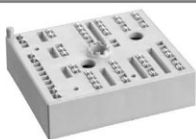


SKiIP 23AC126V1



MiniSKiIP®2

3-phase bridge inverter

SKiIP 23AC126V1

Preliminary Data

Features

- Fast Trench IGBTs
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Typical Applications

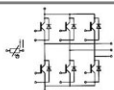
- Inverter up to 16 kVA
- Typical motor power 7,5 kW

Remarks

- V_{CEsat} , V_F = chip level value

Absolute Maximum Ratings		$T_S = 25^\circ\text{C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Inverter			
V_{CES}		1200	V
I_C	$T_A = 25 (70)^\circ\text{C}$	41 (31)	A
I_{CRM}	$t_p \leq 1 \text{ ms}$	50	A
V_{GES}		± 20	V
T_J		-40...+150	$^\circ\text{C}$
Diode - Inverter			
I_F	$T_A = 25 (70)^\circ\text{C}$	30 (22)	A
I_{FRM}	$t_p \leq 1 \text{ ms}$	50	A
T_J		-40...+150	$^\circ\text{C}$
I_{RMS}	per power terminal (20 A / spring)	100	A
T_{stg}	$T_{op} \leq T_{stg}$	-40...+125	$^\circ\text{C}$
V_{isol}	AC, 1 min.	2500	V

Characteristics		$T_S = 25^\circ\text{C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Inverter					
V_{CEsat}	$I_{Cnom} = 25 \text{ A}$, $T_J = 25 (125)^\circ\text{C}$		1,7 (2)	2,1 (2,4)	V
$V_{GE(Oh)}$	$V_{GE} = V_{CE}$, $I_C = 1 \text{ mA}$	5	5,8	6,5	V
$V_{CE(TO)}$	$T_J = 25 (125)^\circ\text{C}$		1 (0,9)	1,2 (1,1)	V
r_T	$T_J = 25 (125)^\circ\text{C}$		28 (44)	36 (52)	m Ω
C_{ios}	$V_{CE} = 25 \text{ V}$, $V_{GE} = 0 \text{ V}$, $f = 1 \text{ MHz}$		1,8		nF
C_{oss}	$V_{CE} = 25 \text{ V}$, $V_{GE} = 0 \text{ V}$, $f = 1 \text{ MHz}$		0,3		nF
C_{ms}	$V_{CE} = 25 \text{ V}$, $V_{GE} = 0 \text{ V}$, $f = 1 \text{ MHz}$		0,2		nF
$R_{\theta(j-s)}$	per IGBT		0,9		K/W
$t_{i(on)}$	under following conditions		80		ns
t_r	$V_{CC} = 600 \text{ V}$, $V_{GE} = \pm 15 \text{ V}$		30		ns
$t_{i(off)}$	$I_{Cnom} = 25 \text{ A}$, $T_J = 125^\circ\text{C}$		480		ns
t_f	$R_{Con} = R_{Coff} = 30 \Omega$		85		ns
E_{on}	inductive load		3,7		mJ
E_{off}			3,1		mJ
Diode - Inverter					
$V_F = V_{EC}$	$I_{Fnom} = 25 \text{ A}$, $T_J = 25 (125)^\circ\text{C}$		1,8 (1,8)	2,1 (2,2)	V
$V_{(TO)}$	$T_J = 25 (125)^\circ\text{C}$		1 (0,8)	1,1 (0,9)	V
r_T	$T_J = 25 (125)^\circ\text{C}$		32 (40)	40 (52)	m Ω
$R_{\theta(j-s)}$	per diode		1,7		K/W
I_{FRM}	under following conditions		35		A
Q_{rr}	$I_{Fnom} = 25 \text{ A}$, $V_R = 600 \text{ V}$		6		μC
E_{rr}	$V_{GE} = 0 \text{ V}$, $T_J = 125^\circ\text{C}$		2,6		mJ
	$di_F/dt = 1000 \text{ A}/\mu\text{s}$				
Temperature Sensor					
R_{ts}	3 %, $T_r = 25 (100)^\circ\text{C}$		1000(1670)		Ω
Mechanical Data					
m			65		g
M_b	Mounting torque	2		2,5	Nm



AC

