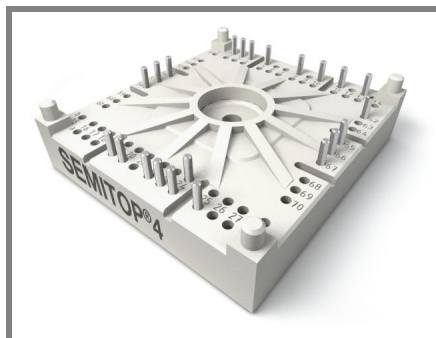


# SK100GD126T



**SEMITOP® 4**

## IGBT Module

**SK100GD126T**

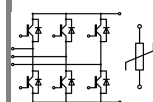
Preliminary Data

### Features

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

### Typical Applications

- Inverter up to 50 kVA
- Typ. motor power 22 kW

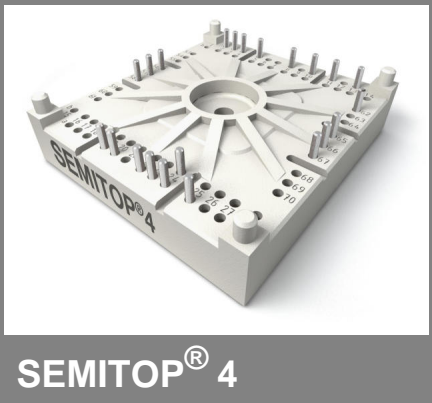


**GD-T**

Absolute Maximum Ratings				$T_s = 25\text{ °C}$ , unless otherwise specified	
Symbol	Conditions			Values	Units
<b>IGBT</b>					
$V_{CES}$	$T_j = 25\text{ °C}$			1200	V
$I_C$	$T_j = 150\text{ °C}$	$T_s = 25\text{ °C}$		114	A
		$T_s = 70\text{ °C}$		86	A
$I_{CRM}$	$I_{CRM} = 2 \times I_{Cnom}$			200	A
$V_{GES}$				$\pm 20$	V
$t_{psc}$	$V_{CC} = 600\text{ V}$ ; $V_{GE} \leq 20\text{ V}$ ; $T_j = 125\text{ °C}$ $V_{CES} < 1200\text{ V}$			10	$\mu s$
<b>Inverse Diode</b>					
$I_F$	$T_j = 150\text{ °C}$	$T_s = 25\text{ °C}$		118	A
		$T_s = 70\text{ °C}$		88	A
$I_{FRM}$	$I_{FRM} = 2 \times I_{Fnom}$			200	A
<b>Module</b>					
$I_{t(RMS)}$					A
$T_{vj}$				-40 ... +150	$^{\circ}\text{C}$
$T_{stg}$				-40 ... +125	$^{\circ}\text{C}$
$V_{isol}$	AC, 1 min.			2500	V

Characteristics			T <sub>s</sub> = 25 °C, unless otherwise specified			
Symbol	Conditions		min.	typ.	max.	Units
IGBT						
V <sub>GE(th)</sub>	V <sub>GE</sub> = V <sub>CE</sub> , I <sub>C</sub> = 4 mA		5	5,8	6,5	V
I <sub>CES</sub>	V <sub>GE</sub> = 0 V, V <sub>CE</sub> = V <sub>CES</sub> T <sub>J</sub> = 25 °C T <sub>J</sub> = 125 °C		0,014			mA mA
I <sub>GES</sub>	V <sub>CE</sub> = 0 V, V <sub>GE</sub> = 20 V T <sub>J</sub> = 25 °C T <sub>J</sub> = 125 °C		1200			nA nA
V <sub>CE0</sub>	T <sub>J</sub> = 25 °C T <sub>J</sub> = 125 °C		1 0,9	1,2 1,1	V V	
r <sub>CE</sub>	V <sub>GE</sub> = 15 V T <sub>J</sub> = 25°C T <sub>J</sub> = 125°C		7 11	9,5 14	mΩ mΩ	
V <sub>CE(sat)</sub>	I <sub>Cnom</sub> = 100 A, V <sub>GE</sub> = 15 V T <sub>J</sub> = 25°C <sub>chiplev.</sub> T <sub>J</sub> = 125°C <sub>chiplev.</sub>		1,7 2,1	2,15 2,45	V V	
C <sub>ies</sub> C <sub>oes</sub> C <sub>res</sub>	V <sub>CE</sub> = 25, V <sub>GE</sub> = 0 V f = 1 MHz		7,2 0,37 0,32			nF nF nF
t <sub>d(on)</sub> t <sub>r</sub> E <sub>on</sub>	R <sub>Gon</sub> = 4 Ω di/dt = 2250 A/μs	V <sub>CC</sub> = 600V I <sub>C</sub> = 100A	115 28 9,8			ns ns mJ
t <sub>d(off)</sub> t <sub>f</sub> E <sub>off</sub>	R <sub>Goff</sub> = 4 Ω di/dt = 2250 A/μs	T <sub>J</sub> = 125 °C V <sub>GE</sub> = -7/+15 V	509 100 11,7			ns ns mJ
R <sub>th(j-s)</sub>	per IGBT		0,4			K/W

# SK100GD126T



## IGBT Module

### SK100GD126T

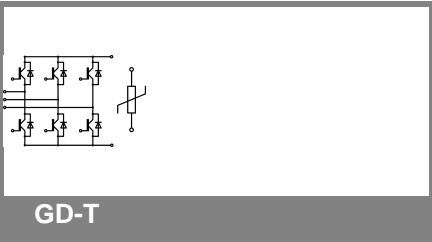
#### Preliminary Data

#### Features

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

#### Typical Applications

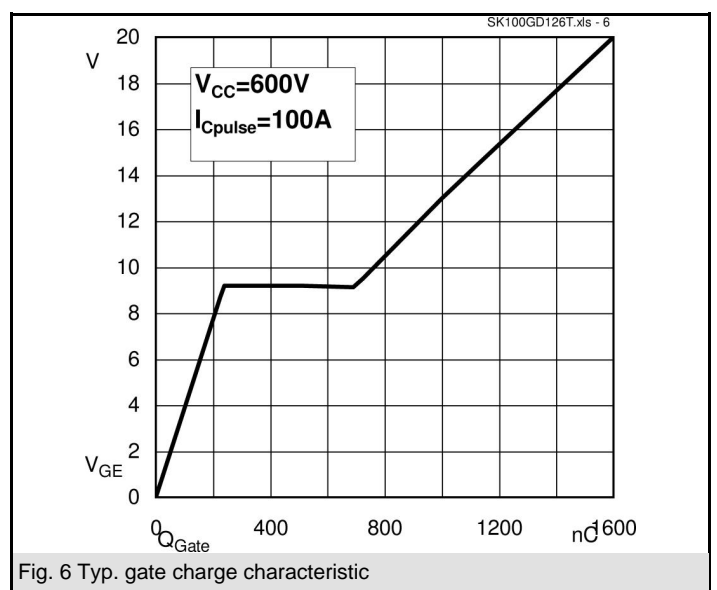
