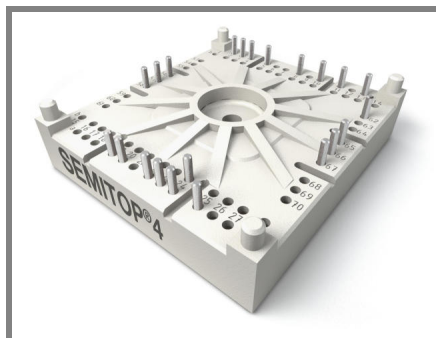




SEMITOP® 4

IGBT Module

SK75GD066T

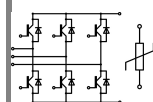
Preliminary Data

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*

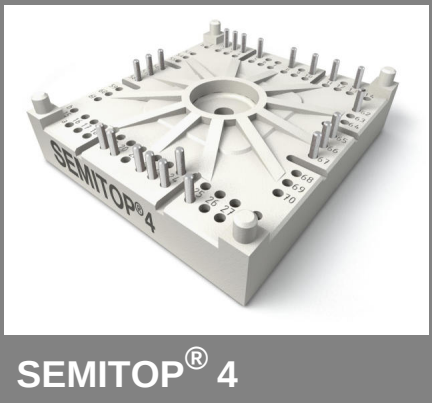
- Inverter up to 16 kVA
- Typ. motor power 7,5 kW



GD-T

Absolute Maximum Ratings		T _s = 25 °C, unless otherwise specified		
Symbol	Conditions	Values	Units	
IGBT				
V _{CES}	T _j = 25 °C	600	V	
I _C	T _j = 175 °C	T _s = 25 °C	83	A
		T _s = 70 °C	67	A
I _{CRM}	I _{CRM} = 2 x I _{Cnom}	150	A	
V _{GES}		± 20	V	
t _{psc}	V _{CC} = 360 V; V _{GE} ≤ 20 V; T _j = 125 °C V _{CES} < 600 V	6	μs	
Inverse Diode				
I _F	T _j = 175 °C	T _s = 25 °C	92	A
		T _s = 70 °C	73	A
I _{FRM}	I _{FRM} = 2 x I _{Fnom}	150	A	
Module				
I _{t(RMS)}			A	
T _{vj}		-40 ... +175	°C	
T _{stg}		-40 ... +125	°C	
V _{isol}	AC, 1 min.	2500	V	

Characteristics		$T_s = 25\text{ °C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 1,2\text{ mA}$	5	5,8	6,5	V
I_{CES}	$V_{GE} = 0\text{ V}$, $V_{CE} = V_{CES}$	$T_j = 25\text{ °C}$		0,0038	mA
		$T_j = 125\text{ °C}$			mA
I_{GES}	$V_{CE} = 0\text{ V}$, $V_{GE} = 20\text{ V}$	$T_j = 25\text{ °C}$		600	nA
		$T_j = 125\text{ °C}$			nA
V_{CE0}		$T_j = 25\text{ °C}$		0,8	V
		$T_j = 150\text{ °C}$		1	V
r_{CE}	$V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}$		8	$\text{m}\Omega$
		$T_j = 150\text{ °C}$		12,7	$\text{m}\Omega$
$V_{CE(sat)}$	$I_{Cnom} = 75\text{ A}$, $V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}_{chiplev.}$		1,45	V
		$T_j = 150\text{ °C}_{chiplev.}$		1,65	V
C_{ies}	$V_{CE} = 25$, $V_{GE} = 0\text{ V}$			4,7	nF
C_{oes}		$f = 1\text{ MHz}$		0,3	nF
C_{res}				0,145	nF
$t_{d(on)}$	$R_{Gon} = 16\text{ }\Omega$ $di/dt = 2250\text{ A}/\mu\text{s}$	$V_{CC} = 300\text{ V}$		95	ns
t_r		$I_C = 75\text{ A}$		50	ns
E_{on}	$R_{Goff} = 16\text{ }\Omega$ $di/dt = 2250\text{ A}/\mu\text{s}$	$T_j = 150\text{ °C}$		3,1	mJ
$t_{d(off)}$		$V_{GE} = -7/+15\text{ V}$		541	ns
t_f				70	ns
E_{off}				2,8	mJ
$R_{th(j-s)}$	per IGBT			0,75	K/W



