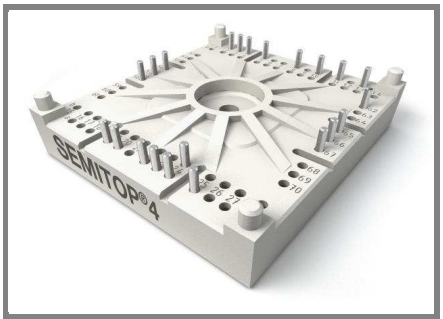
SK200DHL066



SEMITOP®4

Half controlled bridge rectifier + IGBT braking chopper

SK200DHL066

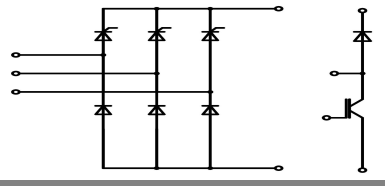
Target Data

Features

- One screw mounting hole
- Fully compatible with SEMITOP®1,2,3
- Improved thermal performances by aluminium oxide substrate
- Trench IGBT brake chopper technology
- CAL technology free-wheeling diode chopper

Typical Applications*

- $V_{CE,sat}$, V_F = chip level value
- $I_{CM} = 2xI_{Cnom}$, $t_p \leq 1ms$
- $I_{FM} = 2xI_{Fnom}$, $t_p \leq 1ms$
- $I_C = I_{Cnom}$, $I_F = I_{Fnom}$



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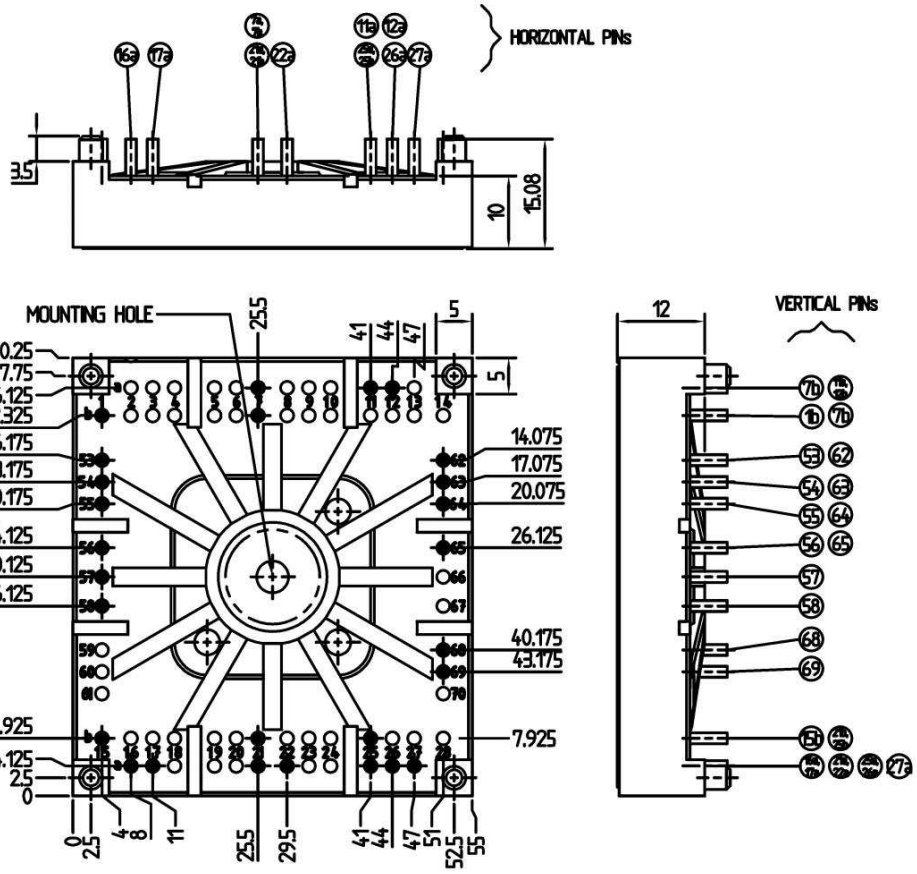
V_{RSM} V	V_{RRM}, V_{DRM} V	I_D = 210 A (maximum value for continuous operation) (T_s = 70 °C)

