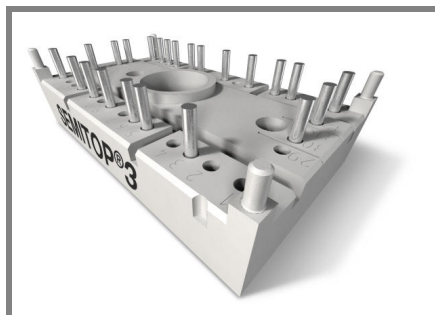


SK150GB066T



SEMITOP® 3

IGBT Module

SK150GB066T

Target Data

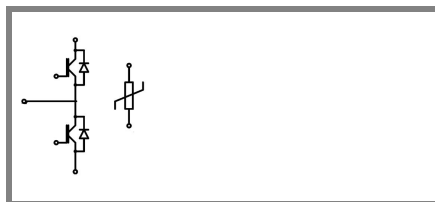
Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Trench IGBT technology
- CAL HD technology FWD
- Integrated NTC temperature sensor

Typical Applications*

Remarks

- $V_{isol} = 3000V$ AC, 50Hz, 1s



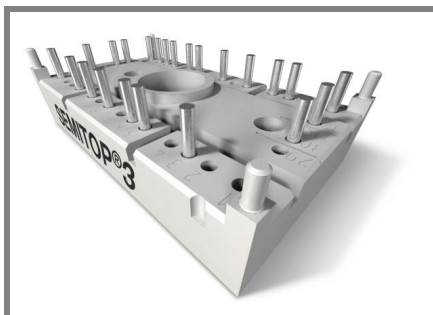
GB-T

Absolute Maximum Ratings		$T_s = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT			
V_{CES}	$T_j = 25\text{ °C}$	600	V
I_C	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$	124
		$T_s = 70\text{ °C}$	96
I_{CRM}	$I_{CRM} = 2 \times I_{Cnom}$	300	A
V_{GES}		± 20	V
t_{psc}	$V_{CC} = 360\text{ V}; V_{GE} \leq 20\text{ V}; T_j = 150\text{ °C}$ $V_{CES} < 600\text{ V}$	6	μs

Inverse Diode		$T_s = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
I_F	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$	135
		$T_s = 70\text{ °C}$	95
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$	300	A
Module			
$I_{t(RMS)}$			A
T_{vj}		-40 ... +175	$^{\circ}\text{C}$
T_{stg}		-40 ... +125	$^{\circ}\text{C}$
V_{isol}	AC, 1 min.	2500	V

Characteristics		$T_s = 25\text{ °C}$, unless otherwise specified			Units
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
$V_{GE(th)}$	$V_{GE} = V_{CE}, I_C = 2,4\text{ mA}$	5	5,8	6,5	V
I_{CES}	$V_{GE} = 0\text{ V}, V_{CE} = V_{CES}$	$T_j = 25\text{ °C}$		0,0076	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}		$T_j = 25\text{ °C}$	0,8	1,1	V
		$T_j = 150\text{ °C}$	0,7	1	V
r_{CE}	$V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}$	4	5	$\text{m}\Omega$
		$T_j = 150\text{ °C}$	6,35	7	$\text{m}\Omega$
$V_{CE(sat)}$	$I_{Cnom} = 150\text{ A}, V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}_{chiplev.}$	1,45	1,85	V
		$T_j = 150\text{ °C}_{chiplev.}$	1,65	2,05	V
C_{ies}	$V_{CE} = 25, V_{GE} = 0\text{ V}$	$f = 1\text{ MHz}$	9,4		nF
C_{oes}			0,6		nF
C_{res}			0,29		nF
Q_G	$V_{GE} = -7V...+15V$		1400		nC
$t_{d(on)}$	$R_{Gon} = 8\ \Omega$ $di/dt = 2250\text{ A}/\mu\text{s}$	$V_{CC} = 300V$ $I_C = 150A$	95		ns
t_r			50		ns
E_{on}			6,25		mJ
$t_{d(off)}$	$R_{Goff} = 8\ \Omega$ $di/dt = 2250\text{ A}/\mu\text{s}$	$T_j = 150\text{ °C}$ $V_{GE} = -7/+15\text{ V}$	541		ns
			70		ns
E_{off}			5,7		mJ
$R_{th(j-s)}$	per IGBT		0,65		K/W