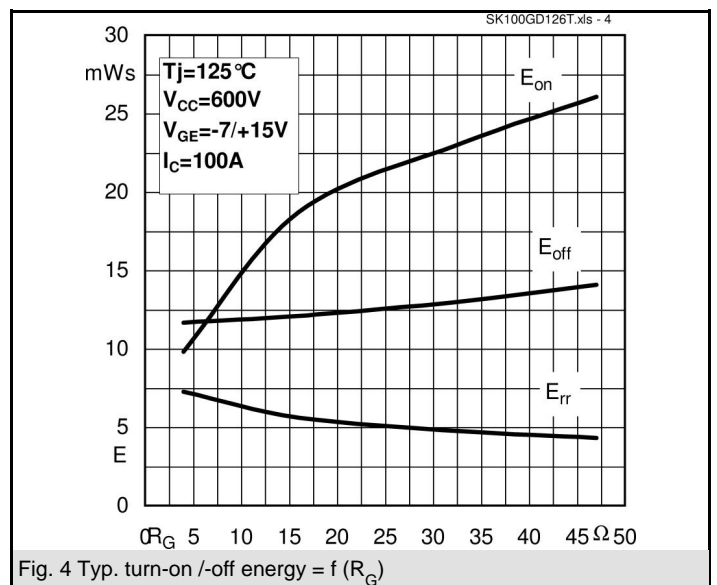
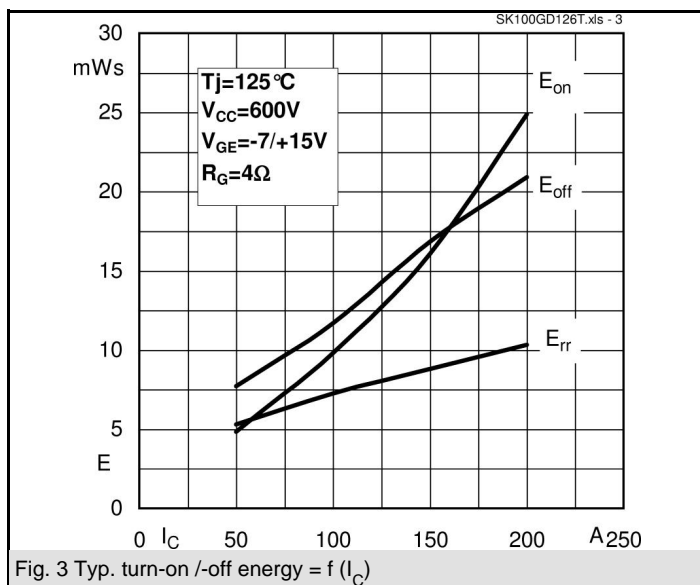
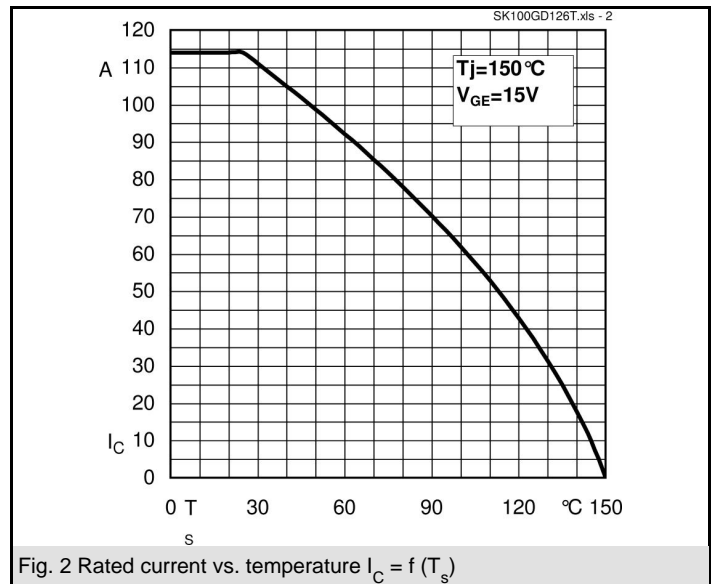
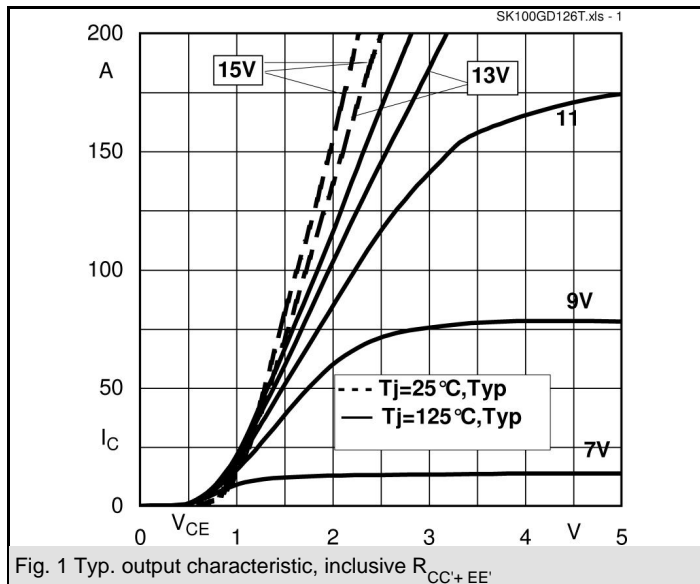
- Inverter up to 50 kVA
- Typ. motor power 22 kW

