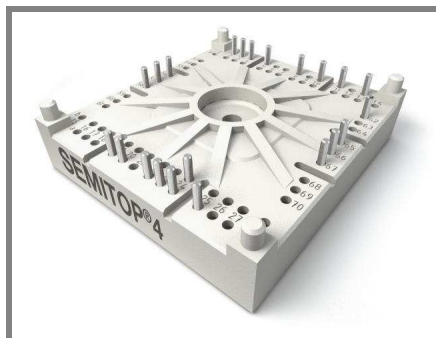


SK100GH12T4T



SEMITOP®4

IGBT module

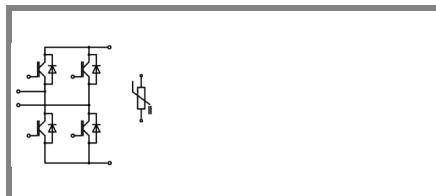
SK100GH12T4T

Features

- One screw mounting module
- Fully compatible with SEMITOP®1,2,3
- Improved thermal performances by aluminium oxide substrate
- New IGBT4 Technology
- CAL 4 technology FWD
- Integrated NTC Temperature sensor

Typical Applications*

- Voltage regulator

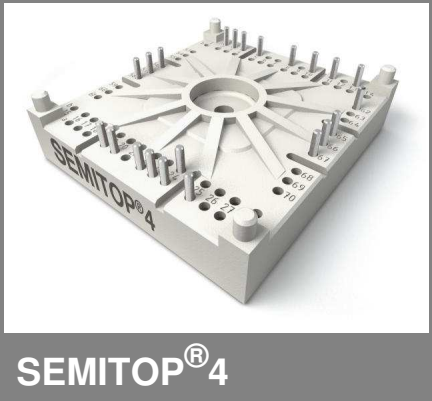


GH-T

Absolute Maximum Ratings		T _s = 25 °C, unless otherwise specified		
Symbol	Conditions	Values	Units	
IGBT				
V _{CES}	T _j = 25 °C	1200	V	
I _C	T _j = 175 °C	T _s = 25 °C	126	A
		T _s = 70 °C	100	A
I _{CRM}	I _{CRM} = 3 x I _{Cnom} , t _p ≤ 1ms	300	A	
V _{GES}		±20	V	
t _{psc}	V _{CC} = 800 V; V _{GE} ≤ 15 V; T _j = 150 °C V _{CES} < 1200 V	10	µs	
Inverse Diode				
I _F	T _j = 175 °C	T _s = 25 °C	102	A
		T _s = 70 °C	81	A
I _{FRM}	I _{FRM} = 3 x I _{Fnom} , t _p ≤ 1ms	300	A	
I _{FSM}	t _p = 10 ms; half sine wave T _j = 150 °C	715	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 _c = 25 °C, unless otherwise specified			
Symbol	Conditions		min.	typ.	max.	Units
IGBT						
V _{GE(th)}	V _{GE} = V _{CE} , I _C = 3,4 mA		5	5,8	6,5	V
I _{CES}	V _{GE} = 0 V, V _{CE} = V _{CES}	T _j = 25 °C			1,68	mA
		T _j = 125 °C		0,4		mA
I _{GES}	V _{CE} = 0 V, V _{GE} = 20 V	T _j = 125 °C			1200	nA
V _{CE0}		T _j = 25 °C		0,8	0,9	V
		T _j = 150 °C		0,7	0,8	V
r _{CE}	V _{GE} = 15 V	T _j = 25°C		10		mΩ
		T _j = 150°C		15		mