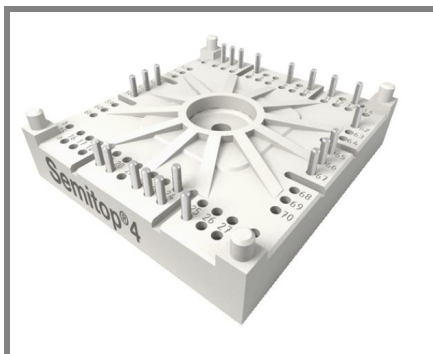


# SK200GD066T



**SEMITOP® 4**

## IGBT Module

**SK200GD066T**

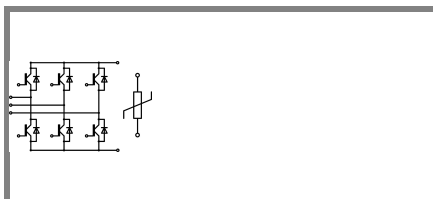
### Target Data

### 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 42 kVA
- Typ. motor power 18,5 kW

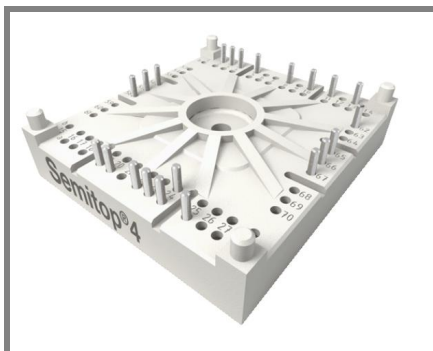


**GD-T**

Absolute Maximum Ratings		$T_s = 25\text{ °C}$ , unless otherwise specified	
Symbol	Conditions	Values	Units
<b>IGBT</b>			
$V_{CES}$	$T_j = 25\text{ °C}$	600	V
$I_C$	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$	174 A
		$T_s = 70\text{ °C}$	131 A
$I_{CRM}$	$I_{CRM} = 2 \times I_{Cnom}$	400	A
$V_{GES}$		$\pm 20$	V
$t_{psc}$	$V_{CC} = 360\text{ V}$ ; $V_{GE} \leq 20\text{ V}$ ; $T_j = 125\text{ °C}$ $V_{CES} < 600\text{ V}$	6	$\mu\text{s}$
<b>Inverse Diode</b>			
$I_F$	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$	99 A
		$T_s = 70\text{ °C}$	79 A
$I_{FRM}$	$I_{FRM} = 2 \times I_{Fnom}$	120	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		$T_s = 25\text{ °C}$ , unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
<b>IGBT</b>					
$V_{GE(th)}$	$V_{GE} = V_{CE}$ , $I_C = 3,2\text{ mA}$	5	5,8	6,5	V
$I_{CES}$	$V_{GE} = 0\text{ V}$ , $V_{CE} = V_{CES}$	$T_j = 25\text{ °C}$			mA
		$T_j = 125\text{ °C}$			mA
$I_{GES}$	$V_{CE} = 0\text{ V}$ , $V_{GE} = 20\text{ V}$	$T_j = 25\text{ °C}$		1200	nA
		$T_j = 125\text{ °C}$			nA
$V_{CE0}$		$T_j = 25\text{ °C}$	0,6	1	V
		$T_j = 150\text{ °C}$	0,7	0,8	V
$r_{CE}$	$V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}$	2,75	4	$\text{m}\Omega$
		$T_j = 150\text{ °C}$	4,25	5,5	$\text{m}\Omega$
$V_{CE(sat)}$	$I_{Cnom} = 200\text{ A}$ , $V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}_{chiplev.}$	1,45	1,9	V
		$T_j = 150\text{ °C}_{chiplev.}$	1,7	2,15	V
$C_{ies}$	$V_{CE} = 25$ , $V_{GE} = 0\text{ V}$	$f = 1\text{ MHz}$	12,2		nF
$C_{oes}$			0,76		nF
$C_{res}$			0,36		nF
$t_{d(on)}$	$R_{Gon} = 22\ \Omega$ $di/dt = 2575\text{ A}/\mu\text{s}$	$V_{CC} = 300\text{ V}$ $I_{Cnom} = 200\text{ A}$	134		ns
$t_r$			125		ns
$E_{on}$	$R_{Goff} = 22\ \Omega$ $di/dt = 2575\text{ A}/\mu\text{s}$	$T_j = 125\text{ °C}$ $V_{GE} = -7/+15\text{ V}$	17,6		mJ
$t_{d(off)}$			1131		ns
$t_f$			86		ns
$E_{off}$			11,8		mJ
$R_{th(j-s)}$	per IGBT		0,45		K/W

