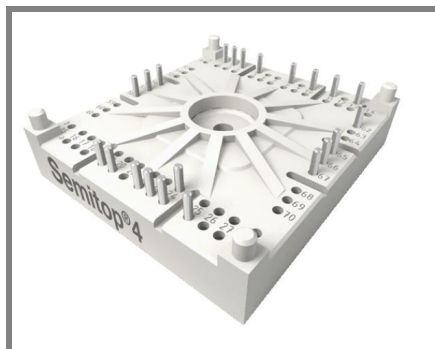




SEMITOP®4

IGBT module

SK50GH128T

Target Data

Features

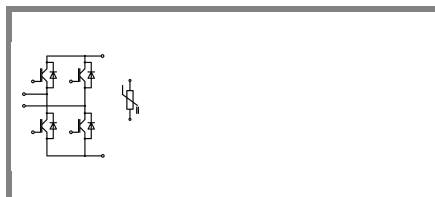
- One screw mounting module
- Fully compatible with SEMITOP®1,2,3
- Improved thermal performances by aluminium oxide substrate
- SPT IGBT Technology
- CAL technology FWD
- Integrated NTC Temperature sensor

Typical Applications

- Voltage regulator

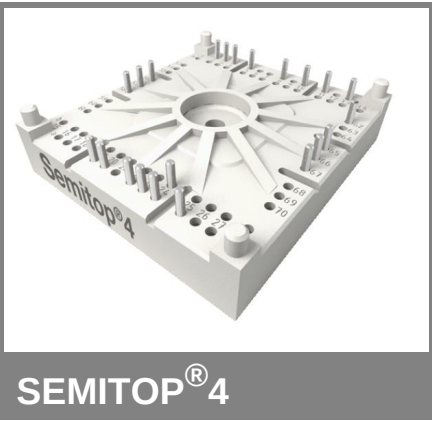
Absolute Maximum Ratings			T _c = 25 °C, unless otherwise specified	
Symbol	Conditions		Values	Units
IGBT				
V _{CES}	T _j = 25 °C		1200	V
I _C	T _j = 125 °C	T _s = 25 °C	70	A
		T _s = 70 °C	50	A
I _{CRM}	I _{CRM} = 2 x I _{Cnom} , t _p ≤ 1ms		100	A
V _{GES}			20	V
t _{psc}	V _{CC} = 600 V; V _{GE} ≤ 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 x I _{Fnom} , 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			V
		T _J = 125 °C	1			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			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 _{Cnom} = 50A	6			ns
t _r						ns
E _{on}	R _{Goff} = 15 Ω	T _J = 125 °C				mJ
t _{d(off)}						ns
t _f			4,6			ns
E _{off}						mJ
R _{th(j-s)}	per IGBT		0,51			K/W



GH-T

SK50GH128T



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

Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
Inverse Diode					
$V_F = V_{EC}$	$I_{Fnom} = 100\text{ A}; V_{GE} = 0\text{ V}$		$T_j = 25\text{ }^{\circ}\text{C}_{chiplev.}$	2	V
			$T_j = 125\text{ }^{\circ}\text{C}_{chiplev.}$	1,8	V
V_{F0}			$T_j = 125\text{ }^{\circ}\text{C}$	1	1,2
r_F			$T_j = 125\text{ }^{\circ}\text{C}$	16	22
I_{RRM}	$I_{Fnom} = 100\text{ A}$		$T_j = 125\text{ }^{\circ}\text{C}$	4	A
Q_{rr}					μC
E_{rr}					mJ
$R_{th(j-s)D}$	per diode		0,7	0,85	K/W
Freewheeling Diode					
$V_F = V_{EC}$	$I_{Fnom} = \text{A}; V_{GE} = \text{V}$		$T_j = \text{ }^{\circ}\text{C}_{chiplev.}$		V
V_{F0}			$T_j = \text{ }^{\circ}\text{C}$		V
r_F			$T_j = \text{ }^{\circ}\text{C}$		V
I_{RRM}	$I_{Fnom} = \text{A}$		$T_j = \text{ }^{\circ}\text{C}$		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}	$T_s = 100^{\circ}\text{C} (R_{25}=5\text{k}\Omega)$			493 $\pm$ 5%	Ω

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

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