IGBT Module

SK75GD066T

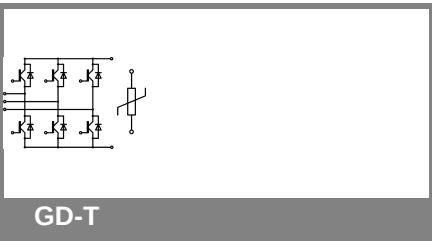
Preliminary Data

Features

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- Improved thermal performances by aluminium oxide substrate
- Trench IGBT technology
- CAL technology FWD
- Integrated NTC temperature sensor

Typical Applications*

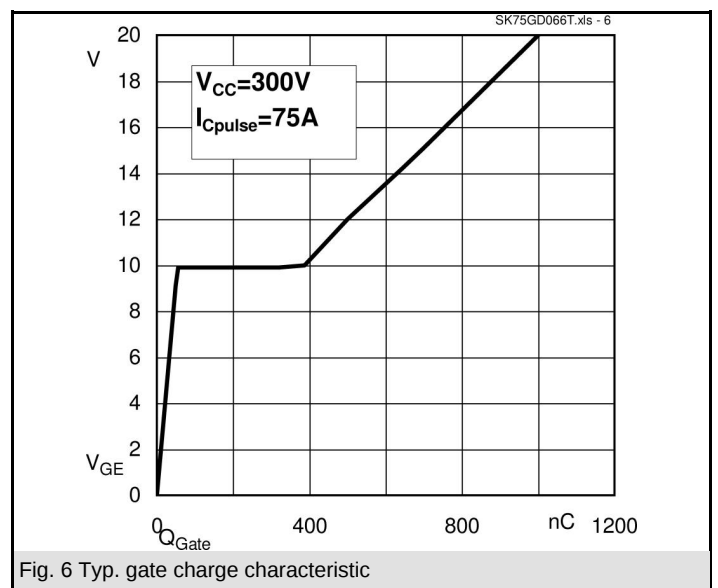
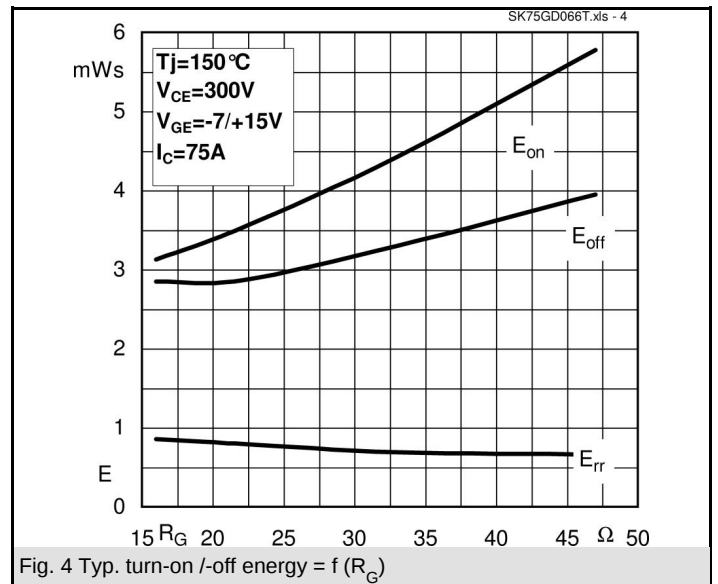
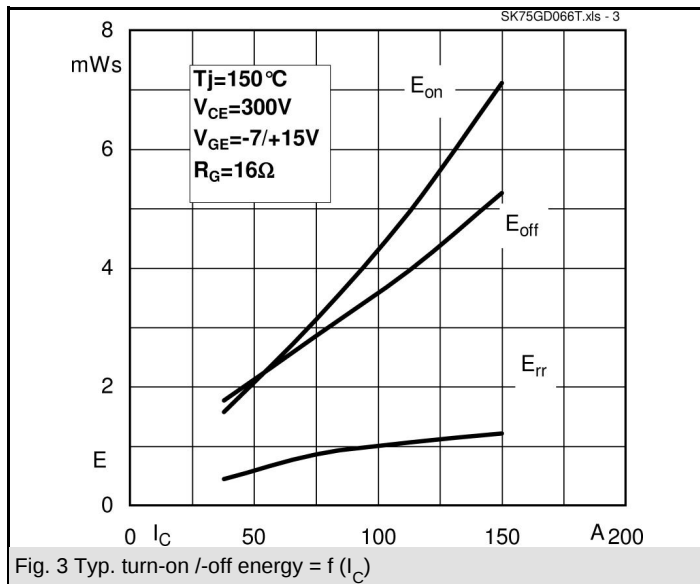
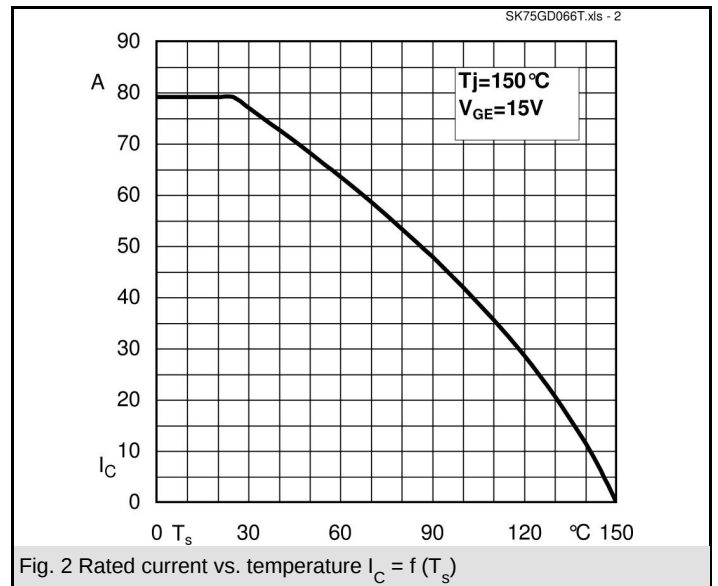
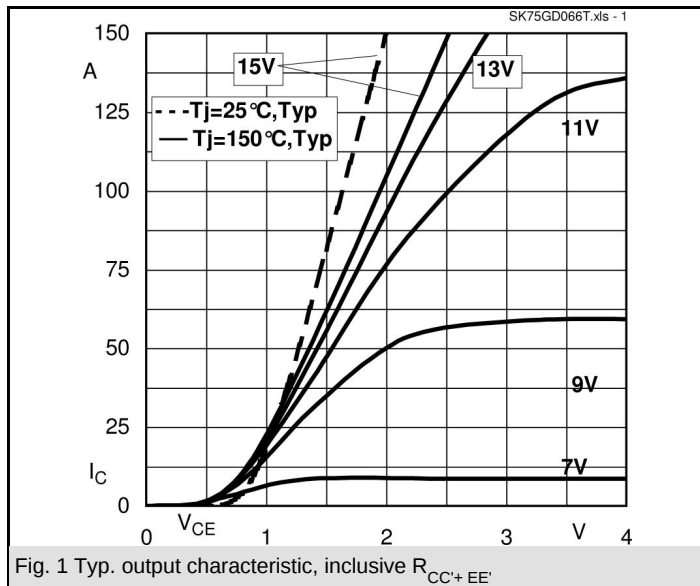
- Inverter up to 16 kVA
- Typ. motor power 7,5 kW

