Absolute Maximum Ratings

Symbol	Conditions [1]	Values	Units
V_{CES}		600	V
V_{CGR}	R_{GE} = 20 kΩ	600	V
I_C	T_{HS} = 25/70 °C	100 / 85	A
I_{CM}	T_{HS} = 25/70 °C; t_p = 1 ms	200 / 170	A
V_{GES}		± 20	V
P_{tot}	per IGBT, T_{HS} = 25 °C	313	W
T_j, (T_{stg})		– 40 ... +150 (125)	°C
T_{cop}	max. case operating temperature	125	°C
V_{isol}	AC, 1 min.	2500	V
humidity	IEC-EN 60721-3-3	Class F	
climate	IEC 68 T.1		
Inverse Diode			
$I_F = -I_C$	T_{HS} = 25/70 °C	100 / 75	A
$I_{FM} = -I_{CM}$	T_{HS} = 25/70 °C; t_p = 1 ms	200/ 150	A
I_{FSM}	t_p = 10 ms; sin.; T_j = 150 °C	720	A
I^2t	t_p = 10 ms; T_j = 150 °C	2 590	A^2s

Characteristics

Symbol	Conditions [1]	min.	typ.	max.	Units
$V_{(BR)CES}$	V_{GE} = 0, I_C = 1 mA	≥ V_{CES}	–	–	V
$V_{GE(th)}$	$V_{GE} = V_{CE}$, I_C = 3 mA	4,5	5,5	6,5	V
I_{CES}	V_{GE} = 0 } T_j = 25 °C		0,2	3	mA
	$V_{CE} = V_{CES}$ } T_j = 125 °C	–	5		mA
I_{GES}	V_{GE} = 25 V, V_{CE} = 0	–	–	200	nA
V_{CEsat}	I_C = 85 A { V_{GE} = 15 V; T_j = 25 (125) °C }	–	1,9(2,1)		V
C_{ies}	} V_{GE} = 0	–	5600	–	pF
C_{oes}	} V_{CE} = 25 V	–	600	–	pF
C_{res}	} f = 1 MHz	–	400	–	pF
L_{CE}		–	–	25	nH
$R_{CC'+EE'}$	resistance, terminal-chip	–	1,25	–	mΩ
$t_{d(on)}$	} V_{CC} = 300 V	–	40	–	ns
t_r	} V_{GE} = + 15 V / –15 V[3]	–	30	–	ns
$t_{d(off)}$	} I_C = 85 A, ind. load	–	250	–	ns
t_f	} $R_{Gon} = R_{Goff}$ = 10 Ω	–	35	–	ns
E_{on} [5]	} T_j = 125 °C	–	1,8	–	mJ
E_{off} [5]		–	2,7	–	mJ
Inverse Diode [8]					
$V_F = V_{EC}$	I_F = 85 A { V_{GE} = 0 V;	–	1,5(1,45)	–	V
$V_F = V_{EC}$	I_F = 100 A { T_j = 25 (125) °C }	–	1,55(1,55)	1,9	V
V_{TO}	T_j = 125 °C	–	–	0,9	V
r_T	T_j = 125 °C	–	8	11	mΩ
I_{RRM}	I_F = 100 A; T_j = 125 °C	–	44	–	A
Q_{rr}	I_F = 100 A; T_j = 125 °C	–	6,0	–	µC
Thermal Characteristics					
R_{thjh}	per IGBT	–	–	0,4	°C/W
R_{thjhD}	per diode	–	–	0,75	°C/W

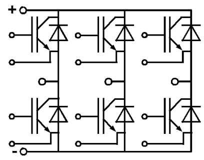
Mechanical Data

Symbol	Conditions	Values min.	Values typ.	Values max.	Units
M_1	to heatsink, SI Units (M5)	4,5	–	5,5	Nm
	to heatsink, US Units	39	–	48	lb.in.
a		–	–	5x9,81	m/s^2
w		–	–	215	g

SKiM® 3
IGBT Modules

SKiM 100 GD 063 D

Target Specification



GD

Features

- N channel, homogeneous Si
- Low inductance case
- No baseplate
- Allows extreme compact converter design
- Fast & soft inverse CAL diodes [8]
- DCB (Direct Copper Bonded) Technology

Typical Applications

- Switched mode power supplies
- Three phase inverters for AC motor speed control
- Switching (not for linear use)

1) T_{HS} = 25 °C, unless otherwise specified
2) $I_F = -I_C$, V_R = 300 V, $-di_F/dt$ = 1000 A/µs, V_{GE} = 0 V
3) Use V_{GEoff} = –5... –15 V
8) CAL = Controlled Axial Lifetime Technology

