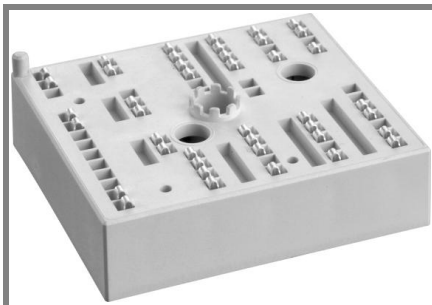


SKiiP 25AC12T4V1



MiniSKiiP[®]2

3-phase bridge inverter

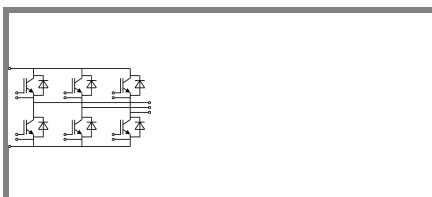
SKiiP 25AC12T4V1

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

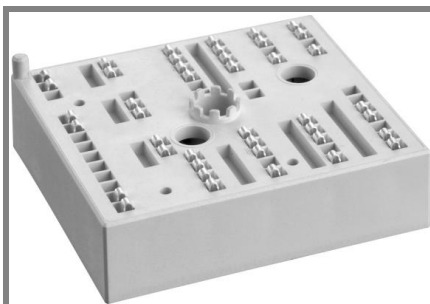


AC

Absolute Maximum Ratings		$T_c = 25\text{ °C}$, unless otherwise specified		
Symbol	Conditions	Values	Units	
IGBT				
V_{CES}	$T_j = 25\text{ °C}$	1200	V	
I_C	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$	72	A
		$T_s = 70\text{ °C}$	59	A
I_{CRM}	$I_{CRM} = 3 \times I_{Cnom}$	150	A	
V_{GES}		± 20	V	
t_{psc}	$V_{CC} = 600\text{ V}$; $V_{GE} \leq 20\text{ V}$; $T_j = 150\text{ °C}$ $V_{CES} < 1200\text{ V}$	10	μs	
Inverse Diode				
I_F	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$	56	A
		$T_s = 70\text{ °C}$	45	A
I_{FRM}	$I_{CRM} = 3 \times I_{Cnom}$	150	A	
I_{FSM}	$t_p = 10\text{ ms}$; sin. $T_j = 150\text{ °C}$	265	A	
Module				
$I_{t(RMS)}$		100	A	
T_{vj}		-40...+175	$^{\circ}\text{C}$	
T_{stg}		-40...+125	$^{\circ}\text{C}$	
V_{isol}	AC, 1 min.	2500	V	

Characteristics		$T_c = 25\text{ °C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = \text{mA}$	5	5,8	6,5	V
I_{CES}	$V_{GE} = V$, $V_{CE} = V_{CES}$ $T_j = \text{°C}$				mA
V_{CE0}		$T_j = 25\text{ °C}$	1,1	1,3	V
		$T_j = 150\text{ °C}$	1	1,2	V
r_{CE}	$V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}$	15	15	$\text{m}\Omega$
		$T_j = 150\text{ °C}$	25	25	$\text{m}\Omega$
$V_{CE(sat)}$	$I_{Cnom} = 50\text{ A}$, $V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}_{chiplev.}$	1,85	2,05	V
		$T_j = 150\text{ °C}_{chiplev.}$	2,25	2,45	V
C_{res}	$V_{CE} = V$, $V_{GE} = V$ $f = \text{MHz}$				nF
C_{oes}					nF
C_{res}					nF
R_{Gint}	$T_j = 25\text{ °C}$		0		Ω
$t_{d(on)}$	$R_{Gon} = 3,6\ \Omega$	$V_{CC} = 600\text{ V}$ $I_{Cnom} = 50\text{ A}$ $T_j = 150\text{ °C}$ $V_{GE} = \pm 15\text{ V}$	4,8		ns
t_r					ns
E_{on}	$R_{Goff} = 3,6\ \Omega$				mJ
$t_{d(off)}$					ns
t_f					ns
E_{off}			4,6		mJ
$R_{th(j-s)}$	per IGBT		0,65		K/W

SKiiP 25AC12T4V1



MiniSKiiP[®]2

3-phase bridge inverter

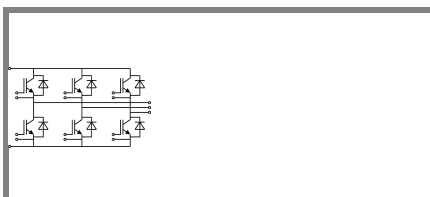
SKiiP 25AC12T4V1

Target Data

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- UL recognised file no. E63532

