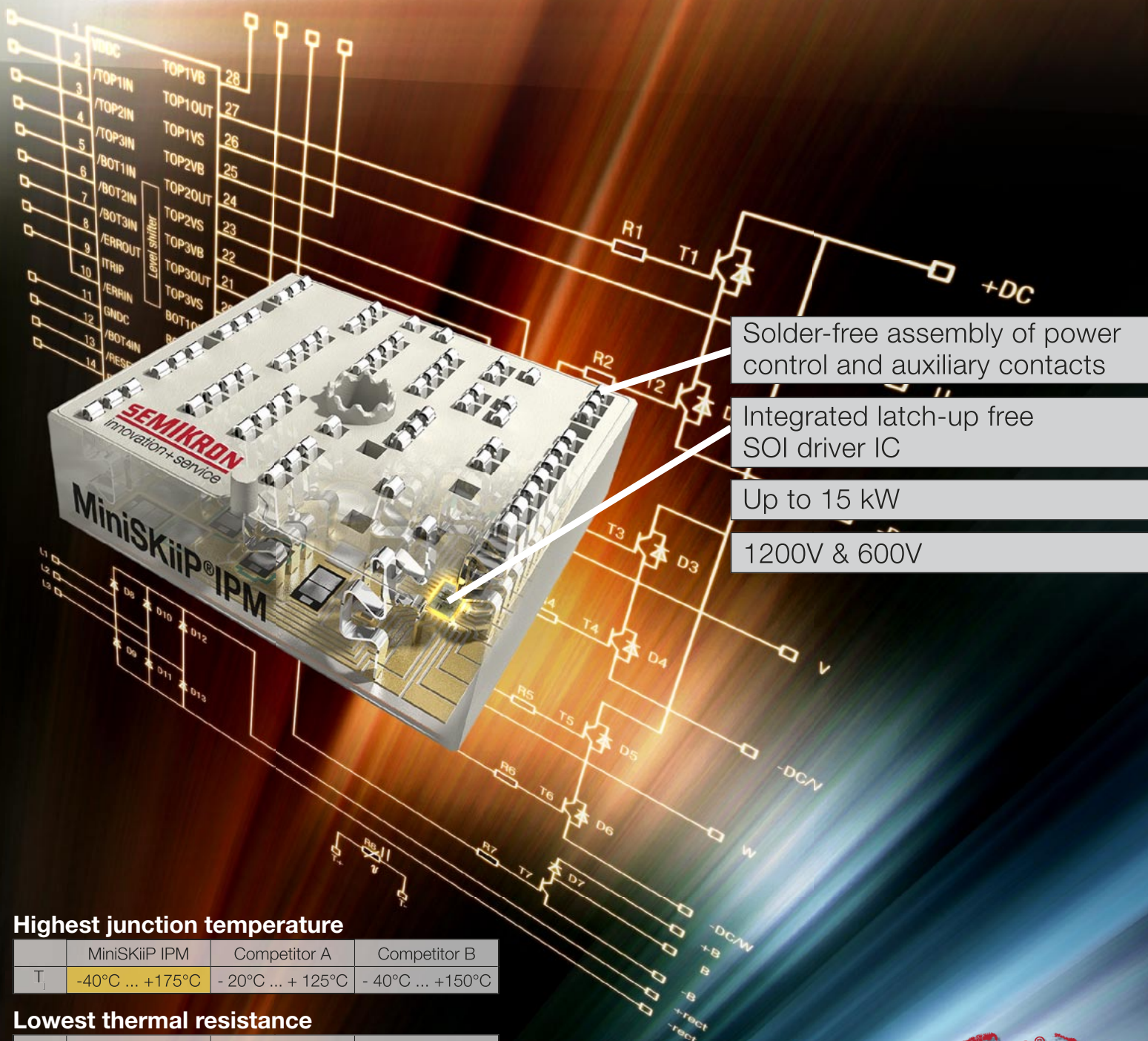


MiniSKiiP® IPM

Solder-free assembly



Solder-free assembly of power control and auxiliary contacts

Integrated latch-up free SOI driver IC

Up to 15 kW

1200V & 600V

Highest junction temperature

	MiniSKiiP IPM	Competitor A	Competitor B
T_j	-40°C ... +175°C	-20°C ... +125°C	-40°C ... +150°C

Lowest thermal resistance

600V	MiniSKiiP IPM	Competitor A	Competitor B
R_{th}	0,95 K/W	1,42 K/W	2,1K/W
P	5,5kW	3,7kW	3kW



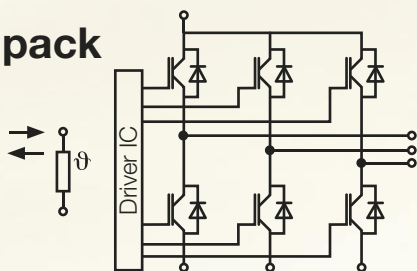
- Advanced level shifter technology
- Bootstrap power supply technology
- 3,3 / 5V CMOS, LSTTL compatible input interface
- Matched propagation delay for all channels
- Overcurrent shut-down via current sensing
- Interlock logic for shoot-through prevention
- Common shut-down input signal
- Undervoltage lockout for all channels with hysteresis band
- Trench-Field-Stop IGBTs
- CAL inverse diode (control axial lifetime)
- Integrated temperature sensor (NTC)
- RoHS compliant

