

SKiiP 832 GB 120 - 406 CTV

Absolute Maximum Ratings		Values	Units
Symbol	Conditions ¹⁾		
V_{isol} ⁴⁾	AC, 1min	3000	V
T_{OP}, T_{stg}	Operating / stor. temperature	-25...+85	°C
IGBT and Inverse Diode			
V_{CES}		1200	V
V_{CC} ⁵⁾	Operating DC link voltage	900	V
I_C	IGBT	800	A
T_j ³⁾	IGBT + Diode	-40...+150	°C
I_F	Diode	800	A
I_{FM}	Diode, $t_p < 1$ ms	1600	A
I_{FSM}	Diode, $T_j = 150$ °C, 10ms; sin	5760	A
I^2t (Diode)	Diode, $T_j = 150$ °C, 10ms	166	kAs ²
Driver			
V_{S1}	Stabilized Power Supply	18	V
V_{S2}	Non-stabilized Power Supply	30	V
f_{smax}	Switching frequency	19	kHz
dV/dt	Primary to secondary side	75	kV/μs

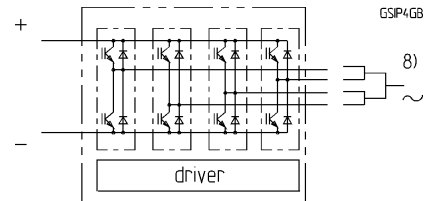
Characteristics		min.	typ.	max.	Units
Symbol	Conditions ¹⁾				
IGBT ¹¹⁾					
$V_{(BR)CES}$	Driver without supply	$\geq V_{CES}$	-	-	V
I_{CES}	$V_{GE} = 0, T_j = 25$ °C	-	-	1,2	mA
	$V_{CE} = V_{CES}, T_j = 125$ °C	-	40	-	mA
V_{TO}	$T_j = 125$ °C	-	-	1,38	V
r_T	$T_j = 125$ °C	-	-	2,6	mΩ
V_{Cesat}	$I_C = 700A, T_j = 125$ °C	-	-	3,2	V
V_{Cesat}	$I_C = 700A, T_j = 25$ °C	-	-	3,05	V
$E_{on} + E_{off}$	$V_{CC}=600/900V, I_C=800A, T_j = 125$ °C	-	-	240/390	mJ
C_{CHC}	per SKiiP, AC side	-	4,2	-	nF
L_{CE}	Top, Bottom	-	5	-	nH
Inverse Diode ²⁾					
$V_F = V_{EC}$	$I_F = 700A, T_j = 125$ °C	-	-	2,45	V
$V_F = V_{EC}$	$I_F = 700A, T_j = 25$ °C	-	-	2,55	V
$E_{on} + E_{off}$	$I_F = 800A, T_j = 125$ °C	-	-	32	mJ
V_{TO}	$T_j = 125$ °C	-	0,91	-	V
r_T	$T_j = 125$ °C	-	1,4	-	mΩ
Thermal Characteristics ¹⁰⁾					
R_{thjs}	per IGBT	-	-	0,032	°C/W
R_{thjs}	per Diode	-	-	0,094	°C/W
R_{thsa} ^{6,10)}	P16 heatsink; see case S4	-	-	0,033	°C/W
Driver					
I_{S1}	Supply current 15V-supply	$290+550 \cdot f_s / f_{smax} + 1,3 \cdot I_{AC} / A$			mA
I_{S2}	Supply current 24V-supply	$220+400 \cdot f_s / f_{smax} + 1,0 \cdot I_{AC} / A$			mA
$t_{interlock-driver}$	Interlock-time	3,3			μs
SKiiPPACK protection					
I_{TRIPSC}	Short circuit protection	$1000 \pm 2\%$			A
I_{TRIPLG}	Ground fault protection	-			A
T_{TRIP}	Over-temp. protection	$115 \pm 5\%$			°C
U_{DCTRIP} ⁹⁾	U_{DC} -protection	$920 \pm 2\%$			V
Mechanical Data					
M1	DC terminals, SI Units	4	-	6	Nm
M2	AC terminals, SI Units	8	-	10	Nm

SKiiPPACK®

SK integrated intelligent Power PACK halfbridge SKiiP

832 GB 120 - 406 CTV ^{7,9)}

Preliminary Data
Case S4



Features

- Short circuit protection, due to evaluation of current sensor signals
- Isolated power supply
- Low thermal impedance
- Optimal thermal management with integrated heatsink
- Pressure contact technology with increased power cycling capability, compact design
- Low stray inductance
- High power, small losses
- Over-temperature protection

- ¹⁾ $T_{heatsink} = 25$ °C, unless otherwise specified
- ²⁾ CAL = Controlled Axial Lifetime Technology (soft and fast)
- ³⁾ without driver
- ⁴⁾ Driver input to DC link/ AC output to heatsink
- ⁵⁾ with Semikron-DC link (low inductance)
- ⁶⁾ other heatsinks on request
- ⁷⁾ C - Integrated current sensors
T - Temperature protection
V - 15 V or 24 V power supply
- ⁸⁾ AC connection busbars must be connected by the user; copper busbars available on request
- ⁹⁾ options available for driver:
U - DC link voltage sense
F - Fiber optic connector
- ¹⁰⁾ "s" referenced to temperature sensor
- ¹¹⁾ NPT-technology with homogenous current-distribution