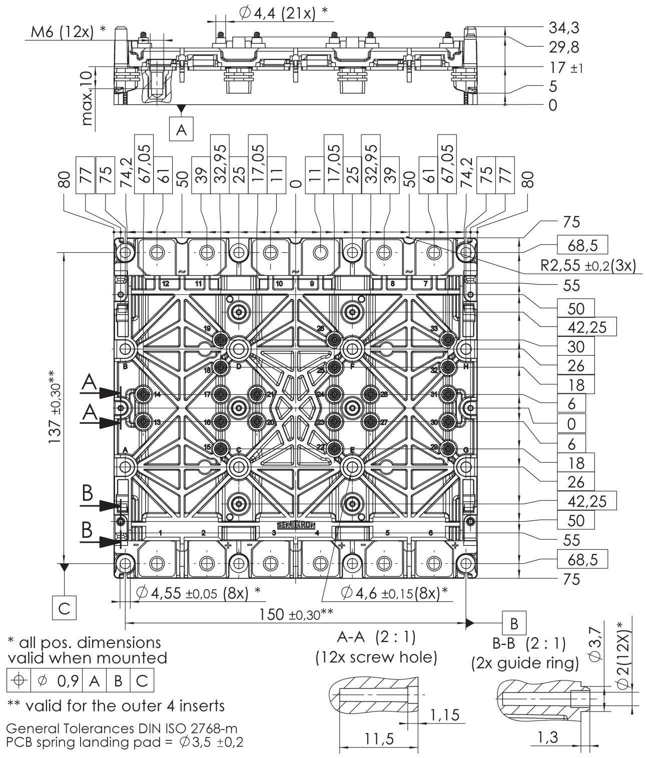
SiC Modules / Hybrid SiC / SKiM 63/93

Type	IGBT						Diode				Module	
	I_C @ T_S= 25°C	Current (A)	$V_{CE(sat)}$ @ T_j = 25°C typ.	E_{on}	E_{off}	$R_{th(j-s)}$	I_F@ T_S = 25°C	V_F	E_{rr}	$R_{th(j-s)}$	Case	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		Circuit
1200V - IGBT4 (Trench)												
SKiM309GD125SIC[8)]	307	300	3.20	12.8	16.8	0.086	196	1.6	0.68	0.151	93	
SKiM459GD12F4SiC[8)]	507	450	2.05	9	35	0.092	283	1.6	-	0.18	93	

Footnotes: 8) Target data

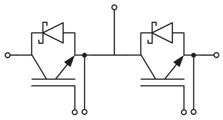
Cases

SKiM 93



Dimensions in mm

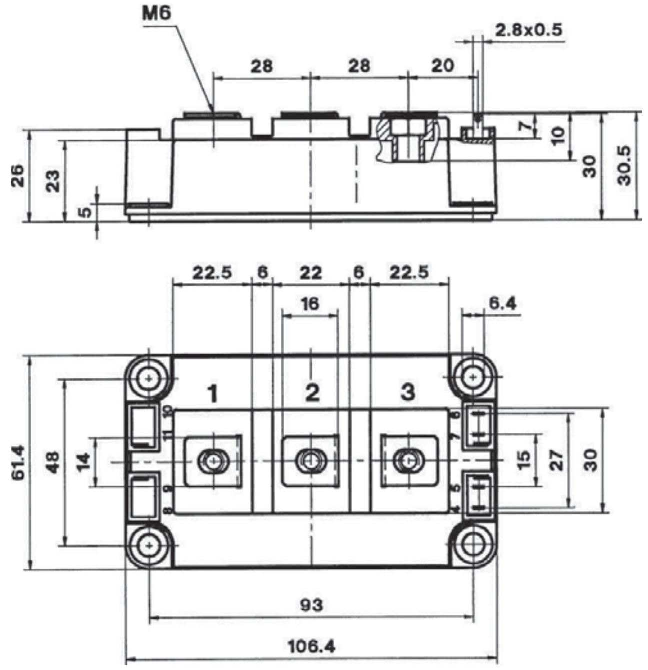
SiC Modules / Hybrid SiC / SEMITRANS

Type	IGBT						Diode				Module		
	I_C @ T_C= 25°C A	Current (A) A	$V_{CE(sat)}$ @ T_j = 25°C typ. V	E_{on} mJ	E_{off} mJ	$R_{th(j-c)}$ K/W	I_F@ T_C = 25°C A	V_F V	E_{rr} mJ	$R_{th(j-c)}$ K/W	Case	$R_{th(c-s)}$ K/W	Circuit
1200V - IGBT4 (Trench)													
SKM200GB12T4SiC[8]	313	200	1.80	7	20	0.14	174	2.00	0.1	0.2	3	0.038	