Typical Applications

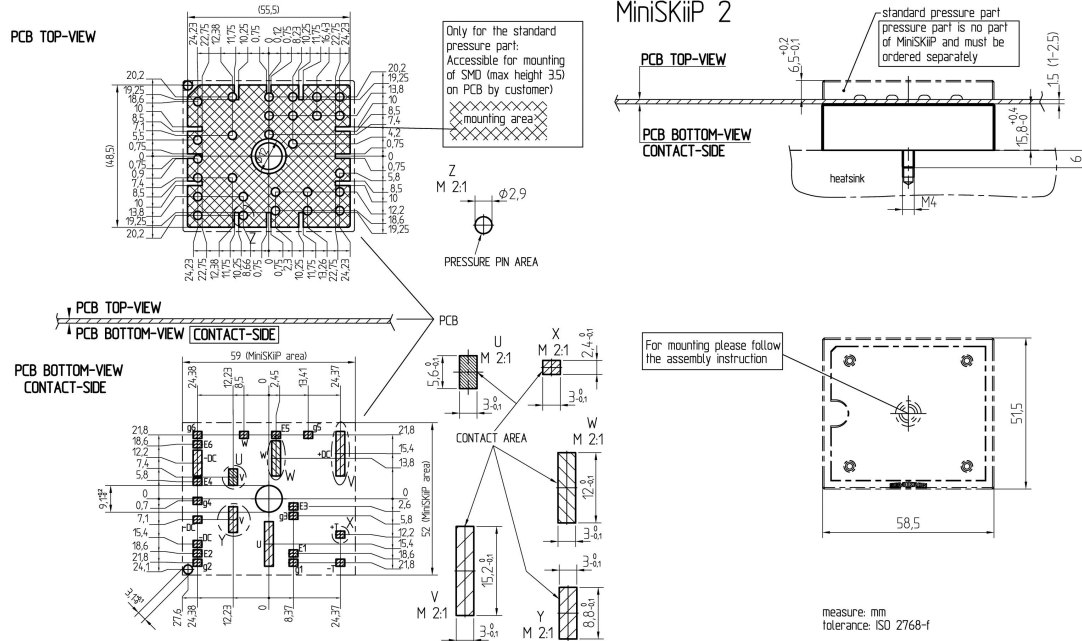


AC

Characteristics			min.	typ.	max.	Units
Symbol	Conditions					
Inverse Diode						
$V_F = V_{EC}$	$I_{Fnom} = 50 \text{ A}; V_{GE} = 0 \text{ V}$	$T_j = 25 \text{ }^\circ\text{C}_{\text{chiplev.}}$		2,25	2,55	V
		$T_j = 150 \text{ }^\circ\text{C}_{\text{chiplev.}}$		2,2	2,5	V
V_{F0}		$T_j = 25 \text{ }^\circ\text{C}$		1,3	1,5	V
		$T_j = 150 \text{ }^\circ\text{C}$		0,9	1,1	V
r_F		$T_j = 25 \text{ }^\circ\text{C}$		19	21	mΩ
		$T_j = 150 \text{ }^\circ\text{C}$		26	28	mΩ
I_{RRM}	$I_{Fnom} = 50 \text{ A}$	$T_j = 150 \text{ }^\circ\text{C}$				A
Q_{rr}						μC
E_{rr}	$V_{GE} = \pm 15 \text{ V}$			3,75		mJ
$R_{th(j-s)}$	per diode			1,05		K/W
M_s	to heat sink					Nm
M_t	to terminals		2		2,5	Nm
w				65		g
Temperature sensor						
R_{ts}	3%, $T_r = 25 \text{ }^\circ\text{C}$			1000		Ω
R_{ts}	3%, $T_r = 100 \text{ }^\circ\text{C}$			1670		Ω

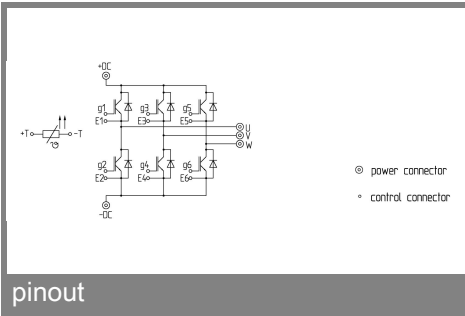
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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case



pinout