

SEMITOP® 3

IGBT Module

SK100GB066T

Target Data

Features

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

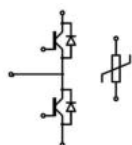
Typical Applications*

Remarks

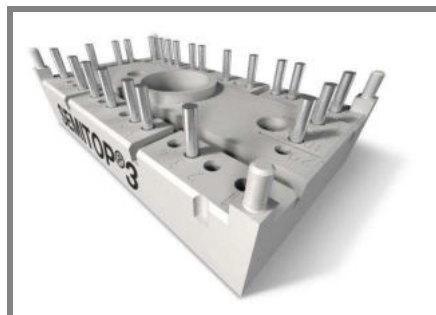
- $V_{isol} = 3000V$ AC, 50Hz, 1s

Absolute Maximum Ratings			$T_s = 25\text{ }^{\circ}\text{C}$, unless otherwise specified	
Symbol	Conditions		Values	Units
IGBT				
V_{CES}	$T_j = 25\text{ }^{\circ}\text{C}$		600	V
I_C	$T_j = 175\text{ }^{\circ}\text{C}$	$T_s = 25\text{ }^{\circ}\text{C}$	96	A
		$T_s = 70\text{ }^{\circ}\text{C}$	75	A
I_{CRM}	$I_{CRM} = 2 \times I_{Cnom}$		200	A
V_{GES}			± 20	V
t_{psc}	$V_{CC} = 360\text{ V}$; $V_{GE} \leq 20\text{ V}$; $T_j = 150\text{ }^{\circ}\text{C}$ $V_{CES} < 600\text{ V}$		6	μs
Inverse Diode				
I_F	$T_j = 175\text{ }^{\circ}\text{C}$	$T_s = 25\text{ }^{\circ}\text{C}$	108	A
		$T_s = 70\text{ }^{\circ}\text{C}$	84	A
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$		200	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 °C, unless otherwise specified			
Symbol	Conditions		min.	typ.	max.	Units
IGBT						
V _{GE(th)}	V _{GE} = V _{CE} , I _C = 1,6 mA		5	5,8	6,5	V
I _{CES}	V _{GE} = 0 V, V _{CE} = V _{CES}	T _J = 25 °C T _J = 125 °C	0,0026			mA mA
I _{GES}	V _{CE} = 0 V, V _{GE} = 20 V	T _J = 25 °C	1200			nA
V _{CE0}		T _J = 25 °C T _J = 125 °C	0,8 0,7			V V
r _{CE}	V _{GE} = 15 V	T _J = 25°C T _J = 150°C	6,5 9,5			mΩ mΩ
V _{CE(sat)}	I _{Cnom} = 100 A, V _{GE} = 15 V	T _J = 25°C _{chiplev.} T _J = 150°C _{chiplev.}	1,45 1,65			V V
C _{ies} C _{oes} C _{res}	V _{CE} = 25, V _{GE} = 0 V	f = 1 MHz	6,28 0,4 0,19			nF nF nF
Q _G	V _{GE} = -7V...+15V		1000			nC
t _{d(on)} t _r E _{on}	R _{Gon} = 32 Ω di/dt = 2575 A/μs	V _{CC} = 300V I _C = 100A	144 128 7			ns ns mJ
t _{d(off)} t _f E _{off}	R _{Goff} = 32 Ω di/dt = 2575 A/μs	T _J = 150 °C V _{GE} =-7/+15V	1040 91 6			ns ns mJ
R _{th(j-s)}	per IGBT		0,78			K/W