Footnotes: 8) Target data

Cases

SEMITRANS 3



Dimensions in mm

MOSFET Modules
Best in Class Switching Performance

SEMIKRON produces MOSFET (Metal Oxide Semiconductor Field Effect Transistor) modules in single switch, halfbridge, H-bridge and 6-pack configuration in SEMITOP and SEMITRANS packages.

The available MOSFET modules in the voltage range of 55V up to 600V and current ratings of 40A up to 290A are especially designed for high-speed switching offering low switching losses.

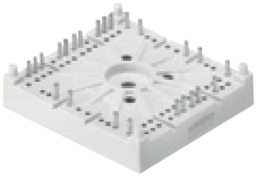
For detailed information
please refer data sheets.

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

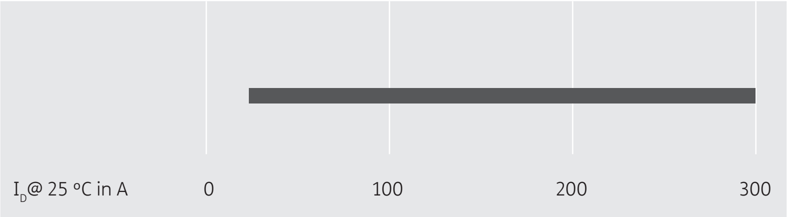
MOSFET Modules

SEMITOP®

6-pack
H-bridge
half bridge



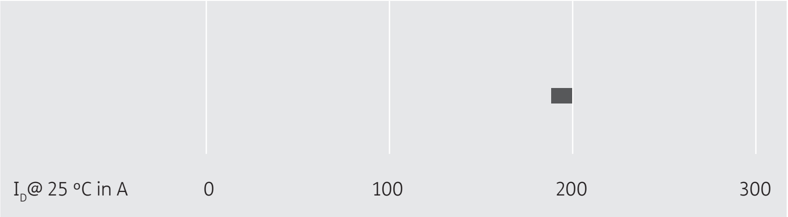
55V up to 600V



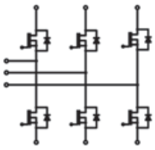
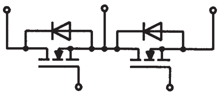
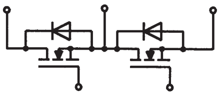
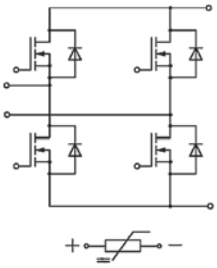
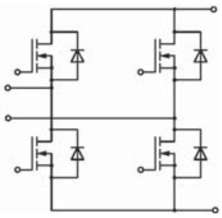
SEMITRANS®

single switch

100V up to 200V



MOSFET Modules / SEMITOP

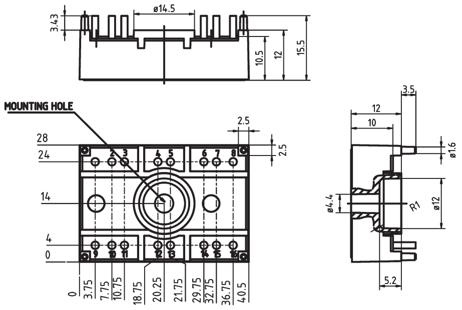
Type	V_{DS} V	I_D @ $T_C = 25°C$ A	$R_{DS(on)}$ @ $T_j = 25°C$ typ. mΩ	$R_{th(j-s)}$ K/W	Case	Circuit
55V						
SK 80 MBBB 055	55	117	2.2	1.1	3	
75V						
SK 300 MB 075	75	290	-	0.45	3	
100V						
SK 260 MB 10	100	230	-	0.45	3	
SK 85 MH 10 T	100	80	-	1.1	2	
600V						
SK 60 MH 60[1]	600	60	33	0.54	4	