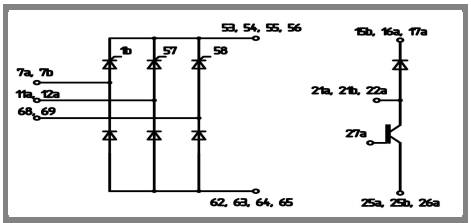
Absolute Maximum Ratings		T_s=25°C, unless othwerwise specified	
Symbol	**Conditions**	**Values**	**Units**
Bridge - Rectifier			
I_D	T_s = 70 °C; inductive load	210	A
I_{FSM}/I_{TSM}	t_p = 10 ms; half sine wave, ; T_{jmax}	1250	A
i^2t	t_p = 10 ms; half sine wave, ; T_{jmax}	7810	A^2s
IGBT - Chopper			
V_{CES}/V_{GES}		600 / 20	V
I_C	T_s = 25 (70) °C	174 (131)	A
I_{CM}	t_p = 1 ms; T_s = °C	400	A
Freewheeling - CAL Diode			
V_{RRM}		600	V
I_F	T_s = 25 (70) °C	100 (80)	A
I_{FM}	t_p = 1 ms; T_s = °C	200	A
T_{vj}	Diode & IGBT (Thyristor)	-40 ... +150 (-40 ... +130)	°C
T_{stg}		-40 ... +125 (-40 ... +130)	°C
T_{solder}	terminals, 10 s	260	°C
V_{isol}	a.c. 50 Hz, RMS 1 min. / 1 s	2500 / 3000	V

Characteristics					
Symbol	**Conditions**	**min.**	**typ.**	**max.**	**Units**
Diode - Rectifier					
V_{TO} / r_t	T_j = 125 °C		0,8 / 4		V / mΩ
$R_{th(j-s)}$	per diode		0,52		K/W
Thyristor - Rectifier					
$V_{F(TO)}$ / r_t	T_j = 130 °C		1,1 / 4,5		V / mΩ
$R_{th(j-s)}$	per Thyristor		0,44		K/W
I_{GD}	T_j = 115 °C; d.c.	6			mA
V_{GT} / I_{GT}	T_j = 25 °C			1,98 / 100	V / mA
I_H/I_L	T_j = 25 °C			220 / 550	mA
$(dv/dt)_{cr}$	T_j = 130 °C			1000	V/µs
$(di/dt)_{cr}$	T_j = 130 °C			100	A/µs
IGBT - Chopper					
$V_{CE(sat)}$	I_C = 200 A, T_j = 125 °C; V_{GE} = 15 V		1,7	2,15	V
$R_{th(j-s)}$	per IGBT		0,45		K/W
$t_{d(on)}$ / t_r	valid for all values:				ns
$t_{d(off)}$ / t_f	V_{CC} = 300 V; V_{GE} = 15 V; I_C = 200 A; T_j = 125 °C;				ns
$E_{on}+E_{off}$	T_j = 125 °C; R_G = 4 Ω; inductive load		13,8		mJ
CAL - Diode - Freewheeling					
$V_{T(TO)}$ / r_t	T_j = 150 °C		0,85 / 3,5		V / mΩ
$R_{th(j-s)}$	per diode		0,8		K/W
I_{RRM}	valid for all values:				A
Q_{rr}	I_F = 200 A; V_R = - 600 V; dI_F/dt = - A/µs				µC
E_{off}	V_{GE} = V; T_j = 125 °C				mJ
Temperature Sensor					
R_{TS}	T = °C;				Ω
Mechanical data					
M_S	mounting Torque	2,5		2,75	Nm

Dimensions in mm



Case T 85 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