HV driver IC in SOI technology	The high voltage driver IC provides an advanced level shifter technology for 600V and 1200V applications. Thus there is no need of an opto-coupler. Because of a low quiescent current demand a bootstrap power supply technology is used.
No latch-up	The high voltage SOI technology ensures latch-up immunity since all switches are dielectrically insulated. A down-level shifter for each channel allows the presence of negative secondary offset voltages. The integrated gate driver operates at any offset voltage down to -50V, providing a flexible power system.
Protection	The gate driver features an overcurrent shutdown circuit protection by using an external shunt resistor in the ground plane to shut down the IPM in case of overcurrent, as well as an undervoltage lockout for all channels and fault signaling. A shut-down can be also forced by the system controller using the shut-down input. Cross conductions are prevented by the interlock logic.
Solder-free assembly	Power, control and auxiliary contacts are connected directly to the printed circuit board with pressure contacts (springs) instead of solder joints. The all in one MiniSKiiP package reduces handling and parts count compared to discrete designs.
One step mounting	The simple snap-on mounting with one standard screw allows for a cost-efficient assembly of semiconductor, printed circuit board and heat sink in one step. The elimination of solder connections (no cold solder joints, no bent terminals and no drill holes in printed circuit board) improves the quality of the assembly. In contradiction to a solder assembly, a defect printed circuit board can be easily removed from the MiniSKiiP IPM.
Lowest thermal resistance	With the combination of pressure contact technology, evenly distributed vertical pressure, spring contacts and the base plate free housing, MiniSKiiP IPM achieves the best thermal resistance in its class. Compared to existing IPM technologies MiniSKiiP IPM realizes an optimized current density, leading to high power cycling capability and a long lifetime.

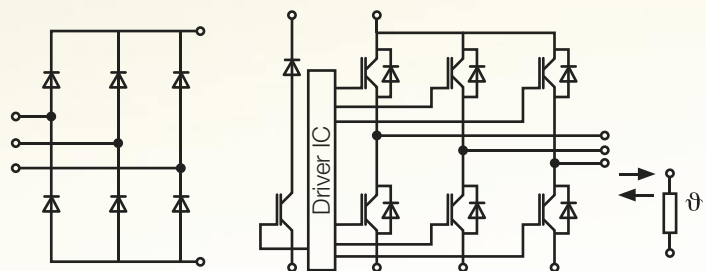
	IGBT						Diode			Rectifier
	V _{CES} V	Circuit	I _C @T _s =25°C A	I _{Cnom} A	V _{CE(sat)} @25°C V	R _{th(j-s)} K/W	I _F @T _c =25°C A	V _F V	R _{th(j-s)D} K/W	I _{FSM} A
SKiiP 25NABIO66V1*	600	CIB	39	30	1,45	1,35	33	1,5	2,1	370
SKiiP 26NABIO66V1	600	CIB	59	50	1,45	0,95	47	1,5	1,6	370
SKiiP 37NABIO66V1*	600	CIB	79	75	1,45	0,75	65	1,5	1,2	700
SKiiP 25ACI12T4V1*	1200	6-pack	72	50	1,85	0,65	56	2,25	1,05	-

* under development

6-pack



CIB



	Intl.	Tel.		Intl.	Tel.		Intl.	Tel.	Intl.	Tel.	
Argentina	+54	11 47 09 00 69	España	+34	9 36 33 58 90	Norge	+47	22-90 56 70	Sverige	+46	8-59 47 68 50
Australia	+61	3- 85 61 56 00	France	+33	1-30 86 80 00	Österreich	+43	1-58 63 65 80	Taiwan	+886	2-27 99 60 10
Belarus	+375	17-2 10 21 89	Hellas	+302	1 05 75 27 91	Pakistan	+92	42-6 30 68 03	Thailand	+66	2-75 78 22 25
Belgium	+32	2-3 00 07 93	India	+91	22-27 61 97 45	Philippines	+63	2-8 31 40 66	Türkiye	+90	21 64 10 30 22
Brasil	+55	11-41 86 95 00	Indonesia	+62	2 15 80 60 44	Polska	+48	2 26 15 79 84	Ukraine	+380	44-4 54 24 62
Cesko	+420	2 22 82 91 80	Italia	+39	06-9 11 42 41	Portugal	+351	2 13 22 41 63	United Kingdom	+44	19 92-58 46 77
Chile	+56	2-2 21 95 99	Japan	+81	3-56 39 50 75	Russia	+7	38 33 55 58 69	USA	+1	603-8 83 81 02
China	+852	34 26 33 66	Korea	+82	32-3 46 28 30	Schweiz	+41	4 49 14 13 33	Vietnam	+84	88 03 59 32
	+86	75 63 39 67 07	Malaysia	+60	3-21 43 08 98	Slovensko	+421	3 37 97 03 05			
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