Footnotes: 1) New product

Cases

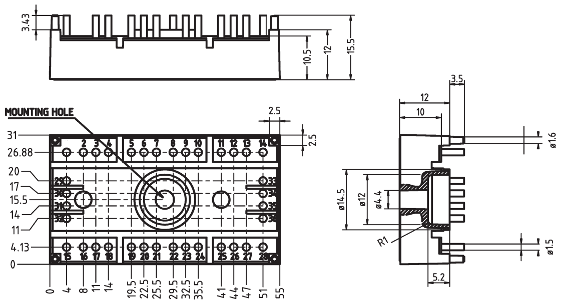
SEMITOP 2

dimensions in mm
tolerance system: ISO 2768-m



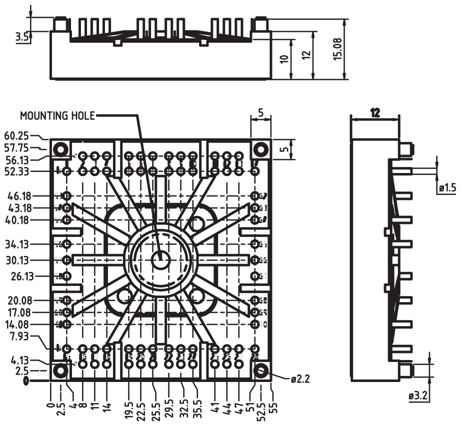
SEMITOP 3

dimensions in mm
tolerance system: ISO 2768-m



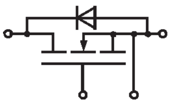
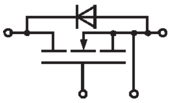
SEMITOP 4

dimensions in mm
tolerance system: ISO 2768-m



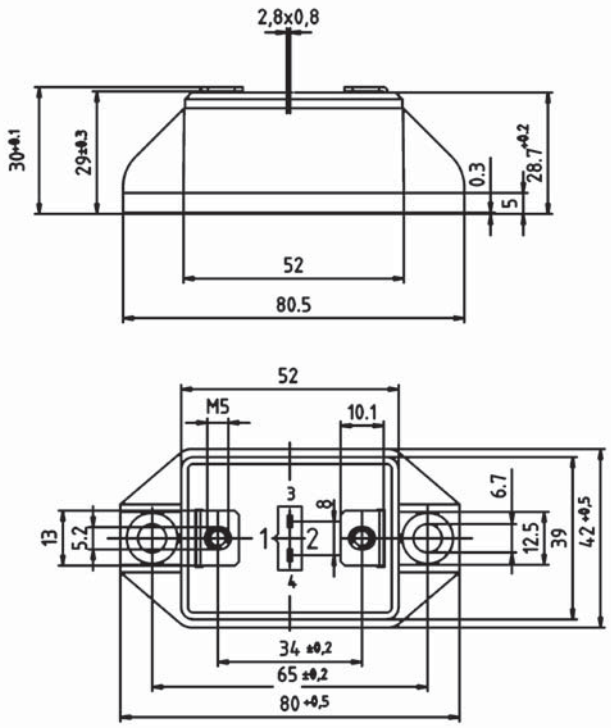
Dimensions in mm

MOSFET Modules / SEMITRANS

Type	V_{DS} V	I_D @ T_C = 25°C A	$R_{DS(on)}$ @ T_j = 25°C typ. mΩ	$R_{th(j-c)}$ K/W	Case	Circuit
100V						
SKM 111 AR	100	200	7	0.18	M1	
SKM 111 RZR	100	200	7	0.18	M1	
200V						
SKM 180 A020	200	180	9	0.18	M1	

Cases

SEMITRANS M1



Dimensions in mm

Thyristor / Diode Modules with Proven Packages

The SEMIKRON thyristor modules are available in different packages like SEMIPACK, SEMiSTART, Thyristor / Diode Modules, SEMIPONT and SEMITOP. Modules in different packaging technologies are available: soldered, wire bonded and pressure contact modules with and without baseplate.

PCB contacting is possible by soldered pins, pressfit contacts or plug connectors. The thyristor modules are offered in a variety of dual and single topologies for almost all phase control or rectifier applications.

All thyristor modules are equipped with SEMIKRON chips. The product line offers Thyristor / Diode Modules. A product range with voltages up to 2200V. Thanks to the comprehensive product range, the optimal solution for each application can be found.

For detailed information please refer data sheets.

Further information:
www.semikron.com/thyristor-diode-modules

SEMIKRON

Catalogue
2016/2017