SKiiP 25AC125V10

MiniSKiiP® 2

3-phase bridge inverter

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Target Data

Features

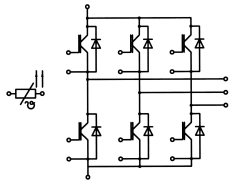
- Ultrafast NPT IGBTs
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Typical Applications

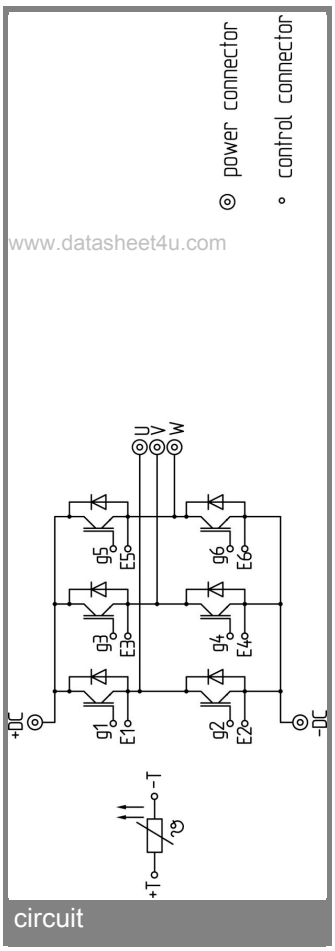
- Inverter up to 20 kVA
- Typical motor power 11 kW

Absolute Maximum Ratings		T_s = 25 °C, unless otherwise specified	
Symbol	**Conditions**	**Values**	**Units**
IGBT - Inverter			
V_{CES}		1200	V
I_C	T_s = 25 (70) °C	52 (39)	A
I_{CRM}	T_s = 25 (70) °C, $t_p \leq$ 1 ms	104 (78)	A
V_{GES}		± 20	V
T_j		- 40 ... + 150	°C
Diode - Inverter			
I_F	T_s = 25 (70) °C	67 (50)	A
I_{FRM}	T_s = 25 (70) °C, $t_p \leq$ 1 ms	134 (100)	A
T_j		- 40 ... + 150	°C
I_{tRMS}	per power terminal (20 A / spring)	100	A
T_{stg}	$T_{op} \leq T_{stg}$	- 40 ... + 125	°C
V_{isol}	AC, 1 min.	2500	V

