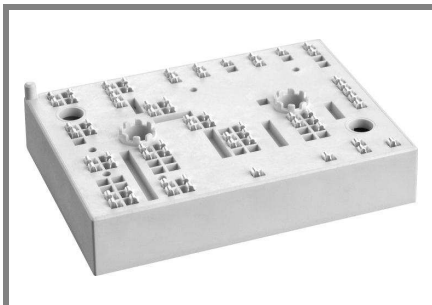


# SKiiP 39AC065V2



## MiniSKiiP® 3

### 3-phase bridge inverter

#### SKiiP 39AC065V2

#### Features

- Ultrafast NPT IGBTs
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

#### Typical Applications\*

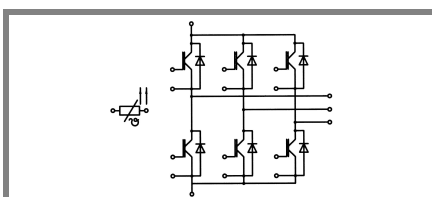
- Inverter up to 30 kVA
- Typical motor power 15 kW

#### Remarks

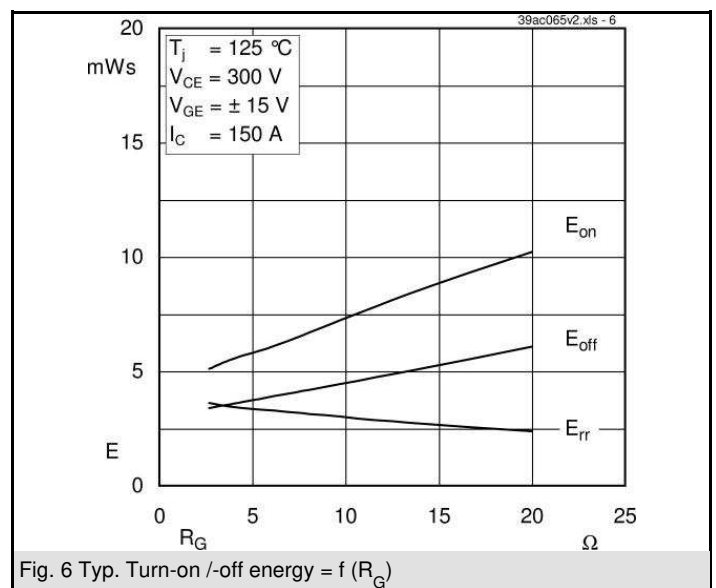
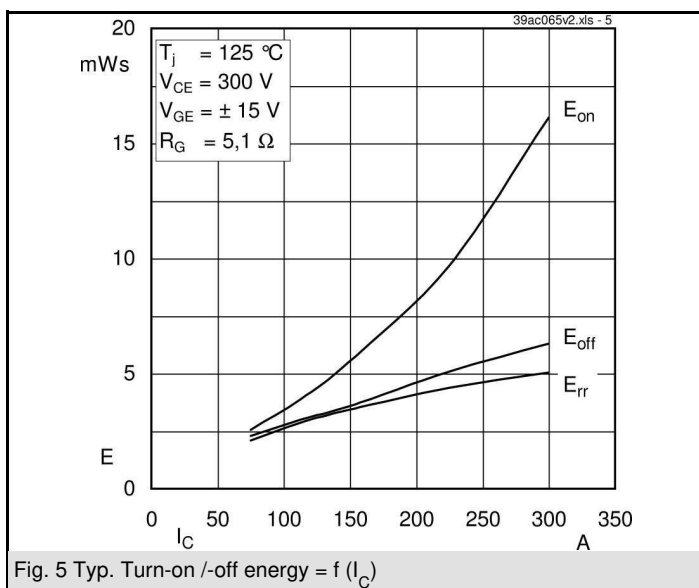
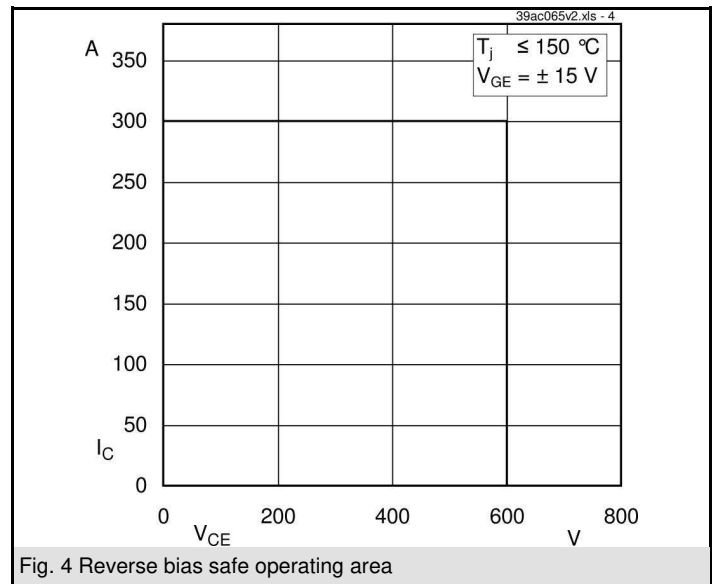
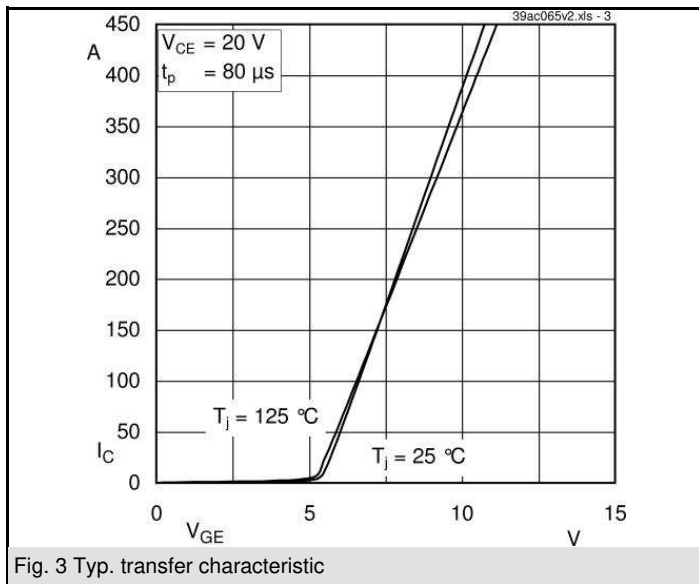
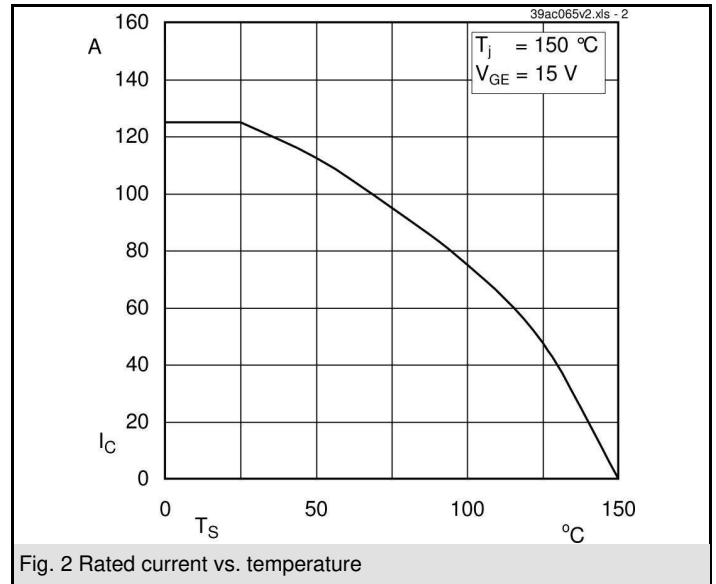
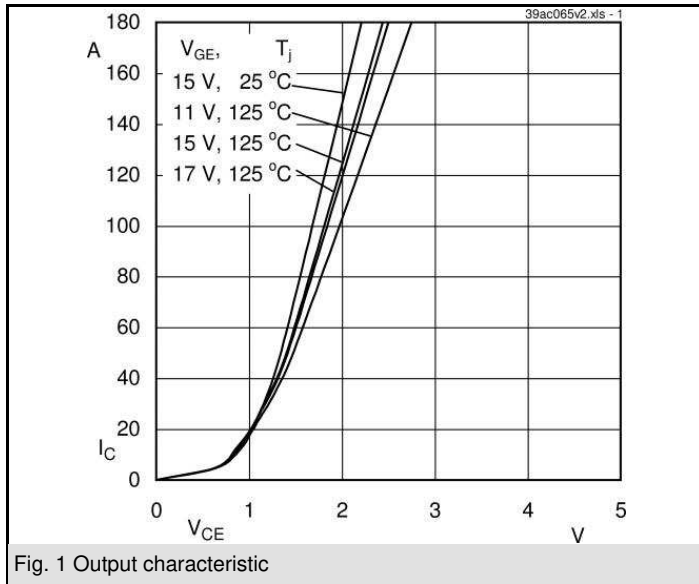
- $V_{CEsat}$ ,  $V_F$  = chip level value

