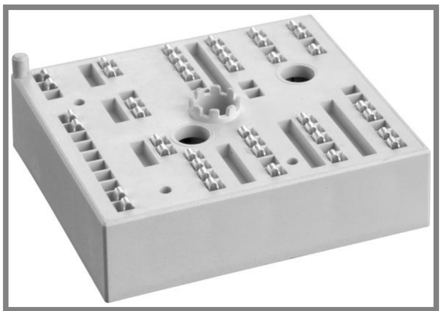
SKiiP 24AC12T4V1



MiniSKiiP®2

3-phase bridge inverter

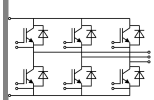
SKiiP 24AC12T4V1

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

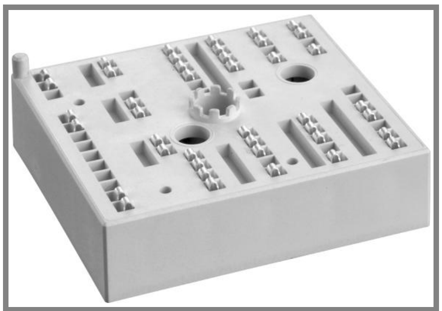
Typical Applications



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	56	A
		T_c = 70 °C	45	A
I_{CRM}	I_{CRM} = 3xI_{Cnom}		105	A
V_{GES}			±20	V
t_{psc}	V_{CC} = 600 V; V_{GE} ≤ 20 V; V_{CES} < 1200 V	T_j = 150 °C	10	µs
Inverse Diode				
I_F	T_j = 175 °C	T_c = 25 °C	41	A
		T_c = 70 °C	33	A
I_{FRM}	I_{CRM} = 3xI_{Cnom}		105	A
I_{FSM}	t_p = 10 ms; sin.	T_j = 150 °C	165	A
Module				
$I_{t(RMS)}$			100	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		22	22	mΩ
		T_j = 150°C		36	36	mΩ
$V_{CE(sat)}$	I_{Cnom} = 35 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
$t_{d(on)}$		V_{CC} = 600V				ns
t_r	R_{Gon} =	I_{Cnom}= 35A				ns
E_{on}		T_j = 150 °C		4,2		mJ
$t_{d(off)}$	R_{Goff} =	V_{GE} = ±15V				ns
t_f						ns
E_{off}				2,8		mJ
$R_{th(j-s)}$	per IGBT			0,8		K/W



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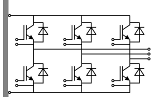


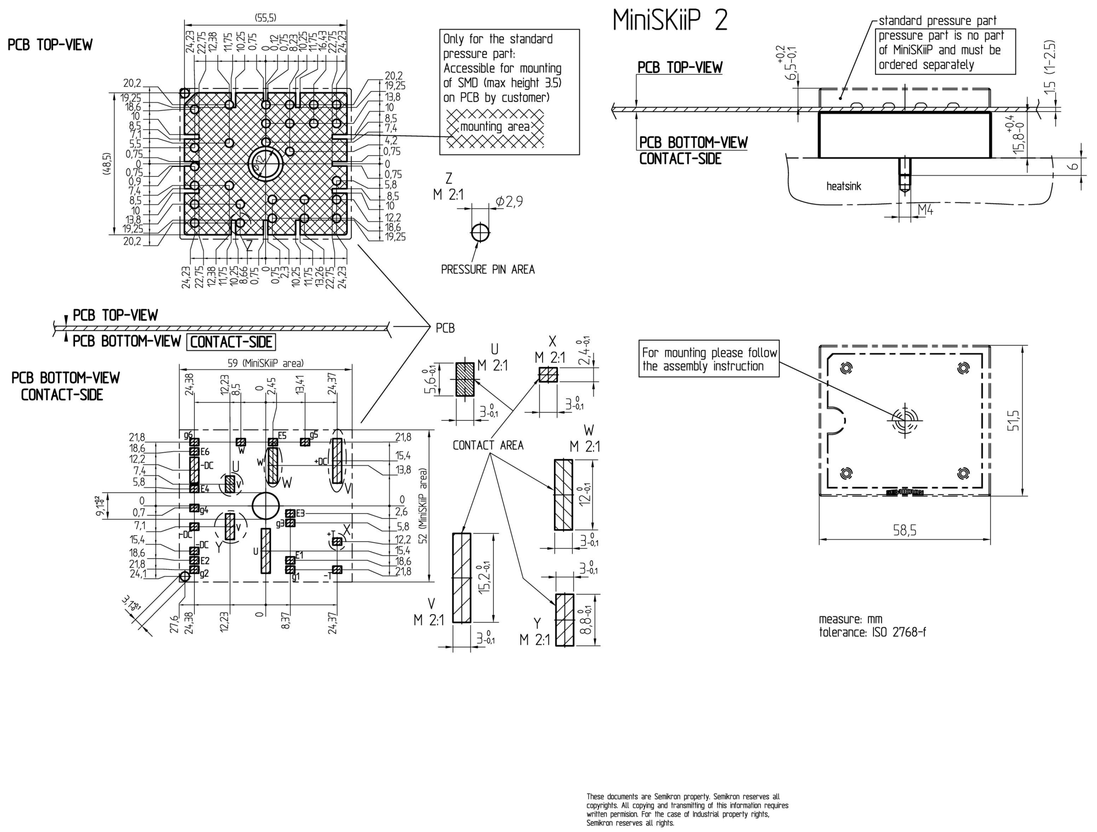
AC

Characteristics						
Symbol	**Conditions**		**min.**	**typ.**	**max.**	**Units**
Inverse Diode						
$V_F = V_{EC}$	I_{Fnom} = 35 A; V_{GE} = 0 V	T_j = 25 °$C_{chiplev.}$		2,3	2,6	V
		T_j = 150 °$C_{chiplev.}$		2,3	2,6	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		29	31	mΩ
		T_j = 150 °C		40	43	mΩ
I_{RRM}	I_{Fnom} = 35 A	T_j = 150 °C				A
Q_{rr}						µC
E_{rr}	V_{GE} = ±15V			2,63		mJ
$R_{th(j-s)}$	per diode			1,37		K/W
M_s	to heat sink		2		2,5	Nm
w				65		g
Temperature sensor						
R_{ts}	3%, Tr=25°C			1000		Ω
R_{ts}	3%, Tr=100°C			1670		Ω

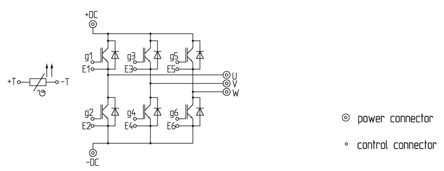
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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

UL recognized file no. E 63 532



case



pinout