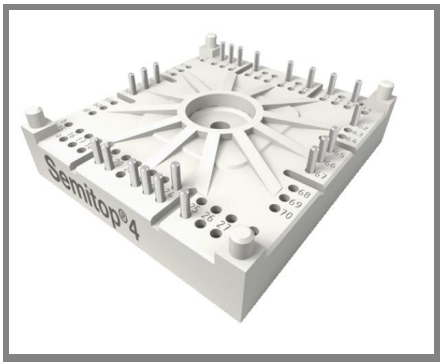
SK100GH128T



SEMITOP®4

IGBT module

SK100GH128T

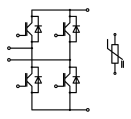
Target Data

Features

- One screw mounting module
- Fully compatible with SEMITOP®1,2,3
- Improved thermal performances by aluminium oxide substrate
- SPT IGBT Technology
- CAL technology FWD
- Integrated NTC Temperature sensor

Typical Applications

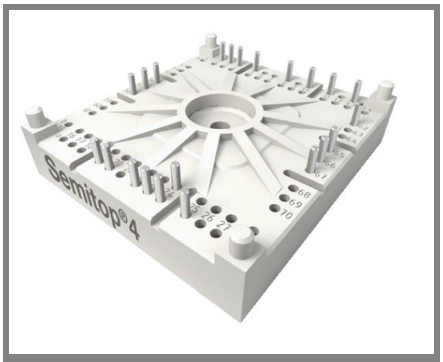
- Voltage regulator



GH-T

Absolute Maximum Ratings			T_c = 25 °C, unless otherwise specified	
Symbol	**Conditions**		**Values**	**Units**
IGBT				
V_{CES}	T_j = 25 °C		1200	V
I_C	T_j = 125 °C	T_s = 25 °C	120	A
		T_s = 70 °C	80	A
I_{CRM}	I_{CRM}= 2 x I_{Cnom} , $t_p \leq$ 1ms		200	A
V_{GES}			20	V
t_{psc}	V_{CC} = 600 V; $V_{GE} \leq$ 20 V; V_{CES} < 1200 V	T_j = 125 °C	10	µs
Inverse Diode				
I_F	T_j = 150 °C	T_s = 25 °C	67	A
		T_s = 70 °C	50	A
I_{FRM}	I_{FRM}= 2 x I_{Fnom} , $t_p \leq$ 1ms		150	A
I_{FSM}	t_p = 10 ms; half sine wave	T_j = 125 °C	550	A
Module				
$I_{t(RMS)}$				A
T_{vj}			-40 ... +150	°C
T_{stg}			-40 ... +125	°C
V_{isol}	AC, 1 min.		2500	V

Characteristics			T_c = 25 °C, unless otherwise specified			
Symbol	**Conditions**		**min.**	**typ.**	**max.**	**Units**
IGBT						
$V_{GE(th)}$	V_{GE} = V_{CE}, I_C = 4 mA		4,5	5,5	6,5	V
I_{CES}	V_{GE} = 0 V, V_{CE} = V_{CES}	T_j = 25 °C			0,2	mA
		T_j = 125 °C		0,4		mA
I_{GES}	V_{CE} = 0 V, V_{GE} = 20 V	T_j = 125 °C			400	nA
V_{CE0}		T_j = 25 °C		1,1	1,3	V
		T_j = 125 °C		1	1,2	V
r_{CE}	V_{GE} = 15 V	T_j = 25°C		6		mΩ
		T_j = 125°C		11		mΩ
$V_{CE(sat)}$	I_{Cnom} = 100 A, V_{GE} = 15 V	T_j = 25°$C_{chiplev.}$		1,9	2,3	V
		T_j = 125°$C_{chiplev.}$		2,1		V
C_{ies}				9		nF
C_{oes}	V_{CE} = , V_{GE} = V	f = MHz		0,66		nF
C_{res}				0,42		nF
$t_{d(on)}$						ns
t_r	R_{Gon} = 15 Ω	V_{CC} = 600V				ns
E_{on}		I_{Cnom}= 100A		11,6		mJ
$t_{d(off)}$	R_{Goff} = 15 Ω	T_j = 125 °C				ns
t_f						ns
E_{off}				8,6		mJ
$R_{th(j-s)}$	per IGBT			0,34		K/W