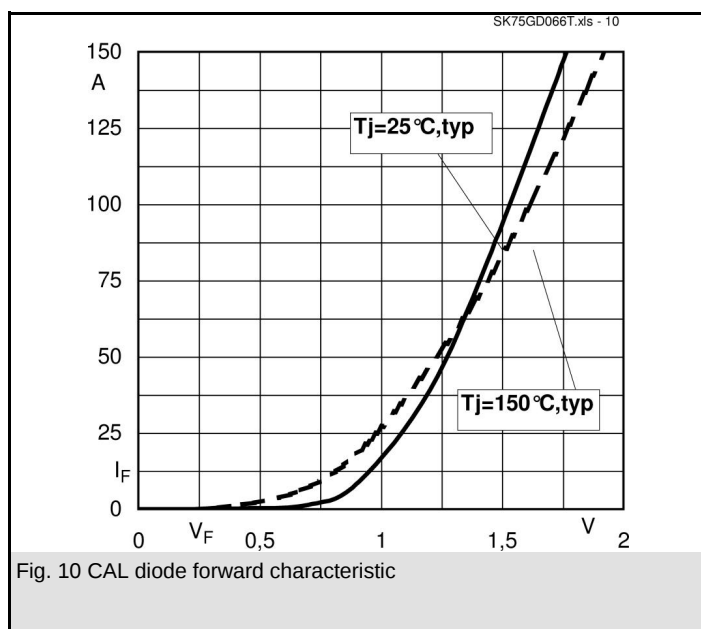
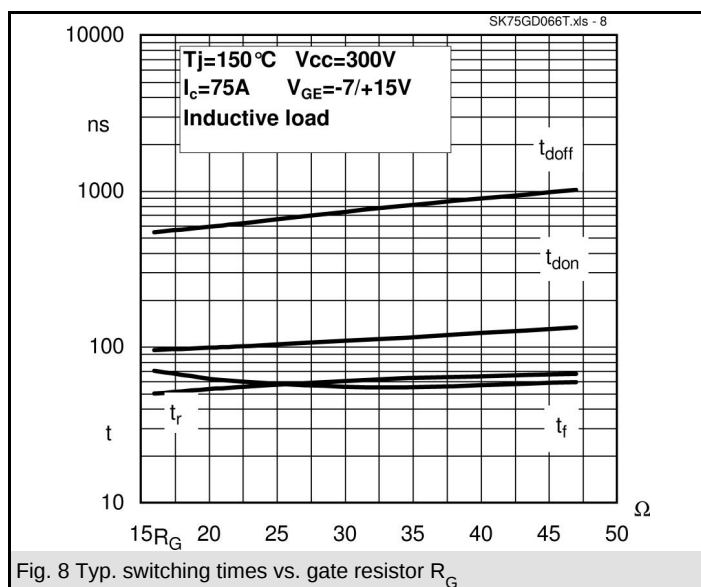
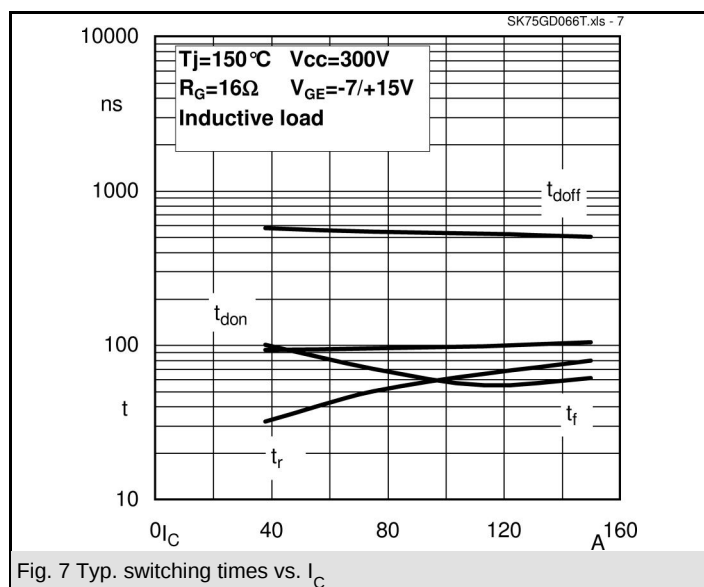


Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 60 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		1,35		V
		T _j = 150 °C _{chiplev.}		1,31		V
V _{F0}		T _j = 25 °C				V
		T _j = 150 °C		0,85		V
r _F		T _j = 25 °C				mΩ
		T _j = 150 °C		7,8		mΩ
I _{RRM}	I _F = 75 A	T _j = 150 °C		60		A
Q _{rr}	di/dt = 2250 A/μs			6		μC
E _{rr}	V _{CC} = 300V			0,85		mJ
R _{th(j-s)D}	per diode			1,2		K/W
M _s	to heat sink		2,5		2,75	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.

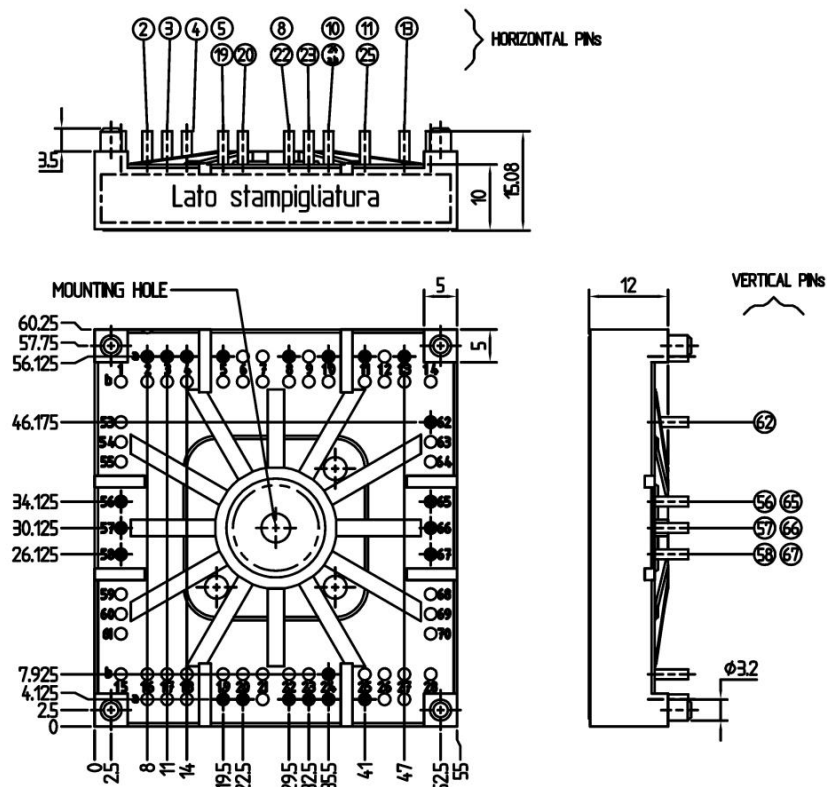
* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.



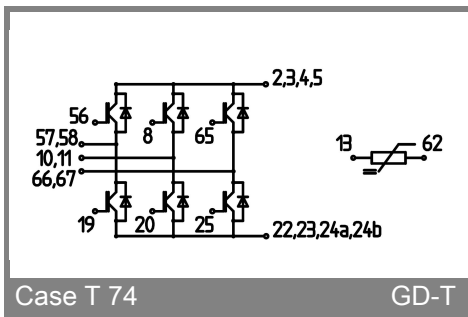


UL recognized

file no. E63 532



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