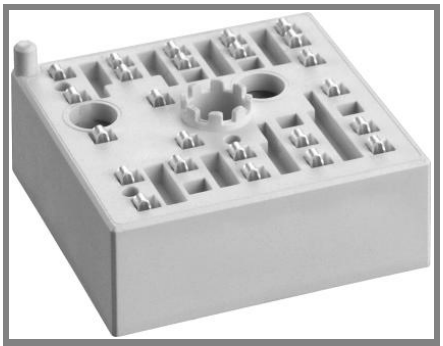
SKiiP 11AC12T4V1



MiniSKiiP®1

3-phase bridge inverter

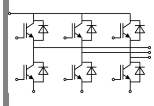
SKiiP 11AC12T4V1

Target Data

Features

- Trench 4 IGBT´s
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Typical Applications

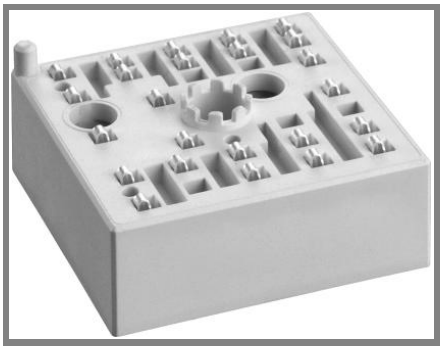


AC

Absolute Maximum Ratings			T_c = 25 °C, unless otherwise specified	
Symbol	**Conditions**		**Values**	**Units**
IGBT				
V_{CES}	T_j = 25 °C		1200	V
I_C	T_j = 175 °C	T_c = 25 °C	12	A
		T_c = 70 °C	12	A
I_{CRM}	I_{CRM} = 3xI_{Cnom}		24	A
V_{GES}			±20	V
t_{psc}	V_{CC} = 600 V; $V_{GE} \leq$ 20 V; V_{CES} < 1200 V	T_j = 150 °C	10	µs
Inverse Diode				
I_F	T_j = 175 °C	T_c = 25 °C	15	A
		T_c = 70 °C	13	A
I_{FRM}	I_{CRM} = 3xI_{Cnom}		24	A
Module				
$I_{t(RMS)}$			20	A
T_{vj}			-40...+175	°C
T_{stg}			-40...+125	°C
V_{isol}	AC, 1 min.		2500	V

Characteristics			T_c = 25 °C, unless otherwise specified			
Symbol	**Conditions**		**min.**	**typ.**	**max.**	**Units**
IGBT						
$V_{GE(th)}$	V_{GE} = V_{CE}, I_C = mA		5	5,8	6,5	V
I_{CES}	V_{GE} = V, V_{CE} = V_{CES}	T_j = °C				mA
V_{CE0}		T_j = 25 °C		1,1	1,3	V
		T_j = 150 °C		1	1,2	V
r_{CE}	V_{GE} = 15 V	T_j = 25°C		94	94	mΩ
		T_j = 150°C		156	156	mΩ
$V_{CE(sat)}$	I_{Cnom} = 8 A, V_{GE} = 15 V	T_j = 25°C$_{chiplev.}$		1,85	2,05	V
		T_j = 150°C$_{chiplev.}$		2,25	2,45	V
C_{ies}						nF
C_{oes}	V_{CE} = , V_{GE} = V	f = MHz				nF
C_{res}						nF
R_{Gint}	T_j = 25 °C			0		Ω
$t_{d(on)}$						ns
t_r	R_{Gon} =	V_{CC} = 600V				ns
E_{on}		I_{Cnom}= 8A		0,96		mJ
$t_{d(off)}$	R_{Goff} =	T_j = 150 °C				ns
t_f		V_{GE} = ±15V				ns
E_{off}				0,64		mJ
$R_{th(j-s)}$	per IGBT			1,55		K/W

SKiiP 11AC12T4V1



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3-phase bridge inverter

SKiiP 11AC12T4V1

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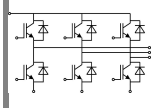