# SK200GD066T



**SEMITOP® 4**

## IGBT Module

### SK200GD066T

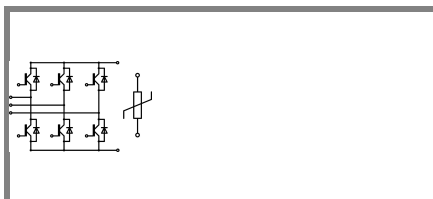
#### Target Data

#### 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

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- Typ. motor power 18,5 kW



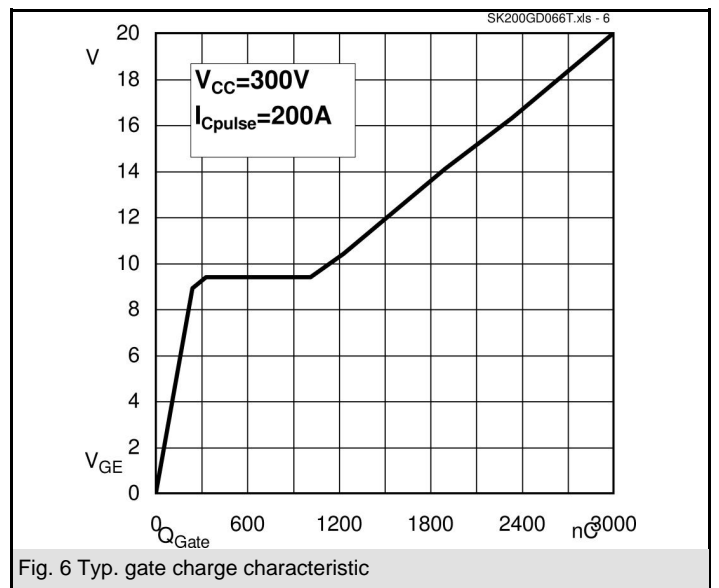
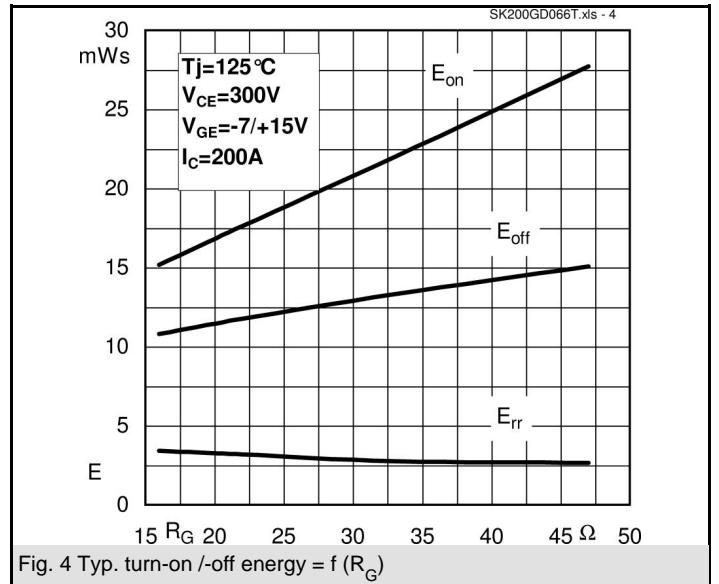
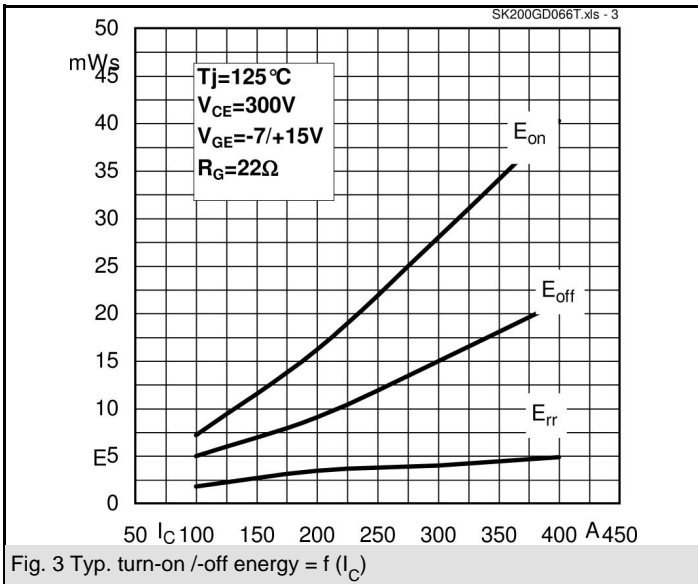
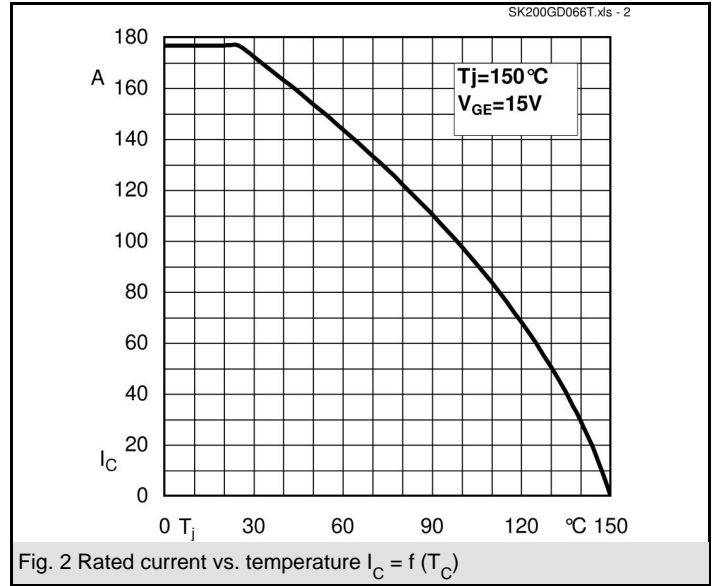
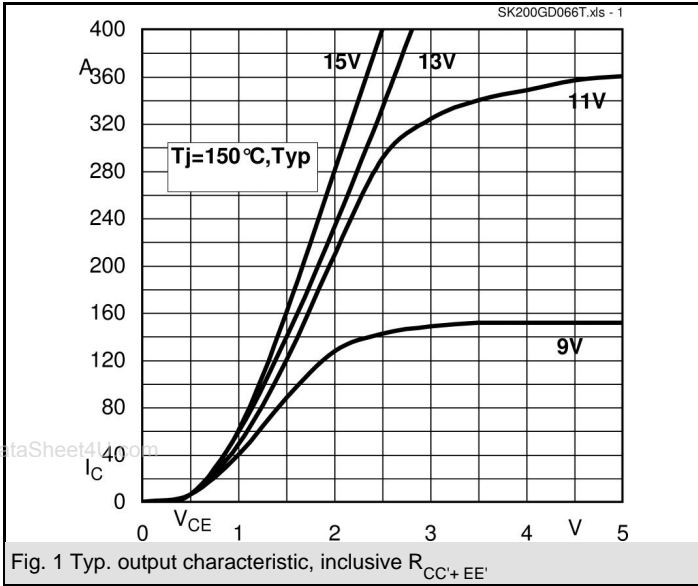
**GD-T**