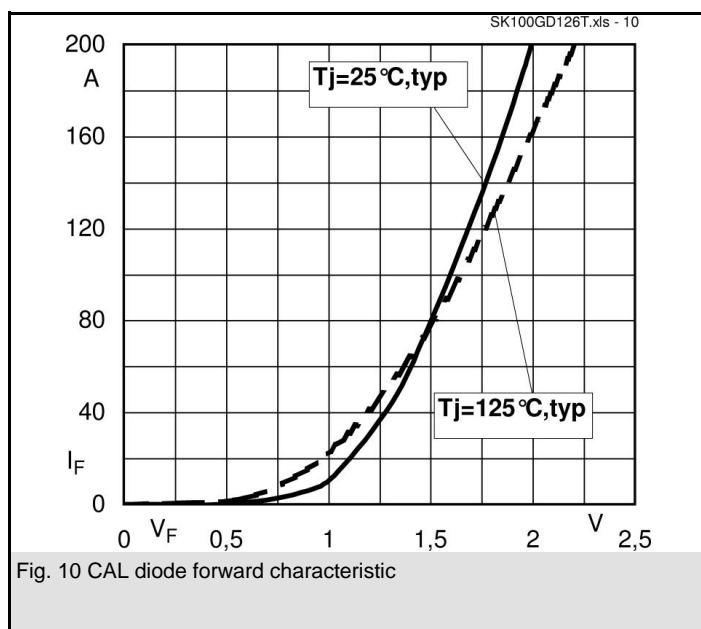
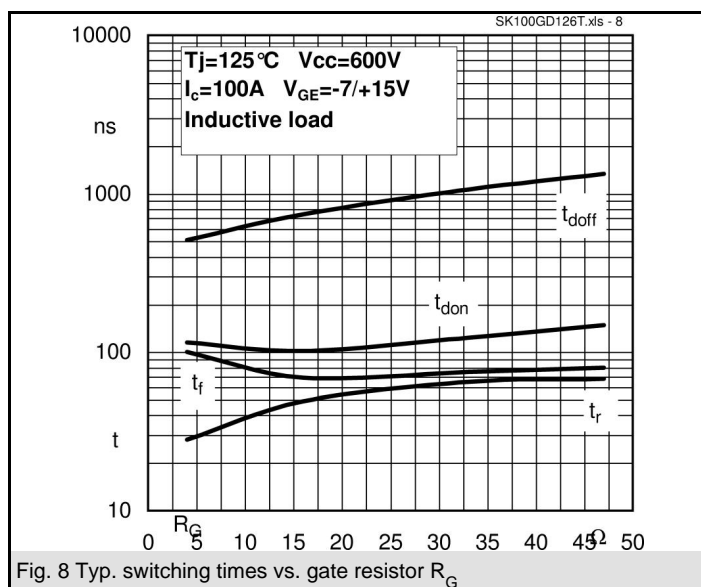
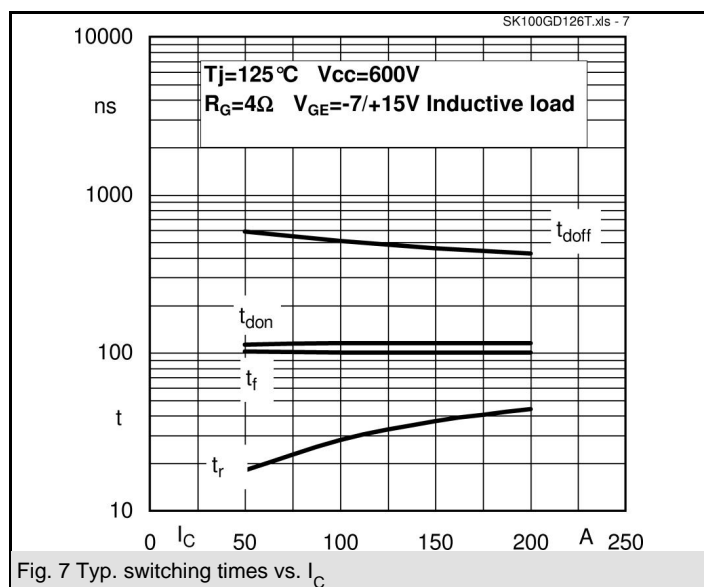