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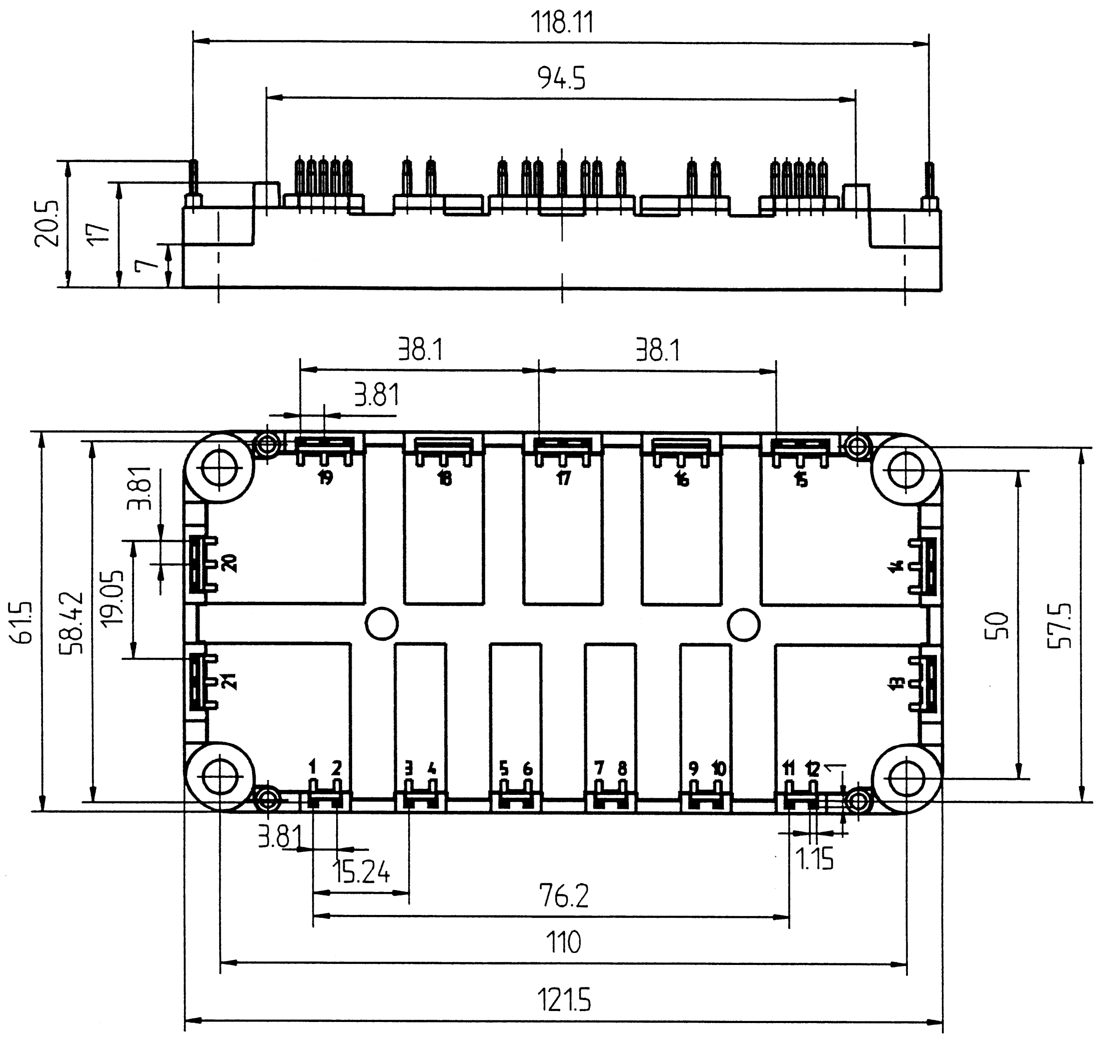
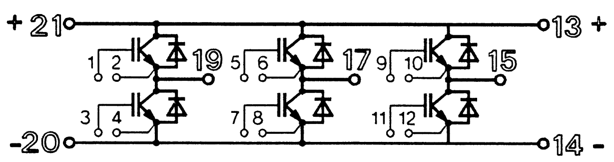
SKiM 3

SKiM 100 GD 063 D





Dimensions in mm

Case outline and circuit diagram

This is an electrostatic discharge sensitive device (ESDS).
Please observe the international standard IEC 747-1, Chapter IX.

The information presented here is to the best knowledge true and accurate. No warranty or guarantee, expressed or implied is made regarding capacity, performance or suitability. We reserve the right to change specifications without notice.