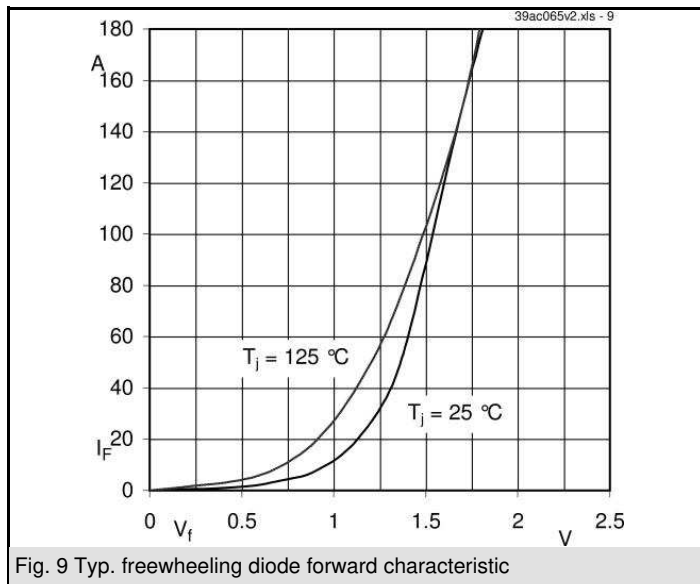
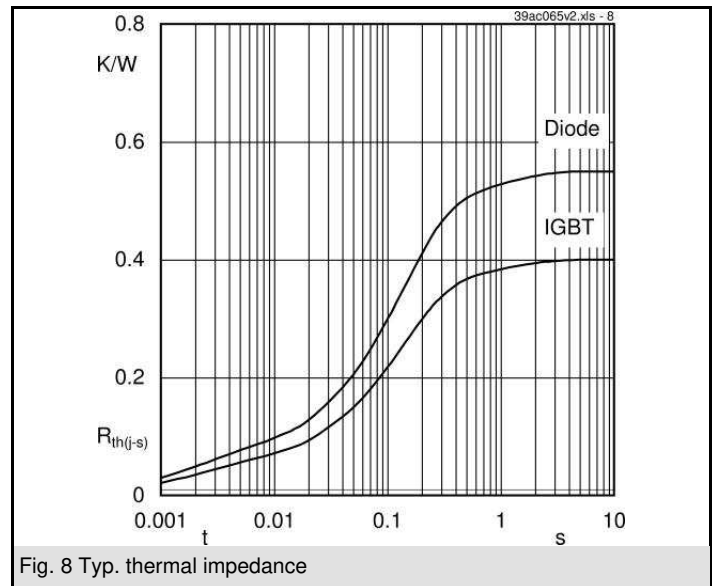
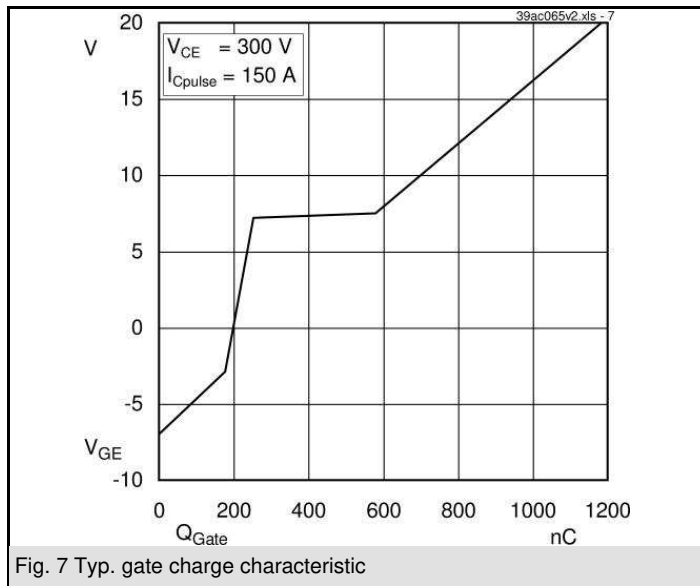
Absolute Maximum Ratings		$T_s = 25\text{ °C}$ , unless otherwise specified	
Symbol	Conditions	Values	Units
<b>IGBT - Inverter</b>			
$V_{CES}$	$T_s = 25\text{ (70) °C}$ $t_p \leq 1\text{ ms}$	600	V
$I_C$		125 (93)	A
$I_{CRM}$		300	A
$V_{GES}$		$\pm 15$	V
$T_j$		- 40 ... + 150	°C
<b>Diode - Inverter</b>			
$I_F$	$T_s = 25\text{ (70) °C}$ $t_p \leq 1\text{ ms}$	120 (89)	A
$I_{FRM}$		300	A
$T_j$		- 40 ... + 150	°C
$I_{tRMS}$	per power terminal (20 A / spring)	160	A
$T_{stg}$	$T_{op} \leq T_{stg}$	- 40 ... + 125	°C
$V_{isol}$	AC, 1 min.	2500	V