GB-T



SEMITOP® 3

IGBT Module

SK100GB066T

Target Data

Features

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

Typical Applications*

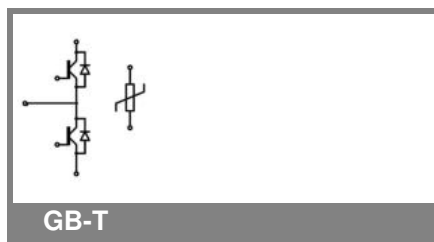
Remarks

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

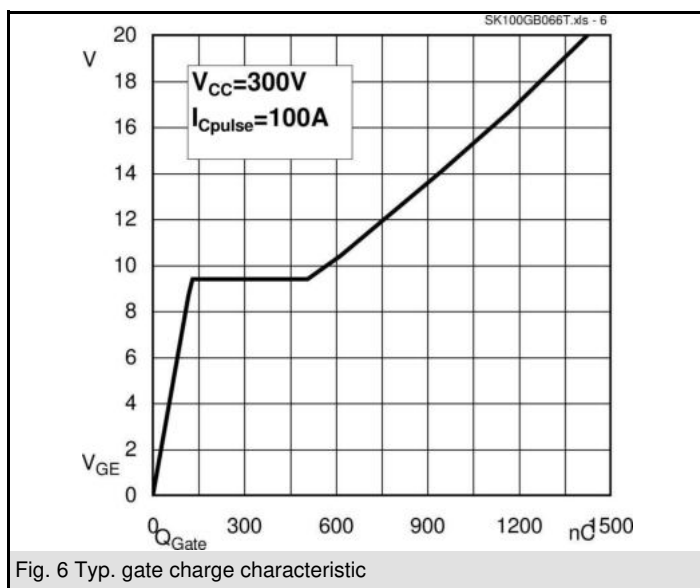
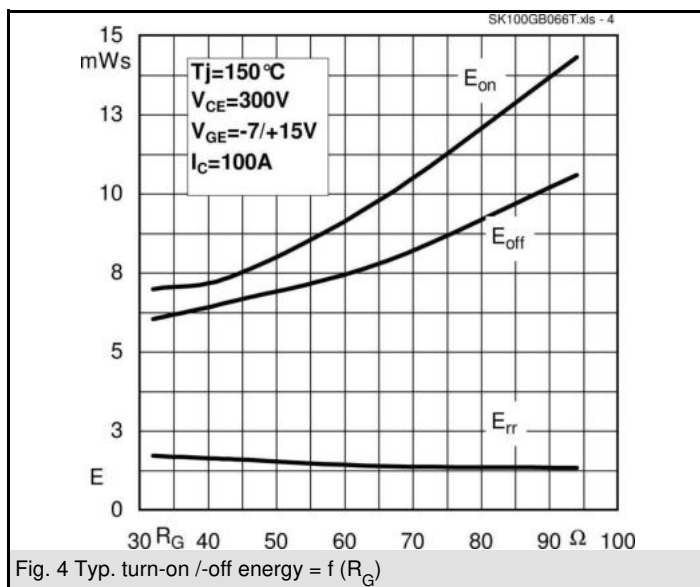
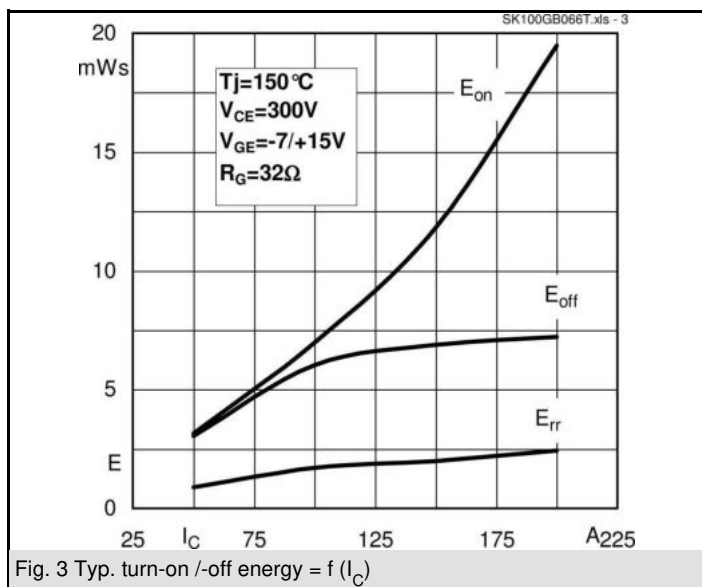
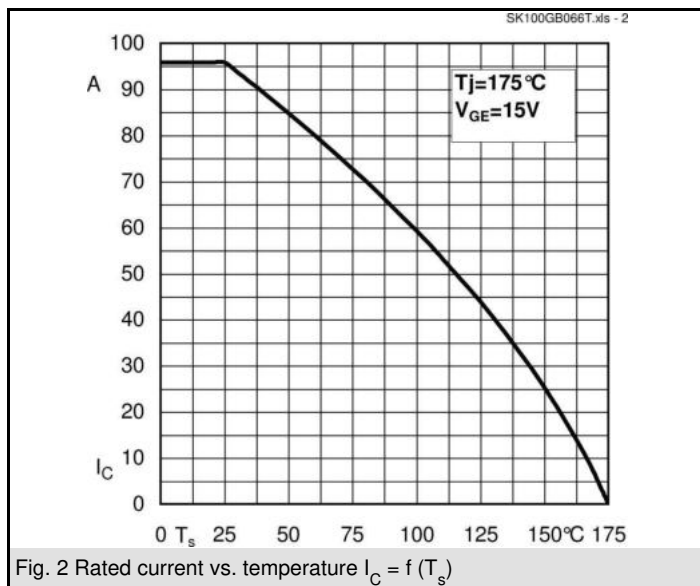
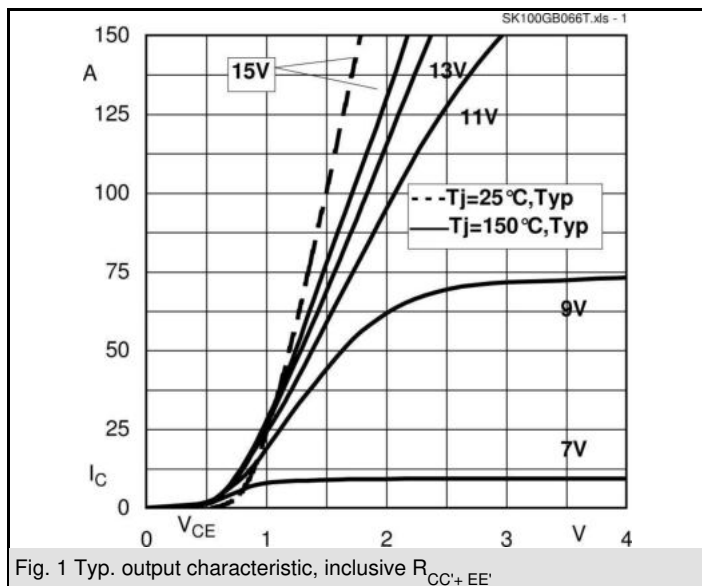
Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
Inverse Diode					
$V_F = V_{EC}$	$I_{Fnom} = 100 A$; $V_{GE} = 0 V$				
	$T_j = 25 ^\circ C_{chiplev.}$		1,35		V
	$T_j = 150 ^\circ C_{chiplev.}$		1,31		V
V_{F0}	$T_j = 25 ^\circ C$				V
	$T_j = 150 ^\circ C$		0,85		V
r_F	$T_j = 25 ^\circ C$				mΩ
	$T_j = 150 ^\circ C$		6,3		mΩ
I_{RRM}	$I_F = 100 A$		60		A
Q_{rr}	$di/dt = 2575 A/\mu s$		5,6		μC
E_{rr}	$V_R = 300V$		1,7		mJ
$R_{th(j-s)D}$	per diode		0,91		K/W
Freewheeling Diode					
$V_F = V_{EC}$	$I_{Fnom} = A$; $V_{GE} = V$				V
V_{F0}	$T_j = ^\circ C$				V
r_F	$T_j = ^\circ C$				V
I_{RRM}	$I_F = A$				A
Q_{rr}					μC
E_{rr}	$V_R = 300V$				mJ
$R_{th(j-s)FD}$	per diode				K/W
M_s	to heat sink	2,5		2,75	Nm
w			60		g
Temperature sensor					
R_{100}	$T_s = 100^\circ C$ ($R_{25} = 5k\Omega$)		493±5%		Ω

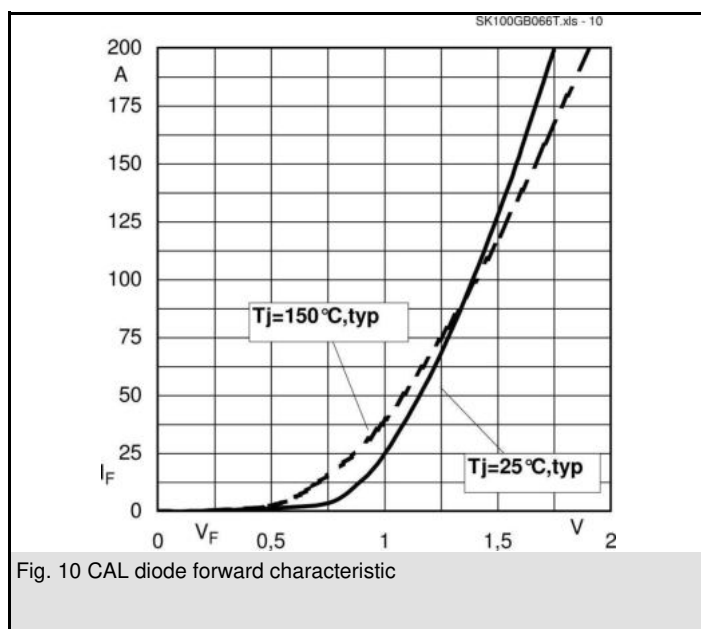
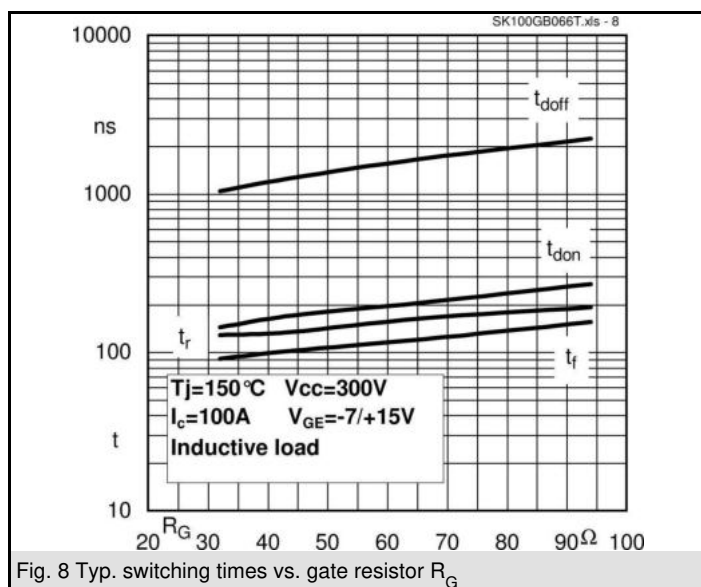
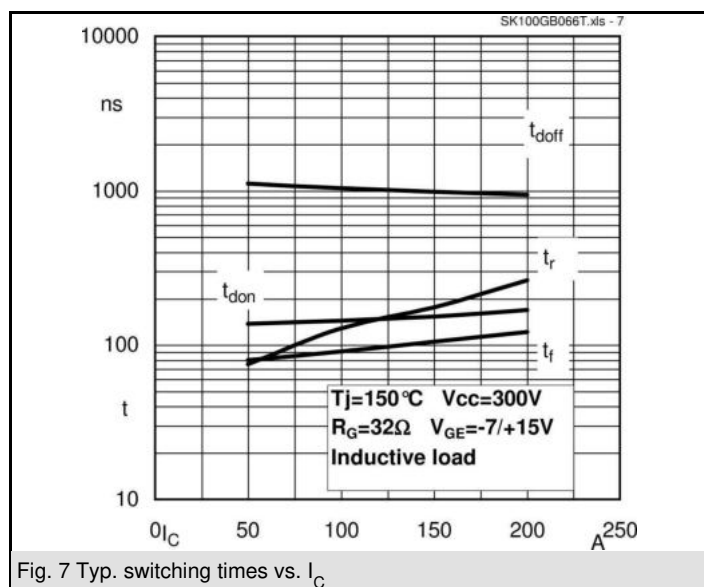
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