SK150GB066T



SEMITOP[®] 3

IGBT Module

SK150GB066T

Target Data

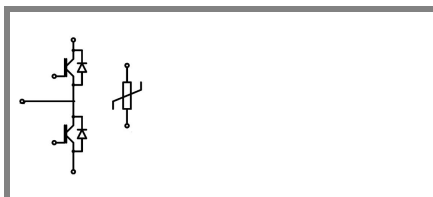
Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Trench IGBT technology
- CAL HD technology FWD
- Integrated NTC temperature sensor

Typical Applications*

Remarks

- $V_{isol} = 3000V$ AC, 50Hz, 1s



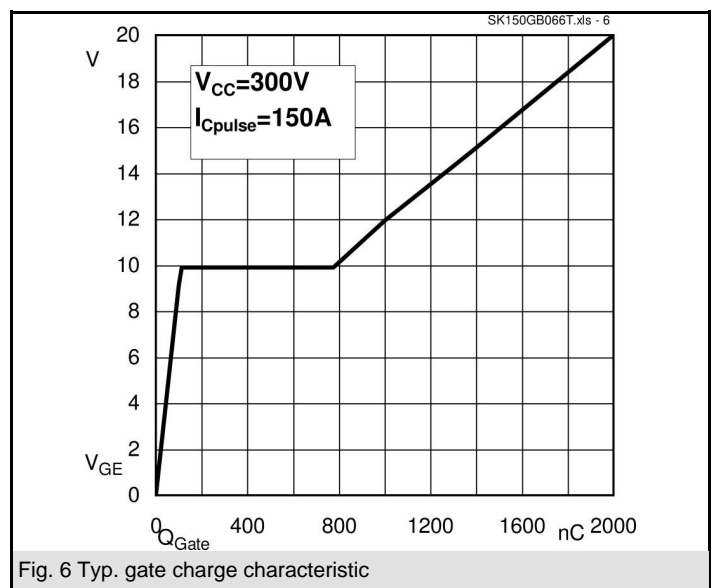
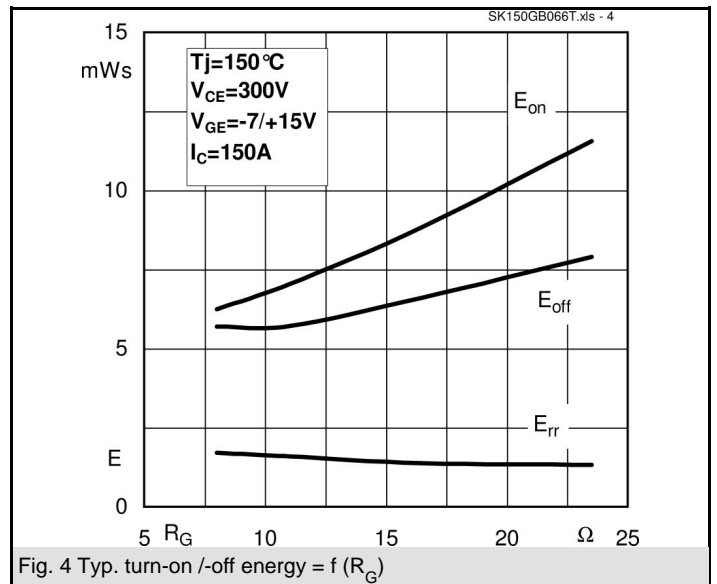
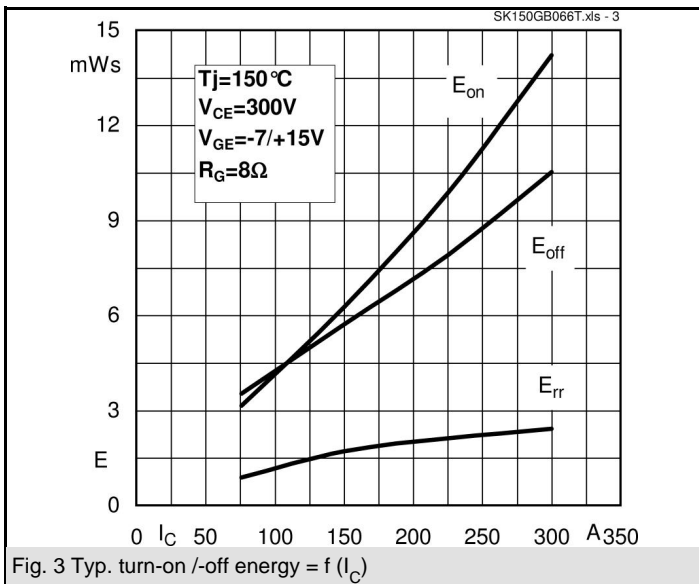
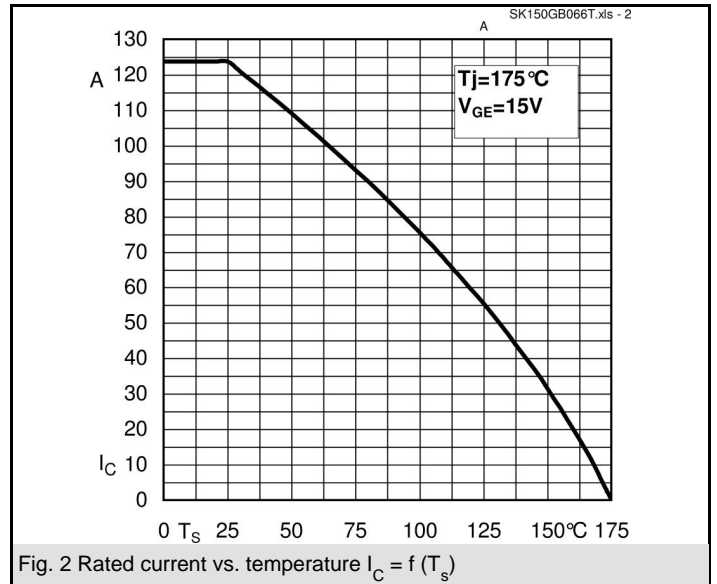