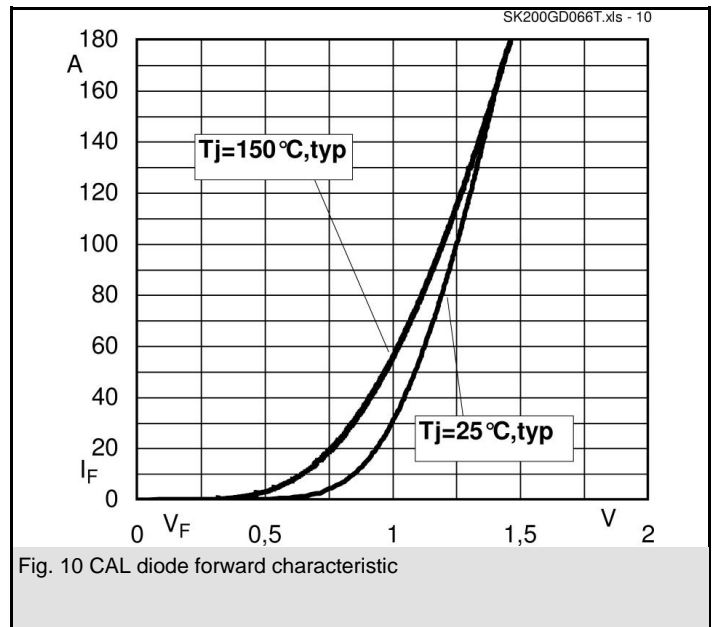
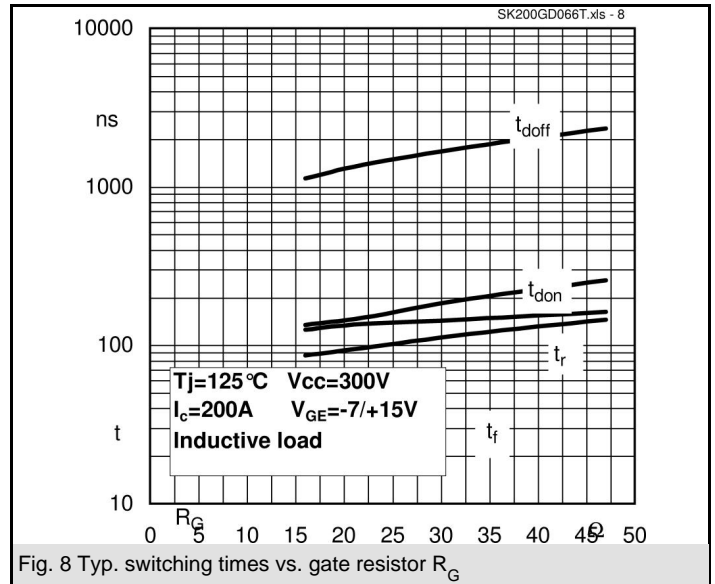
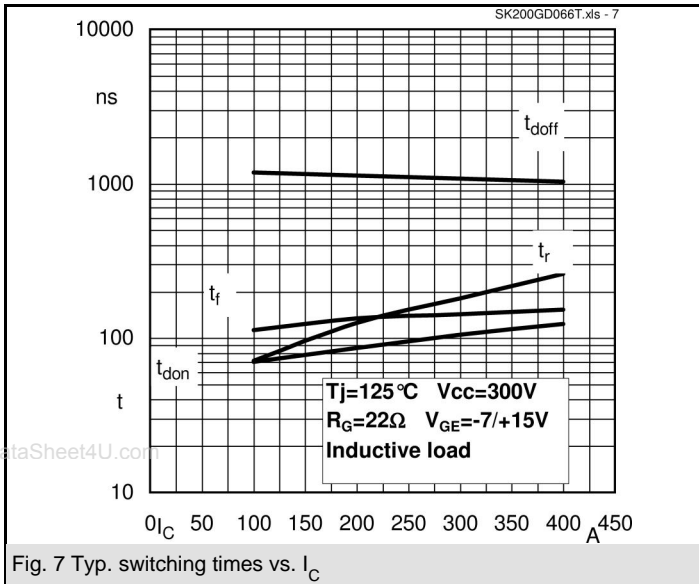
#### Characteristics

Symbol	Conditions	min.	typ.	max.	Units
<b>Inverse Diode</b>					
$V_F = V_{EC}$	$I_{Fnom} = 200 \text{ A}; V_{GE} = 0 \text{ V}$	$T_j = 25 \text{ }^\circ\text{C}_{chiplev.}$	1,48		V
		$T_j = 150 \text{ }^\circ\text{C}_{chiplev.}$	1,5		V
$V_{F0}$		$T_j = 25 \text{ }^\circ\text{C}$	0,95		V
		$T_j = 150 \text{ }^\circ\text{C}$	0,85		V
$r_F$		$T_j = 25 \text{ }^\circ\text{C}$	3		mΩ
		$T_j = 150 \text{ }^\circ\text{C}$	3,5		mΩ
$I_{RRM}$	$I_{Fnom} = 200 \text{ A}$	$T_j = 125 \text{ }^\circ\text{C}$	80		A
$Q_{rr}$	$di/dt = 2575 \text{ A}/\mu\text{s}$		20		μC
$E_{rr}$	$V_{CC} = 300\text{V}$		3,2		mJ
$R_{th(j-s)D}$	per diode		0,8		K/W
$M_s$	to heat sink			3,5	Nm
w			60		g
<b>Temperature sensor</b>					
$R_{100}$	$T_s = 100^\circ\text{C} (R_{25} = 5\text{k}\Omega)$		493±5%		Ω

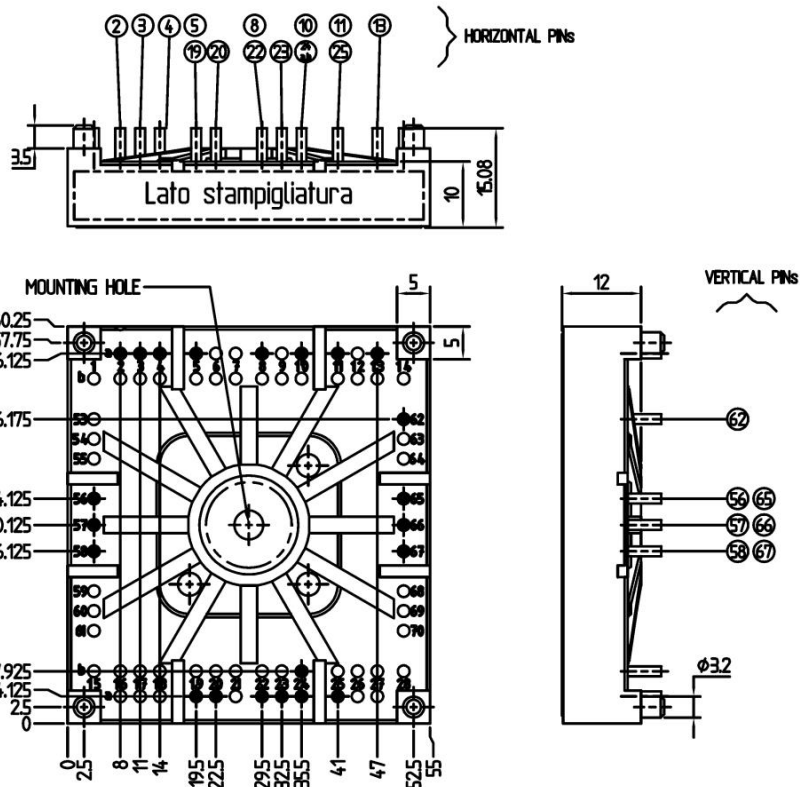
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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

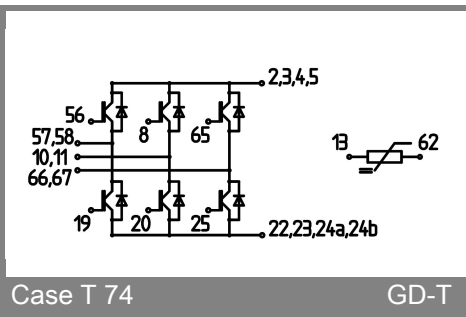




# SK200GD066T



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