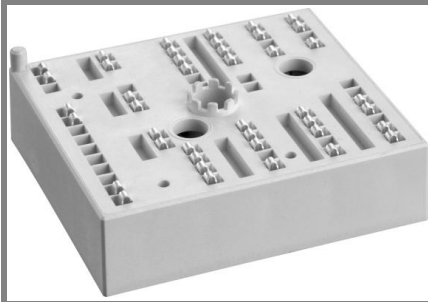


SKiiP 24AC12T4V1



MiniSKiiP[®]2

3-phase bridge inverter

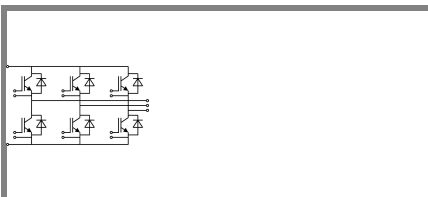
SKiiP 24AC12T4V1

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

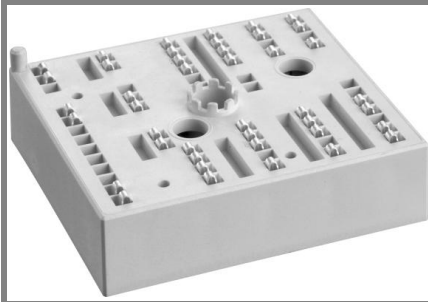


AC

Absolute Maximum Ratings		$T_c = 25\text{ }^\circ\text{C}$, unless otherwise specified			
Symbol	Conditions	Values			Units
IGBT					
V_{CES}	$T_j = 25\text{ }^\circ\text{C}$	1200			V
I_C	$T_j = 175\text{ }^\circ\text{C}$	$T_c = 25\text{ }^\circ\text{C}$	56		A
		$T_c = 70\text{ }^\circ\text{C}$	45		A
I_{CRM}	$I_{CRM} = 3xI_{Cnom}$	105			A
V_{GES}		± 20			V
t_{psc}	$V_{CC} = 600\text{ V}; V_{GE} \leq 20\text{ V}; T_j = 150\text{ }^\circ\text{C}$ $V_{CES} < 1200\text{ V}$	10			μs
Inverse Diode					
I_F	$T_j = 175\text{ }^\circ\text{C}$	$T_c = 25\text{ }^\circ\text{C}$	41		A
		$T_c = 70\text{ }^\circ\text{C}$	33		A
I_{FRM}	$I_{CRM} = 3xI_{Cnom}$	105			A
I_{FSM}	$t_p = 10\text{ ms}; \text{sin.}$	$T_j = 150\text{ }^\circ\text{C}$	165		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		$T_c = 25\text{ }^\circ\text{C}$, 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}	$V_{GE} = V, V_{CE} = V_{CES}, T_j = \text{ }^\circ\text{C}$				mA
V_{CE0}		$T_j = 25\text{ }^\circ\text{C}$	1,1	1,3	V
		$T_j = 150\text{ }^\circ\text{C}$	1	1,2	V
r_{CE}	$V_{GE} = 15\text{ V}$	$T_j = 25\text{ }^\circ\text{C}$	22	22	$\text{m}\Omega$
		$T_j = 150\text{ }^\circ\text{C}$	36	36	$\text{m}\Omega$
$V_{CE(sat)}$	$I_{Cnom} = 35\text{ A}, V_{GE} = 15\text{ V}$	$T_j = 25\text{ }^\circ\text{C}_{chiplev.}$	1,85	2,05	V
		$T_j = 150\text{ }^\circ\text{C}_{chiplev.}$	2,25	2,45	V
C_{res}	$V_{CE} = , V_{GE} = V$	$f = \text{MHz}$			nF
C_{oes}					nF
C_{res}					nF
R_{Gint}	$T_j = 25\text{ }^\circ\text{C}$	0			Ω
$t_{d(on)}$	$R_{Gon} =$	$V_{CC} = 600\text{ V}$ $I_{Cnom} = 35\text{ A}$ $T_j = 150\text{ }^\circ\text{C}$ $V_{GE} = \pm 15\text{ V}$	4,2		ns
t_r					ns
E_{on}	$R_{Goff} =$				mJ
$t_{d(off)}$					ns
t_f					ns
E_{off}			2,8		mJ
$R_{th(j-s)}$	per IGBT	0,8			K/W

SKiiP 24AC12T4V1



MiniSKiiP[®]2

3-phase bridge inverter

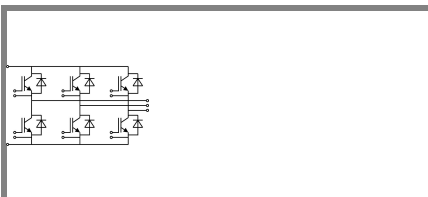
SKiiP 24AC12T4V1

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

Characteristics			min.	typ.	max.	Units
Inverse Diode						
$V_F = V_{EC}$	$I_{Fnom} = 35 \text{ A}; V_{GE} = 0 \text{ V}$	$T_j = 25 \text{ }^\circ\text{C}_{\text{chiplev.}}$		2,3	2,6	V
		$T_j = 150 \text{ }^\circ\text{C}_{\text{chiplev.}}$		2,3	2,6	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		$T_j = 25 \text{ }^\circ\text{C}$		29	31	mΩ
		$T_j = 150 \text{ }^\circ\text{C}$		40	43	mΩ
I_{RRM}	$I_{Fnom} = 35 \text{ A}$	$T_j = 150 \text{ }^\circ\text{C}$				A
Q_{rr}						μC
E_{rr}	$V_{GE} = \pm 15 \text{ V}$			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%, $T_r=25^\circ\text{C}$			1000		Ω
R_{ts}	3%, $T_r=100^\circ\text{C}$			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.