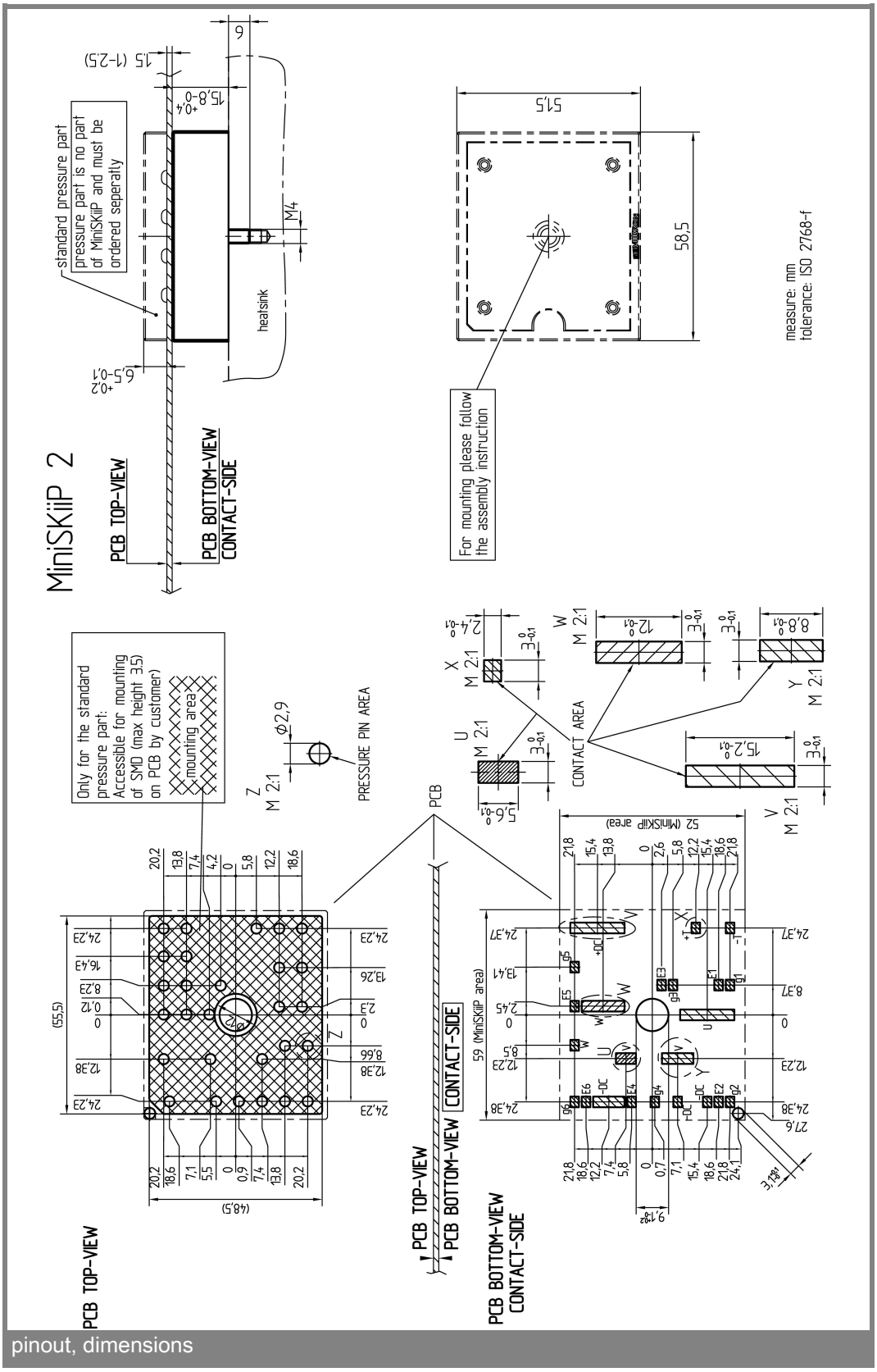
Characteristics		T_s = 25 °C, unless otherwise specified			
Symbol	**Conditions**	**min.**	**typ.**	**max.**	**Units**
IGBT - Inverter					
V_{CEsat}	I_C = 50 A, T_j = 25 (125) °C		3,5 (4,1)	3,9 (4,5)	V
$V_{GE(th)}$	$V_{GE} = V_{CE}$, I_C = 2 mA	4,5	5,5	6,5	V
$V_{CE(TO)}$	T_j = 25 (125) °C		1,5 (1,8)	1,7 (2)	V
r_T	T_j = 25 (125) °C		40 (46)	44 (50)	mΩ
C_{ies}	V_{CE} = 25 V, V_{GE} = 0 V, f = 1 MHz		3,1		nF
C_{oes}	V_{CE} = 25 V, V_{GE} = 0 V, f = 1 MHz		0,4		nF
C_{res}	V_{CE} = 25 V, V_{GE} = 0 V, f = 1 MHz		0,4		nF
$R_{th(j-s)}$	per IGBT		0,5		K/W
$t_{d(on)}$	under following conditions		100		ns
t_r	V_{CC} = 600 V, V_{GE} = ± 15 V		60		ns
$t_{d(off)}$	I_C = 50 A, T_j = 125 °C		400		ns
t_f	$R_{Gon} = R_{Goff}$ = 12 Ω		20		ns
E_{on}	inductive load		5,9		mJ
E_{off}			3,1		mJ
Diode - Inverter					
$V_F = V_{EC}$	I_F = 50 A, T_j = 25 (125) °C		2 (1,8)	2,5 (2,3)	V
$V_{(TO)}$	T_j = 25 (125) °C		1,3 (1)	1,5 (1,2)	V
r_T	T_j = 25 (125) °C		14 (16)	20 (22)	mΩ
$R_{th(j-s)}$	per diode		0,7		K/W
I_{RRM}	under following conditions		40		A
Q_{rr}	I_F = 50 A, V_R = 600 V		8		µC
E_{rr}	V_{GE} = 0 V, T_j = 125 °C		2		mJ
	di_F/dt = 800 A/µs				
Temperature Sensor					
R_{ts}	3 %, T_r = 25 (100) °C		1000(1670)		Ω
Mechanical Data					
m			65		g
M_s	Mounting torque	2		2,5	Nm



AC



circuit



pinout, dimensions

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

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