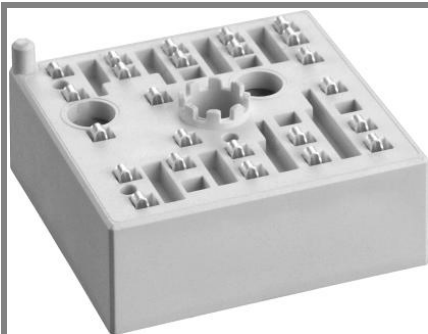


SKiiP 13AC12T4V1



MiniSKiiP®1

3-phase bridge inverter

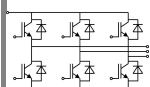
SKiiP 13AC12T4V1

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	44	A
		T _c = 70 °C	35	A
I _{CRM}	I _{CRM} = 3xI _{Cnom}		75	A
V _{GES}			±20	V
t _{psc}	V _{CC} = 600 V; V _{GE} ≤ 20 V; T _j = 150 °C V _{CES} < 1200 V		10	μs
Inverse Diode				
I _F	T _j = 175 °C	T _c = 25 °C	30	A
		T _c = 70 °C	24	A
I _{FRM}	I _{CRM} = 3xI _{Cnom}		75	A
I _{FSM}	t _p = 10 ms; sin. T _j = 150 °C		100	A
Module				
I _{t(RMS)}			40	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	V	
			T _j = 150 °C	1	V	
r _{CE}	V _{GE} = 15 V		T _j = 25°C	30	mΩ	
			T _j = 150°C	50	mΩ	
V _{CE(sat)}	I _{Cnom} = 25 A, V _{GE} = 15 V		T _j = 25°C _{chiplev.}	1,85	V	
			T _j = 150°C _{chiplev.}	2,25	V	
C _{ies}	V _{CE} = , V _{GE} = V f = MHz				nF	
C _{oes}					nF	
C _{res}					nF	
R _{Gint}	T _j = 25 °C		0		Ω	
t _{d(on)}	R _{Gon} =	V _{CC} = 600V I _{Cnom} = 25A	3		ns	
t _r						ns
E _{on}	R _{Goff} =	T _j = 150 °C V _{GE} = ±15V			mJ	
t _{d(off)}						ns
t _f						ns
E _{off}			2		mJ	
R _{th(j-s)}	per IGBT		0,96		K/W	

SKiiP 13AC12T4V1



3-phase bridge inverter

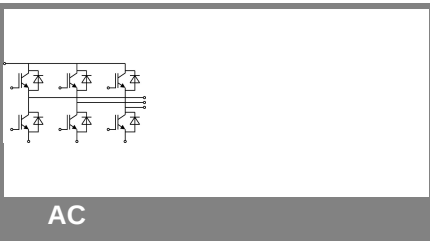
SKiiP 13AC12T4V1

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

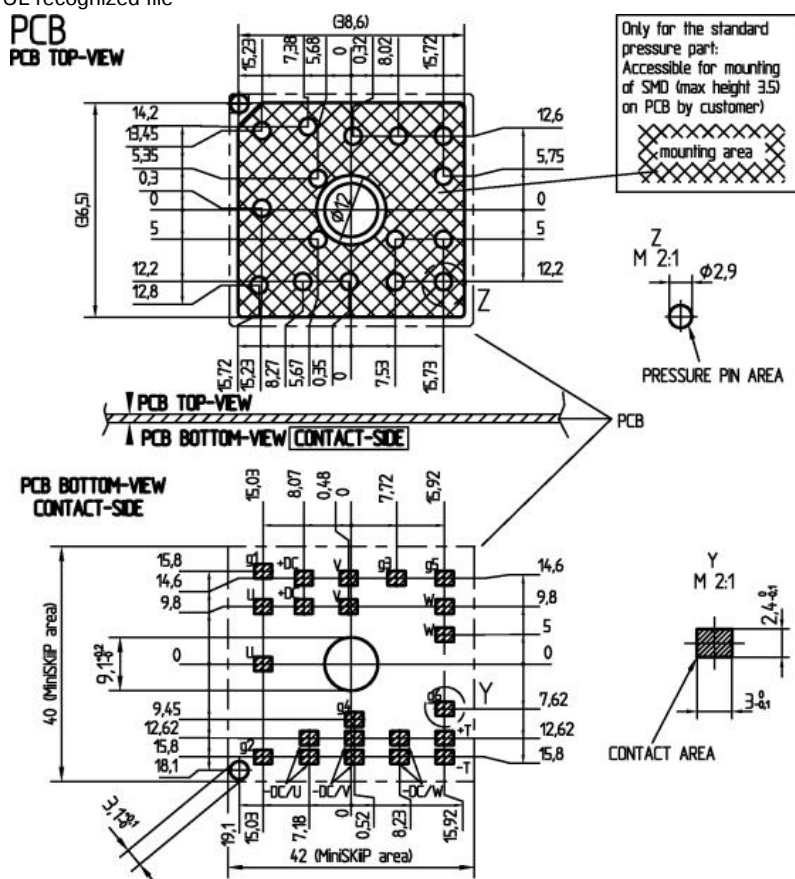


Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 25 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2,4	2,75	V
		T _j = 150 °C _{chiplev.}		2,45	2,8	V
V _{F0}		T _j = 25 °C		1,3	1,5	V
		T _j = 150 °C		0,9	1,1	V
r _F		T _j = 25 °C		44	50	mΩ
		T _j = 150 °C		62	68	mΩ
I _{RRM}	I _{Fnom} = A	T _j = 150 °C				A
Q _{rr}						μC
E _{rr}	V _{GE} = ±15V			1,88		mJ
R _{th(j-s)}	per diode			1,7		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

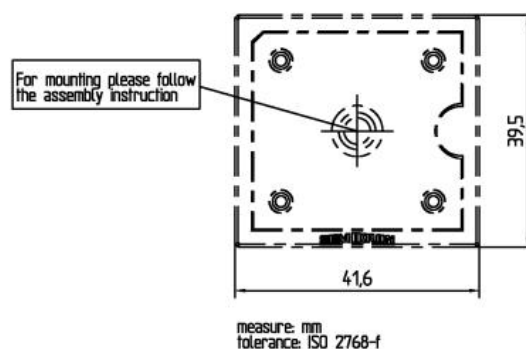
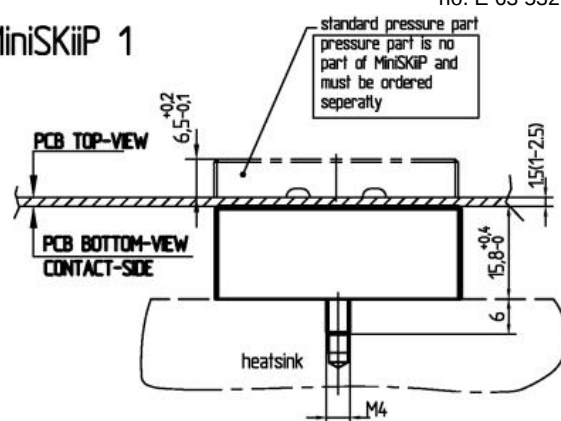
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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

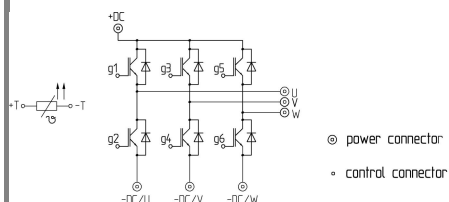
PCB
PCB TOP-VIEW



MiniSKiIP 1



case



pinout