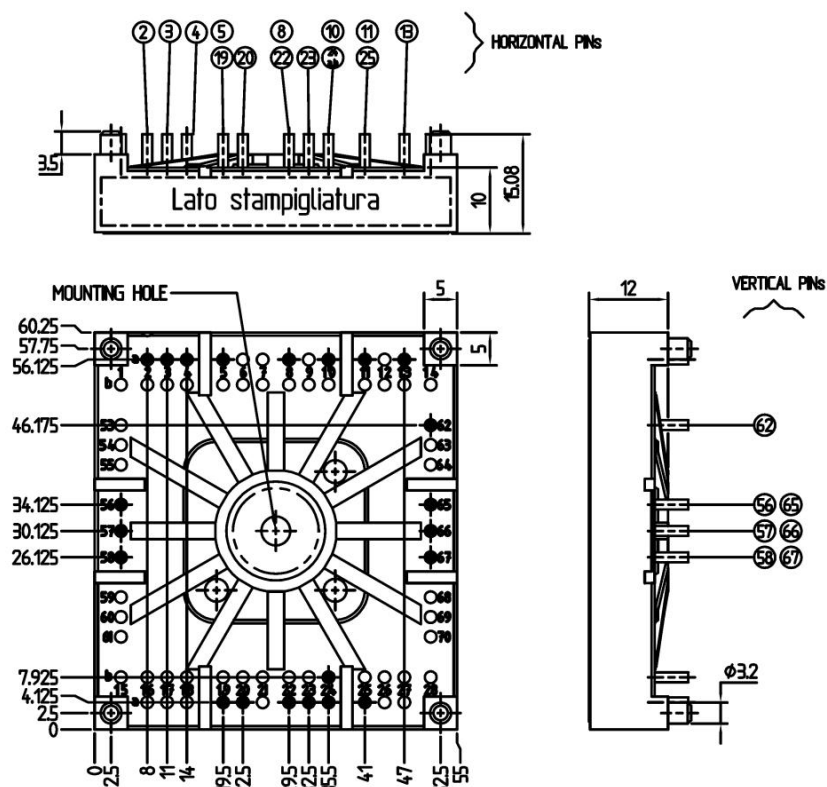
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V <sub>F</sub> = V <sub>EC</sub>	I <sub>Fnom</sub> = 100 A; V <sub>GE</sub> = 0 V	T <sub>j</sub> = 25 °C <sub>chiplev.</sub>		1,5		V
		T <sub>j</sub> = 125 °C <sub>chiplev.</sub>		1,5		V
V <sub>F0</sub>		T <sub>j</sub> = 25 °C		1,18		V
		T <sub>j</sub> = 125 °C		1		V
r <sub>F</sub>		T <sub>j</sub> = 25 °C		3,2		mΩ
		T <sub>j</sub> = 125 °C		5		mΩ
I <sub>RRM</sub>	I <sub>F</sub> = 100 A di/dt = 2250 A/μs V <sub>CC</sub> = 600V	T <sub>j</sub> = 125 °C		100		A
Q <sub>rr</sub>				20		μC
E <sub>rr</sub>				7,3		mJ
R <sub>th(j-s)D</sub>	per diode			0,55		K/W
M <sub>s</sub>	to heat sink		2,5		2,75	Nm
w				60		g
Temperature sensor						
R <sub>100</sub>	T <sub>s</sub> = 100°C (R <sub>25</sub> =5kΩ)			493±5%		Ω

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

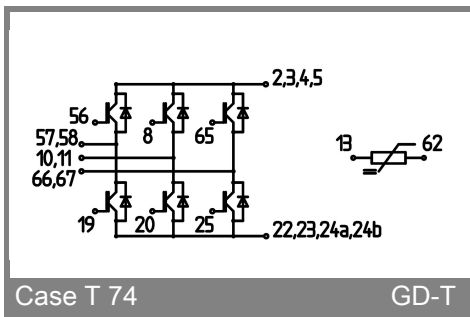
This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.







Case T74 (Suggested hole diameter for the solder pins in the circuit board: 2mm. Suggested hole diameter for the mounting pins in the circuit board: 3,6mm )



Case T 74

GD-T