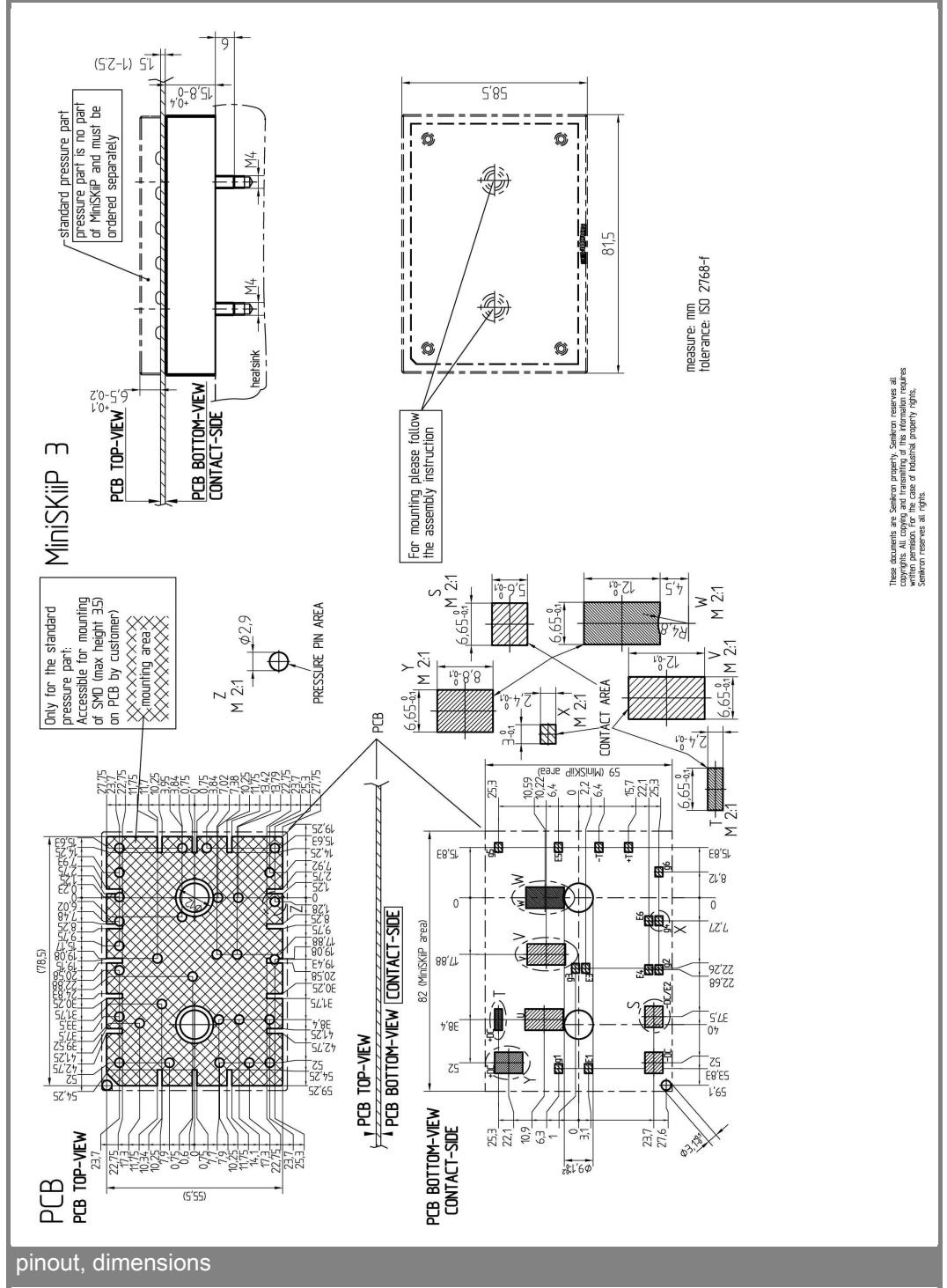
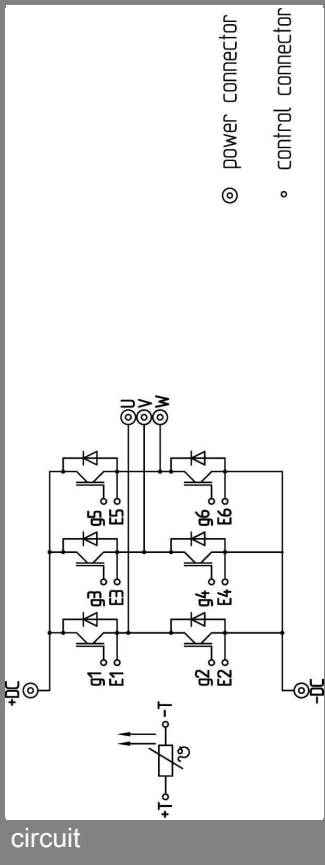
Characteristics		$T_s = 25\text{ °C}$ , unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
<b>IGBT - Inverter</b>					
$V_{CEsat}$	$I_{Cnom} = 150\text{ A}$ , $T_j = 25\text{ (125) °C}$		2 (2,2)	2,5 (2,7)	V
$V_{GE(th)}$	$V_{GE} = V_{CE}$ , $I_C = 3\text{ mA}$	3	4	5	V
$V_{CE(TO)}$	$T_j = 25\text{ (125) °C}$		1,2 (1,1)	1,3 (1,2)	V
$r_T$	$T_j = 25\text{ (125) °C}$		5,3 (7,3)	8 (10)	mΩ
$C_{ies}$	$V_{CE} = 25\text{ V}$ , $V_{GE} = 0\text{ V}$ , $f = 1\text{ MHz}$		9		nF
$C_{oes}$	$V_{CE} = 25\text{ V}$ , $V_{GE} = 0\text{ V}$ , $f = 1\text{ MHz}$		1,7		nF
$C_{res}$	$V_{CE} = 25\text{ V}$ , $V_{GE} = 0\text{ V}$ , $f = 1\text{ MHz}$		2,1		nF
$R_{th(j-s)}$	per IGBT		0,4		K/W
$t_{d(on)}$	under following conditions		20		ns
$t_r$	$V_{CC} = 300\text{ V}$ , $V_{GE} = \pm 15\text{ V}$		25		ns
$t_{d(off)}$	$I_{Cnom} = 150\text{ A}$ , $T_j = 125\text{ °C}$		185		ns