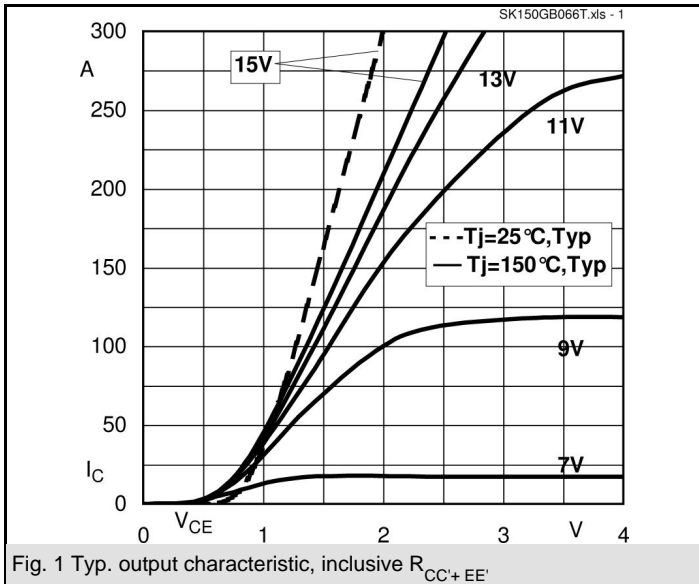
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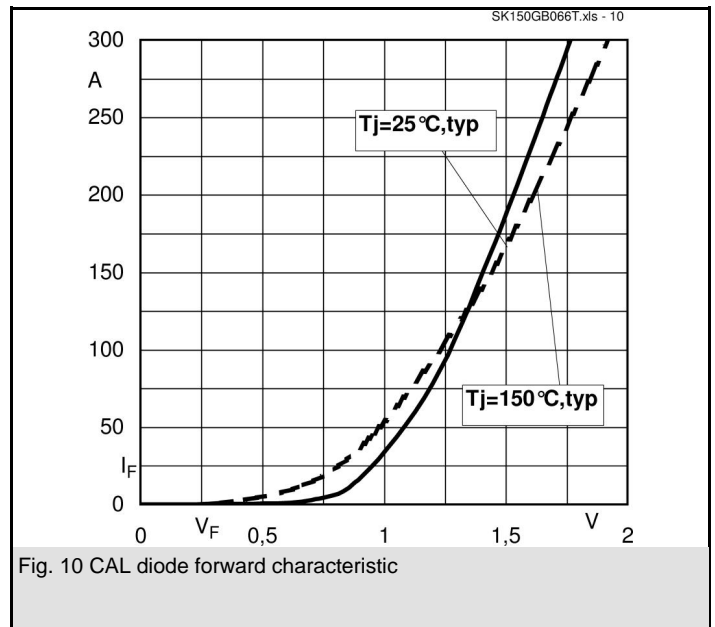
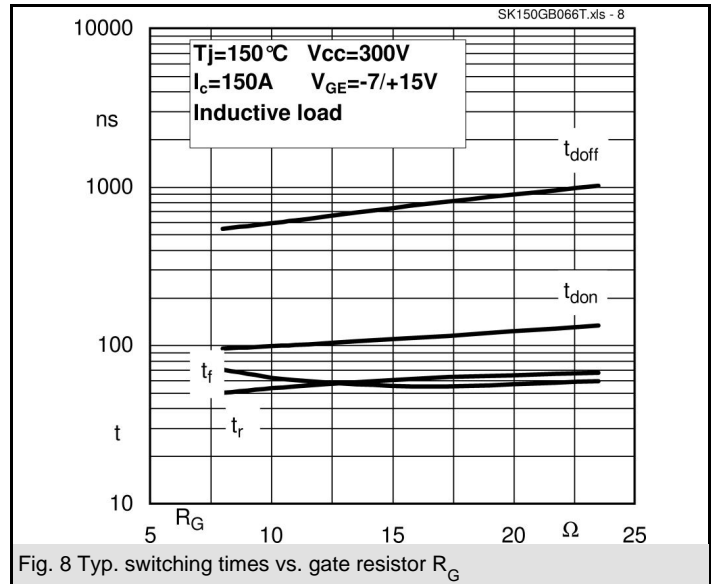
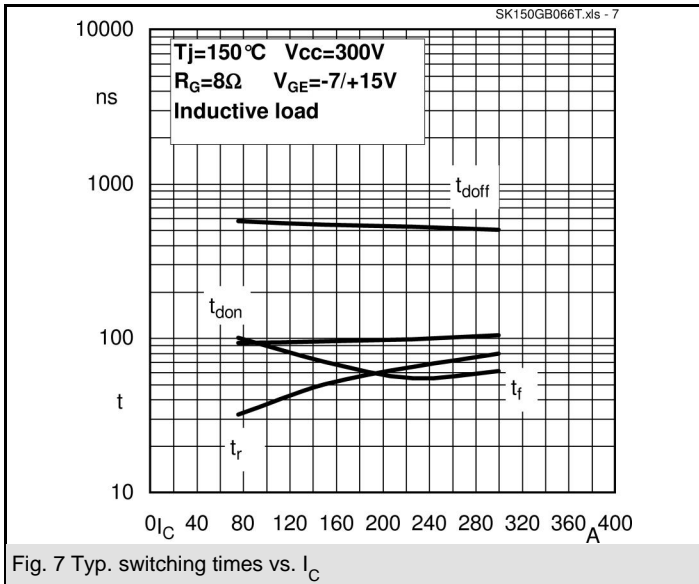
Characteristics

