Absolute Maximum Ratings Symbol	Conditions [1]	Values	Units
V_{CES}		1200	V
V_{GES}		± 20	V
I_C	$T_{heatsink}$ = 25 / 80°C	90 / 70	A
I_{CM}	t_p < 1 ms; $T_{heatsink}$ = 25/80°C	180 / 140	A
T_j		– 55 . . .+ 150	°C
T_{stg}		– 55 . . .+ 125	°C
V_{isol}	AC, 1 min.	2500	V
Inverse Diode			
I_F=–I_C	$T_{heatsink}$ = 25 / 80°C	100 / 75	A
I_{FM}=–I_{CM}	t_p < 1 ms; $T_{heatsink}$ = 25/80°C	180 / 140	A
I_{FSM}	t_p = 10 ms; sin., T_j = 25 °C	720	A
I^2t	t_p = 10 ms; sin., T_j = 25 °C	2600	A^2s

Characteristics Symbol	Conditions [1]	min.	typ.	max.	Units
IGBT - Inverter					
V_{CEsat}	I_C = 70 A, T_j = 25 (125) °C	–	2,5(3,1)	3,0(3,7)	V
V_{CEsat}	I_C = 90 A, T_j = 25 (125) °C	–	2,9(3,7)	–	V
$t_{d(on)}$	V_{CC} = 600 V; V_{GE} = 15 V	–	44	100	ns
t_r	I_C = 70A;T_j = 125 °C	–	56	100	ns
$t_{d(off)}$	R_{gon} = R_{goff} =15 Ω	–	380	500	ns
t_f	inductive load	–	70	100	ns
E_{on} + E_{off}		–	13	–	mJ
Cies	V_{CE} = 25 V; V_{GE} = 0 V, 1MHz	–	5	–	nF
R_{thjh}	per IGBT	–	–	0,33	K/W
Diode [2] - Inverter					
V_F = V_{EC}	I_F = 70 A, T_j = 25 (125) °C	–	2,0(1,8)	2,5(2,3)	V
	I_F = 90 A, T_j = 25 (125) °C	–	2,2(2,0)	–	V
V_{TO}	T_j = 125 °C	–	1,0	1,2	V
r_T	T_j = 125 °C	–	11	15	mΩ
I_{RRM}	I_F = 75 A, V_R = - 600 V	–	40	–	A
Q_{rr}	di_F/dt = - 800 A/µs	–	9,5	–	µC
E_{off}	V_{GE} = 0 V, T_j = 125 °C	–	3	–	mJ
R_{thjh}	per diode	–	–	0,8	K/W
Current sensor for three phase output ac current					
$I_{p\ RMS}$	Continuous current , T = 100 °C, V_{suppl} = ± 15V	–	50	–	A
$I_{pmax\ RMS}$	t ≤ 2 s	–	–	80	A
$I_{p\ peak}$	t ≤ 10 µs	–	1000	–	A
R_{out}	terminating resistance	–	50	–	Ω
$I_{s\ RMS}$	rated sensor current at I_p = 50 A_{RMS}		25		mA
I_p : I_s	transfer ratio		1 : 2000		
Offset $_{error}$	I_p = 0 A, T = -40 ... 100 °C	–	± 0,2	–	mA
Linearity		–	0,1	–	%
delay time	I_p = 10 % - 80 %	–	< 1	–	µs
	90 % - 20 %	–	< 1	–	µs
Bandwith			0 - 100	(-3dB)	kHz
Temperature Sensor					
R_{TS}	T = 25/100 °C		1000 / 1670		Ω
Mechanical Data					
M1	case to heatsink, SI Units	3	–	4	Nm
Case			M8		

MiniSKiiP 8
SK integrated intelligent Power

SKiiP 82 AC 12
SKiiP 82 AC 12 I [3]

IGBT
3-phase bridge inverter

Preliminary Data

Case M8

Features

- High level power integration
- Two-screws-mounting to the customer heatsink, compact design
- Low thermal impedance due to durable ceramic insulation
- Pressure contact technology with simple connection to DCB through pressure contact (no soldering) and with increased power cycling capability
- Low stray inductance
- High power density, low losses
- Integrated temperature sensor
- Three integrated compensated current sensors for the ac current (SKiiP 82 AC 12 I)
- Mechanical drawing available on disc for Auto CAD 12 (.DWG, .DXF)

[1] $T_{heatsink}$ = 25 °C, unless otherwise specified
[2] CAL = Controlled Axial Lifetime Technology (soft and fast recovery)
[3] With integrated current sensor Available November 1996.

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