$t_f$	$R_{Gon} = R_{Goff} = 5,1\text{ Ω}$		15		ns
$E_{on}$	inductive load		6,4		mJ
$E_{off}$			3,7		mJ
<b>Diode - Inverter</b>					
$V_F = V_{EC}$	$I_{Fnom} = 150\text{ A}$ , $T_j = 25\text{ (125) °C}$		1,7 (1,7)	2,1 (2,1)	V
$V_{(TO)}$	$T_j = 25\text{ (125) °C}$		1 (0,9)	1,1 (1)	V
$r_T$	$T_j = 25\text{ (125) °C}$		4,7 (5,3)	6,7 (7,3)	mΩ
$R_{th(j-s)}$	per diode		0,55		K/W
$I_{RRM}$	under following conditions		270		A
$Q_{rr}$	$I_{Fnom} = 150\text{ A}$ , $V_R = 300\text{ V}$		18		μC
$E_{rr}$	$V_{GE} = 0\text{ V}$ , $T_j = 125\text{ °C}$ $di_F/dt = 13700\text{ A/μs}$		3,5		mJ
<b>Temperature Sensor</b>					
$R_{ts}$	3 %, $T_r = 25\text{ (100) °C}$		1000(1670)		Ω
<b>Mechanical Data</b>					
m			95		g
$M_s$	Mounting torque	2		2,5	Nm



AC







This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

\* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

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