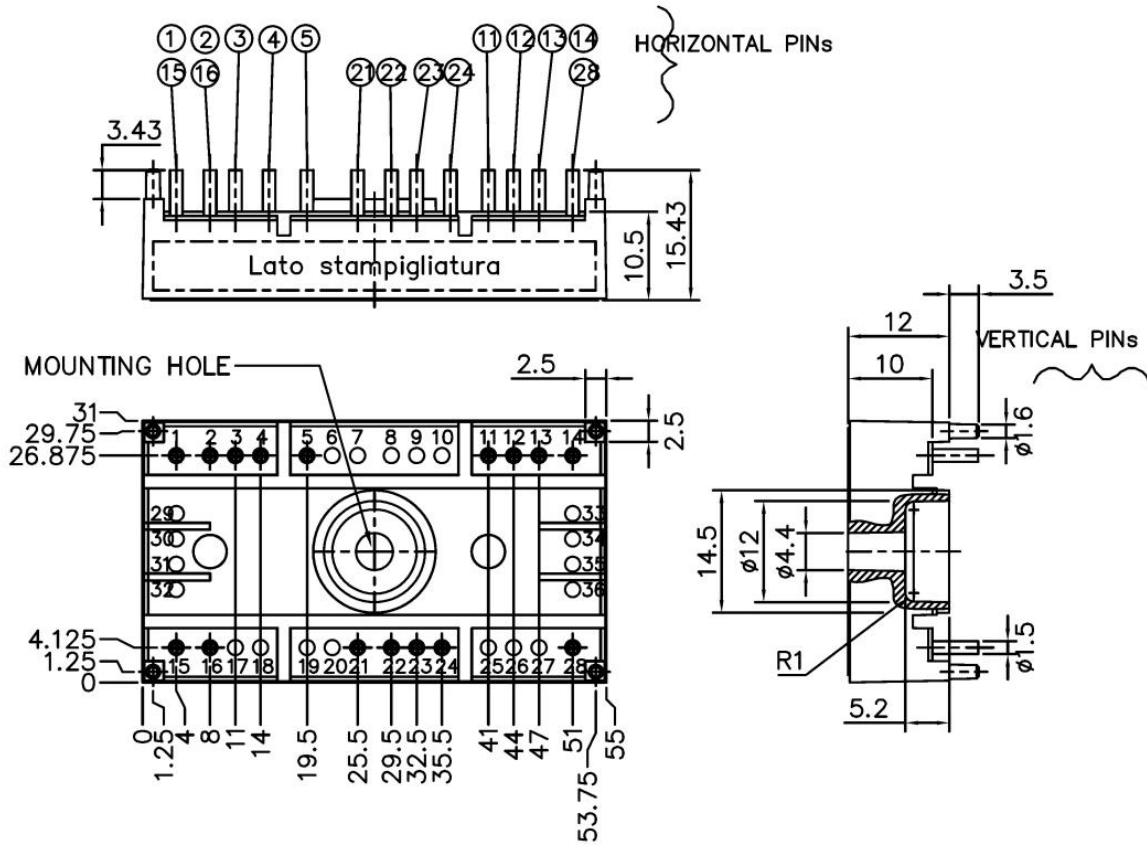
Symbol	Conditions	min.	typ.	max.	Units
Inverse Diode					
$V_F = V_{EC}$	$I_{Fnom} = 150 A; V_{GE} = 0 V$	$T_j = 25 °C_{chiplev.}$	1,35		V
		$T_j = 150 °C_{chiplev.}$	1,31		V
V_{F0}		$T_j = 25 °C$			V
		$T_j = 150 °C$	0,85		V
r_F		$T_j = 25 °C$			mΩ
		$T_j = 150 °C$	3,9		mΩ
I_{RRM}	$I_F = 150 A$		100		A
Q_{rr}	$di/dt = 2250 A/μs$		11		μC
E_{rr}	$V_{CC} = 300V$		1,7		mJ
$R_{th(j-s)D}$	per diode		0,73		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.

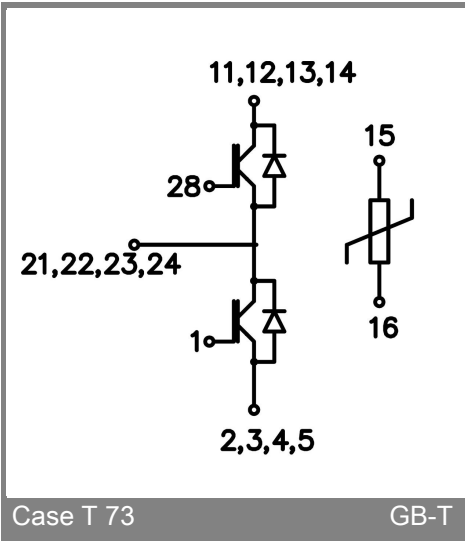
* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and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







Case T73 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



Case T 73

GB-T