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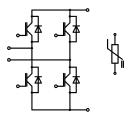


GH-T

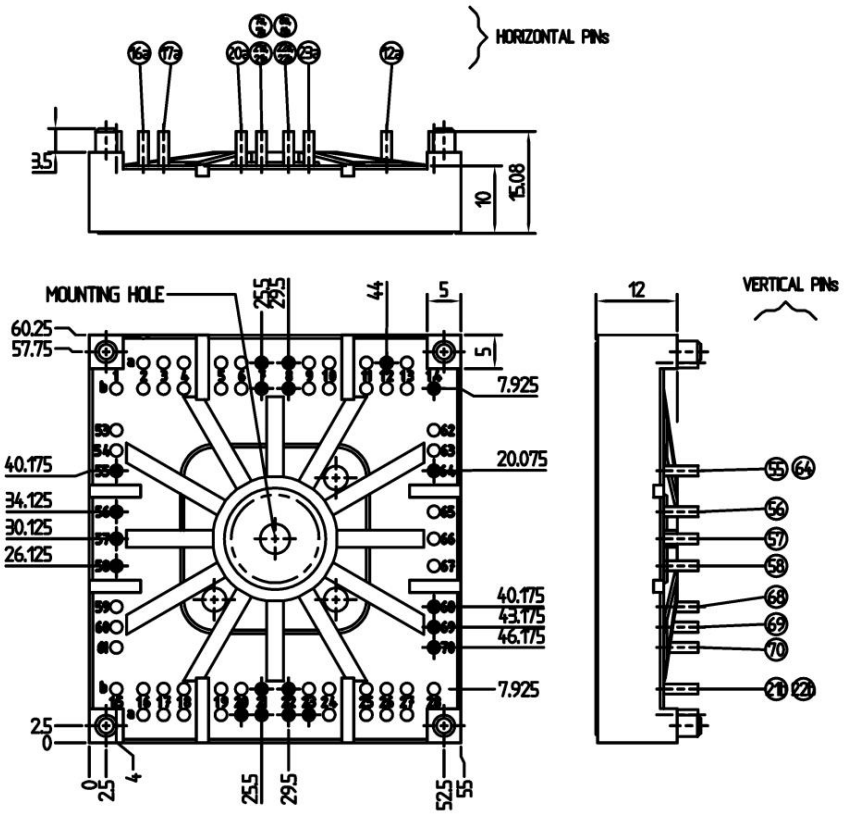
Characteristics

Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
$V_F = V_{EC}$	I_{Fnom} = 100 A; V_{GE} = 0 V	T_j = 25 °$C_{chiplev.}$		2		V
		T_j = 125 °$C_{chiplev.}$		1,8		V
V_{F0}		T_j = 125 °C		1	1,2	V
r_F		T_j = 125 °C		16	22	mΩ
I_{RRM}	I_{Fnom} = 100 A	T_j = 125 °C				A
Q_{rr}						µC
E_{rr}	V_{CC}=600V			4		mJ
$R_{th(j-s)D}$	per diode			0,7	0,85	K/W
Freewheeling Diode						
$V_F = V_{EC}$	I_{Fnom} = A; V_{GE} = V	T_j = °$C_{chiplev.}$				V
V_{F0}		T_j = °C				V
r_F		T_j = °C				V
I_{RRM}	I_{Fnom} = A	T_j = °C				A
Q_{rr}						µC
E_{rr}						mJ
	per diode					K/W
M_s	to heat sink				3,5	Nm
w				60		g
Temperature sensor						
R_{100}	T_s= 100°C (R_{25}=5kΩ)			493±5%		Ω

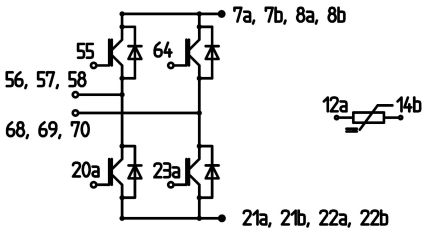
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.

UL recognized file no. E 63 532



Case T84 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



Case T 84 GH-T

