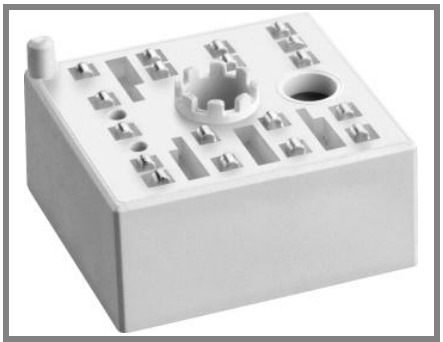


MiniSkiiP® 0

3-phase bridge inverter + brake chopper

SkiiP 04ACB066V1

Target Data

Features

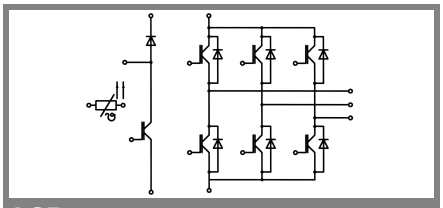
- Trench IGBT`s
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Typical Applications

- Inverter up to 6,3 kVA
- Typical motor power 4 kW

Remarks

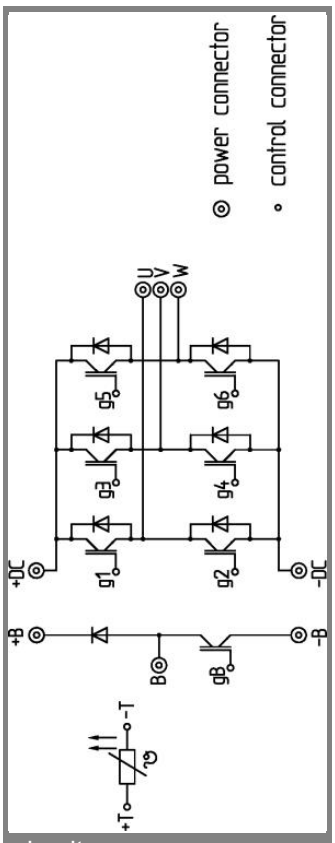
- Case temperature limited to T_C=125°C max.
- Product reliability results are valid for T_j=150°C
- V_{CEsat}, V_F = chip level value