AC

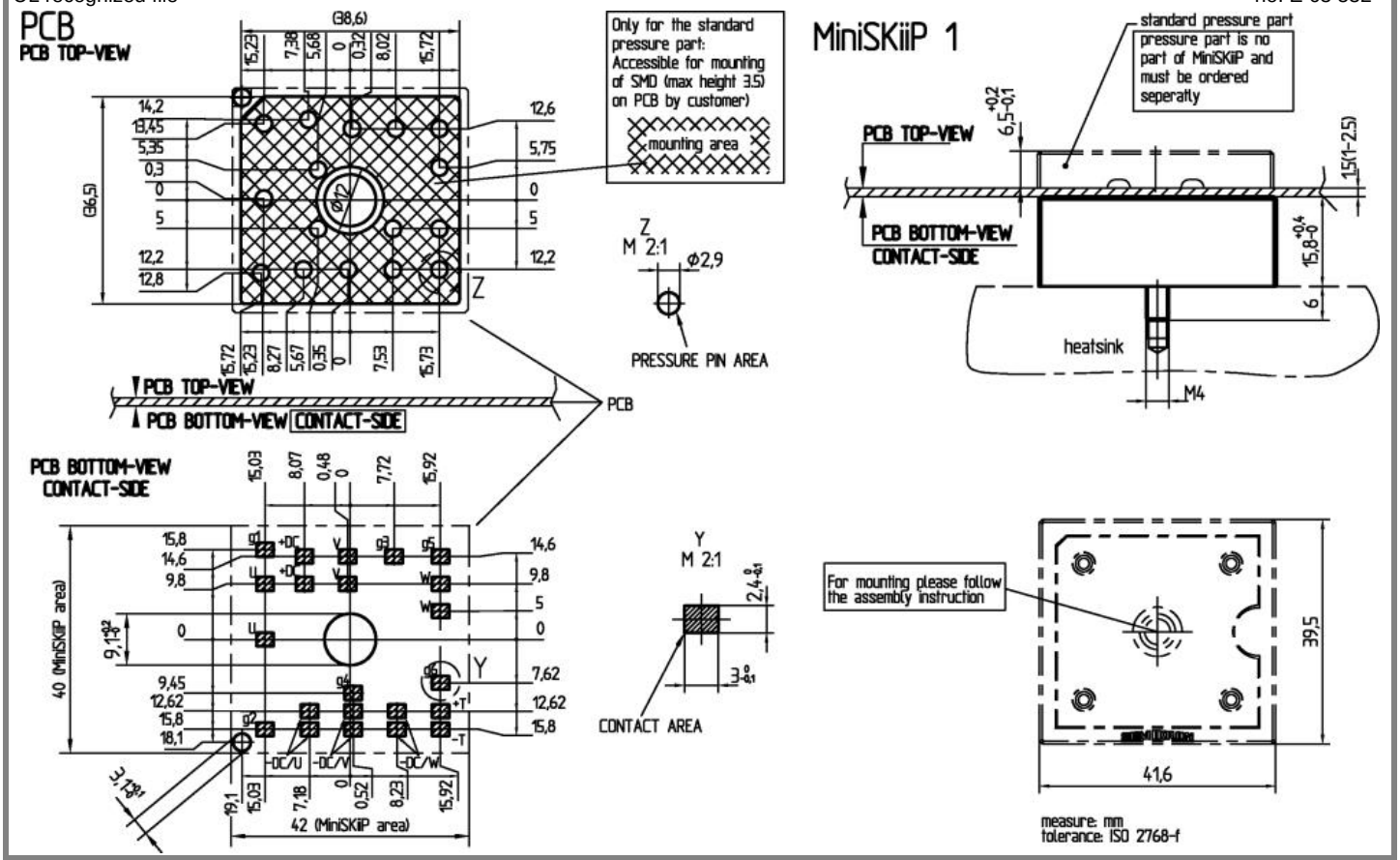
Characteristics						
Symbol	**Conditions**		**min.**	**typ.**	**max.**	**Units**
Inverse Diode						
$V_F = V_{EC}$	I_{Fnom} = 8 A; V_{GE} = 15 V	T_j = 25 °$C_{chiplev.}$		2,4	2,75	V
		T_j = 150 °$C_{chiplev.}$		2,45	2,8	V
V_{F0}		T_j = 25 °C		1,3	1,5	V
		T_j = 150 °C		0,9	1,1	V
r_F		T_j = 25 °C		138	156	mΩ
		T_j = 150 °C		194	213	mΩ
I_{RRM}	I_{Fnom} = A	T_j = °C				A
Q_{rr}						µC
E_{rr}	V_{GE} = ±15V			0,6		mJ
$R_{th(j-s)}$	per diode			2,33		K/W
M_s	to heat sink		2		2,5	Nm
w				35		g
Temperature sensor						
R_{ts}	3%,Tr=25°C			1000		Ω
R_{ts}	3%,Tr=100°C			1670		Ω

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

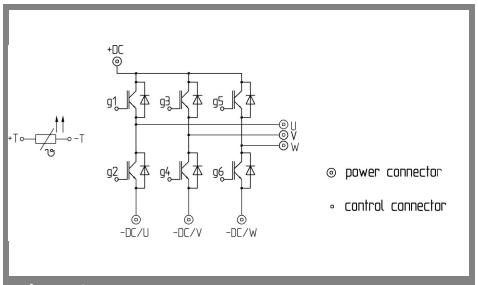
This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.

SKiiP 11AC12T4V1

UL recognized file no. E 63 532



case



pinout

