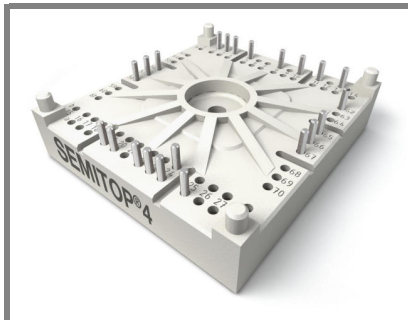


SK50GH128T



SEMITOP®4

IGBT module

SK50GH128T

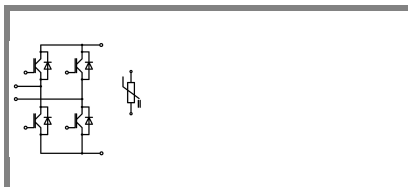
Target Data

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

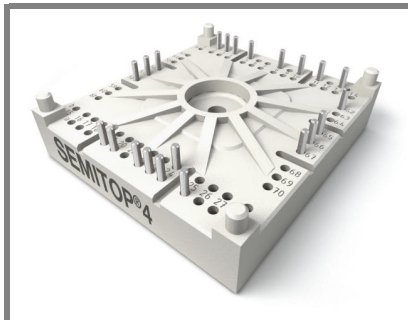


GH-T

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	70	A
		T _s = 70 °C	50	A
I _{CRM}	I _{CRM} = 2 × I _{Cnom} , t _p ≤ 1ms	100	A	
V _{GES}		20	V	
t _{psc}	V _{CC} = 600 V; V _{GE} ≤ 20 V; T _j = 125 °C V _{CES} < 1200 V	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 × I _{FRom} , t _p ≤ 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 = 2 mA	4,5	5,5	6,5	V
I _{CES}	V _{GE} = 0 V, V _{CE} = V _{CES}	T _j = 25 °C		0,1	mA
		T _j = 125 °C		0,2	mA
I _{GES}	V _{CE} = 0 V, V _{GE} = 20 V T _j = 125 °C			200	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	12		mΩ
		T _j = 125 °C	22		mΩ
V _{CE(sat)}	I _{Cnom} = 50 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}	V _{CE} = , V _{GE} = V f = MHz		4,5		nF
C _{oes}		0,33		nF	
C _{res}		0,21		nF	
t _{d(on)}	R _{Gon} = 15 Ω	V _{CC} = 600V I _C = 50A	6		ns
t _r					ns
E _{on}	R _{Goff} = 15 Ω	T _j = 125 °C	4,6		mJ
t _{d(off)}					ns
t _f					ns
E _{off}					mJ
R _{th(j-s)}	per IGBT		0,51		K/W

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SEMITOP®4

IGBT module

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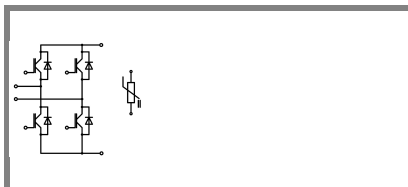
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Typical Applications*

- Voltage regulator



GH-T

Characteristics						
Symbol	Conditions	min.	typ.	max.	Units	
Inverse Diode						
$V_F = V_{EC}$	$I_{Fnom} = 50 \text{ A}; V_{GE} = 0 \text{ V}$		$T_j = 25 \text{ }^\circ\text{C}_{\text{chiplev.}}$	2	V	
			$T_j = 125 \text{ }^\circ\text{C}_{\text{chiplev.}}$	1,8	V	
V_{F0}			$T_j = 125 \text{ }^\circ\text{C}$	1	1,2	V
r_F			$T_j = 125 \text{ }^\circ\text{C}$	16	22	mΩ
I_{RRM}	$I_F = 50 \text{ A}$		$T_j = 125 \text{ }^\circ\text{C}$			A
Q_{rr}						μC
E_{rr}	$V_{CC} = 600 \text{ V}$			4		mJ
$R_{th(j-s)D}$	per diode			0,7		K/W
Freewheeling Diode						
$V_F = V_{EC}$	$I_{Fnom} = \text{A}; V_{GE} = \text{V}$		$T_j = \text{ }^\circ\text{C}_{\text{chiplev.}}$			V
V_{F0}			$T_j = \text{ }^\circ\text{C}$			V
r_F			$T_j = \text{ }^\circ\text{C}$			V
I_{RRM}	$I_F = \text{A}$		$T_j = \text{ }^\circ\text{C}$			A
Q_{rr}						μC
E_{rr}						mJ
	per diode					K/W
M_s	to heat sink			2,5	2,75	Nm
w				60		g
Temperature sensor						
R_{100}	$T_s = 100 \text{ }^\circ\text{C} (R_{25} = 5 \text{ k}\Omega)$			493±5%		Ω

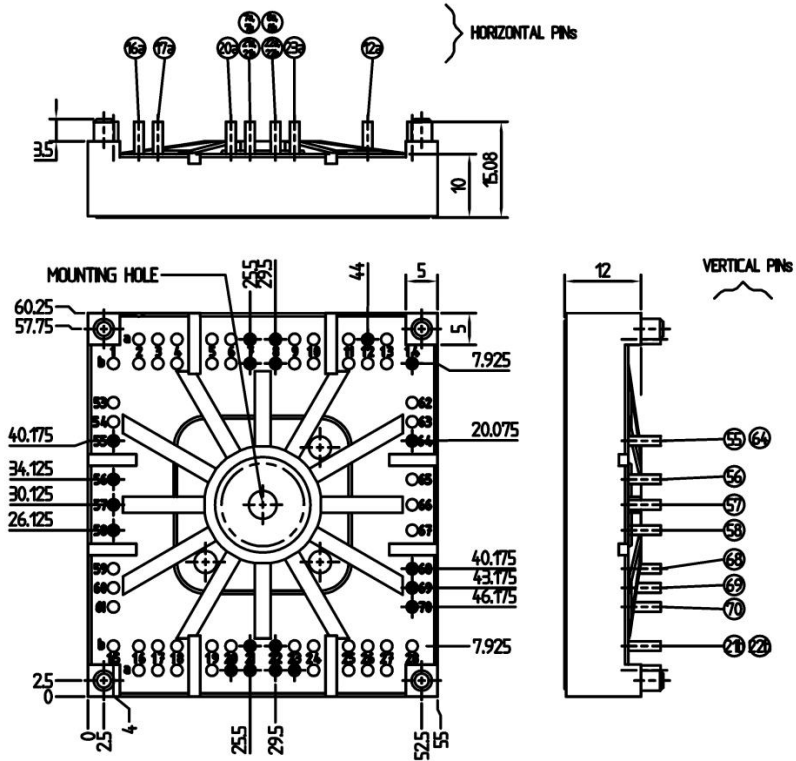
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

* 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.

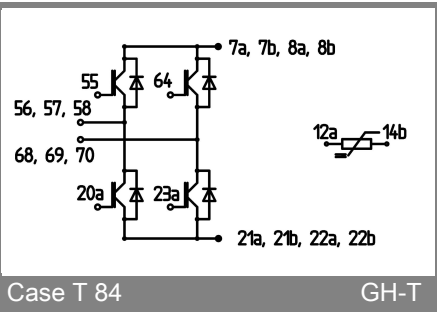
SK50GH128T

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