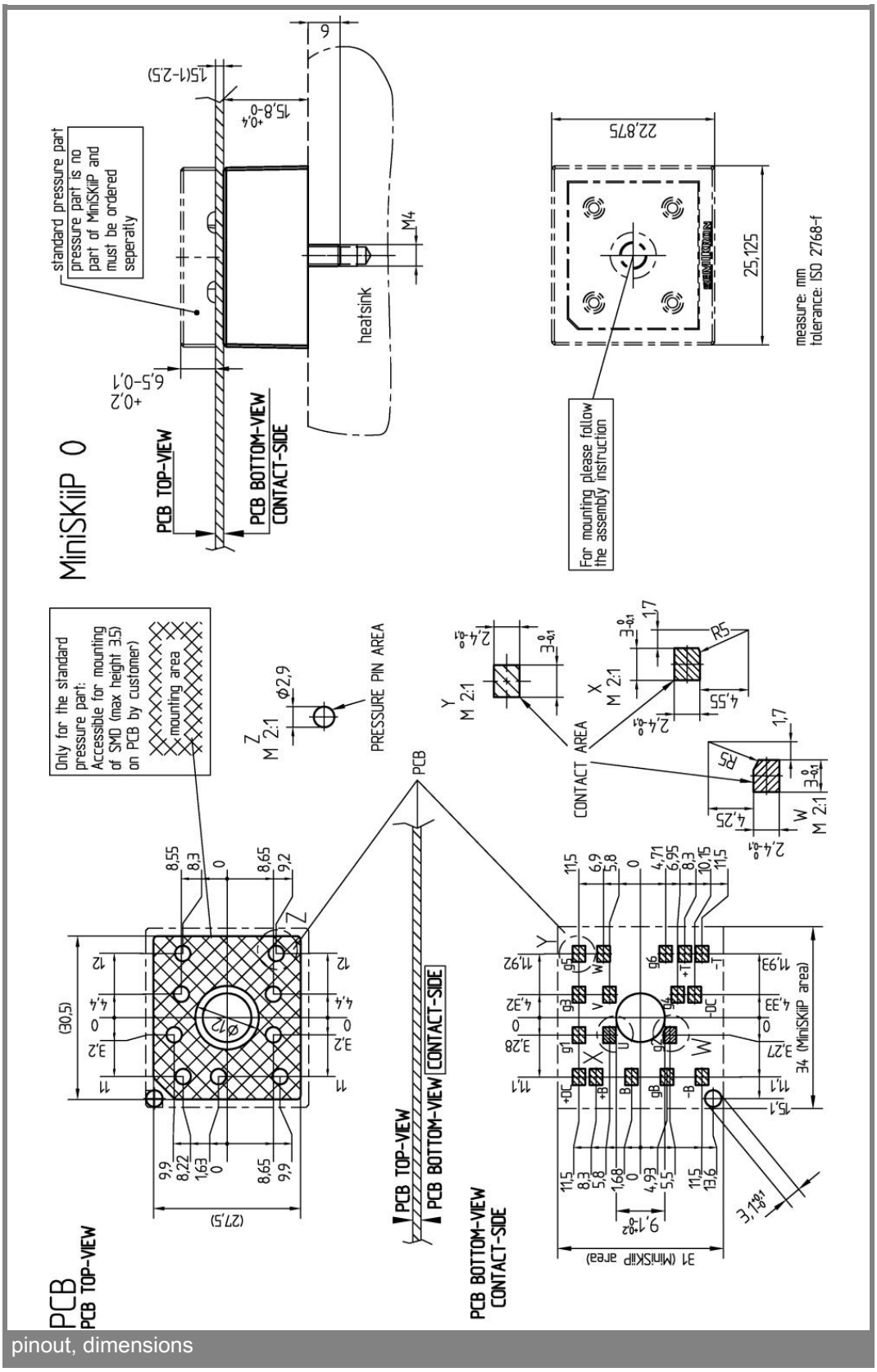
ACB

Absolute Maximum Ratings		T_S = 25 °C, unless otherwise specified	
Symbol	**Conditions**	**Values**	**Units**
IGBT - Inverter			
V_{CES}		600	V
I_C	T_s = 25 (70) °C ,T_j = 150 °C	26 (20)	A
I_C	T_s = 25 (70) °C ,T_j = 175 °C	27 (22)	A
V_{GES}		±20	V
T_j		-40 ... +175	°C
Diode - Inverter			
I_F	T_s = 25 (70) °C ,T_j = 150 °C	25 (19)	A
I_F	T_s = 25 (70) °C ,T_j = 175 °C	28 (22)	A
T_j		-40 ... +175	°C
I_{tRMS}	per power terminal (20 A / spring)	20	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 = 20 A ,T_j = 25 (150) °C	1,1	1,45 (1,65)	1,85 (2,05)	V
$V_{GE(th)}$	V_{GE} = V_{CE}, I_C = 1 mA		5,8		V
$V_{CE(TO)}$	T_j = 25 (150) °C		0,9 (0,85)	1 (0,9)	V
r_T	T_j = 25 (150) °C		30 (43)	45 (60)	mΩ
C_{ies}	V_{CE} = 25 V, V_{GE} = 0 V, f = 1 MHz		-		nF
C_{oes}	V_{CE} = 25 V, V_{GE} = 0 V, f = 1 MHz		-		nF
C_{res}	V_{CE} = 25 V, V_{GE} = 0 V, f = 1 MHz		-		nF
$R_{CC'+EE'}$	spring contact-chip T_s = 25 (150)°C				mΩ
$R_{th(j-s)}$	per IGBT		1,7		K/W
$t_{d(on)}$	under following conditions		20		ns
t_r	V_{CC} = 300 V, V_{GE} = -8V / +15V		30		ns
$t_{d(off)}$	I_C = 20 A, T_j = 150 °C		180		ns
t_f	R_{Gon} = R_{Goff} = 15 Ω		50		ns
E_{on}(E_{off})	inductive load		0,75		mJ
Diode - Inverter					
V_F = V_{EC}	I_F = 20 A ,T_j = 25 (150) °C		1,4 (1,4)		V
$V_{(TO)}$	T_j = 25 (150) °C		1 (0,9)		V
r_T	T_j = 25 (150) °C		20 (25)		mΩ
$R_{th(j-s)}$	per diode		2,5		K/W
I_{RRM}	under following conditions		25		A
Q_{rr}	I_F = 20 A, V_R = 300 V		2,3		µC
E_{rr}	V_{GE} = 0 V, T_j = 150 °C		0,2		mJ
	di_F/dt = 1350 A/µs				
Temperature Sensor					
R_{ts}	3 %, T_r = 25 (100) °C		1000(1670)		Ω
Mechanical Data					
m			35		g
M_s	Mounting torque	2		2,5	Nm



circuit



pinout, dimensions

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

This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.