* 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.



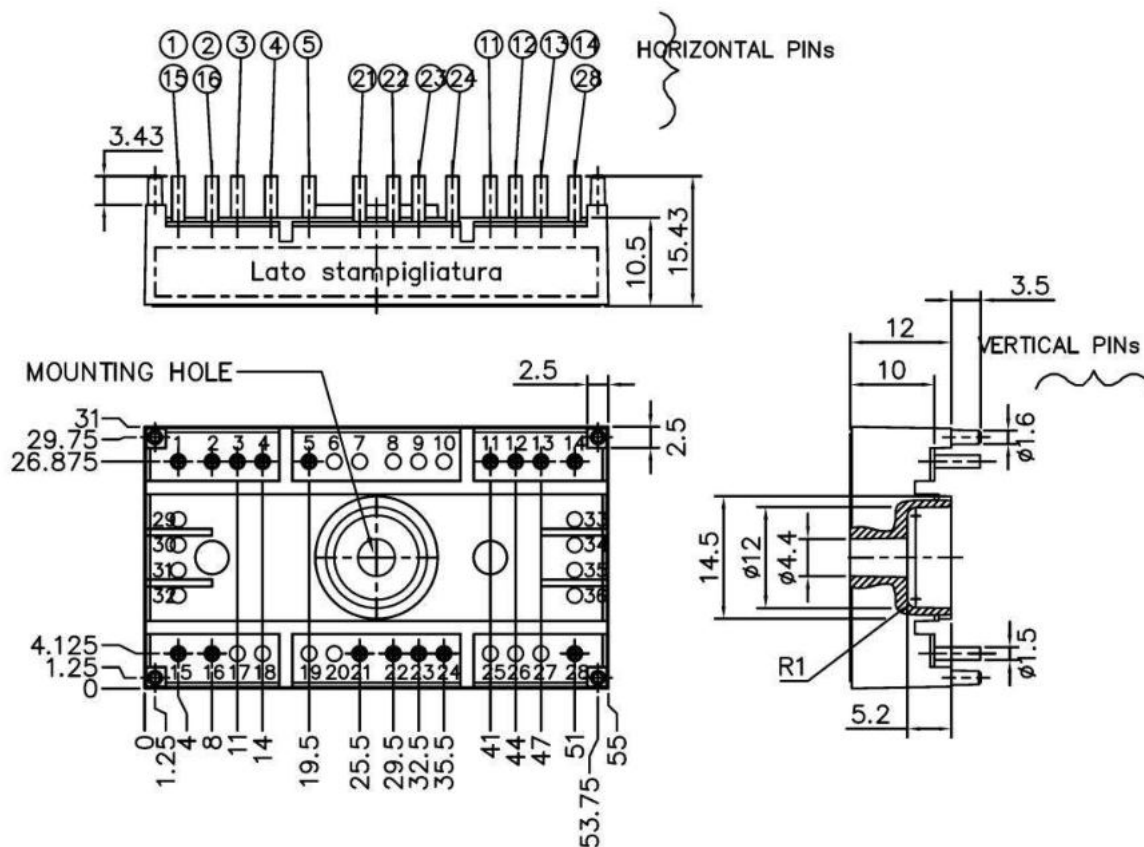
GB-T



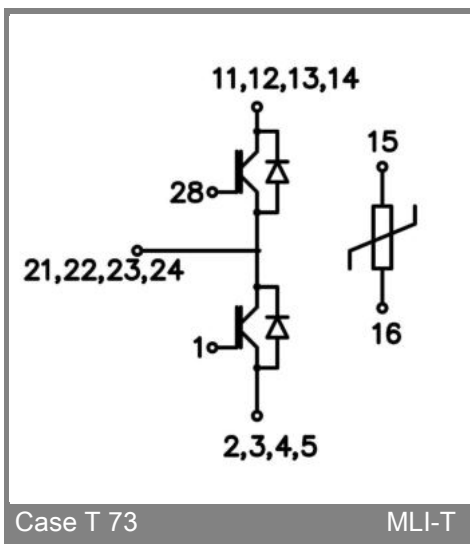


UL recognized

file no. E 63 532



Case T 73 (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 73

MLI-T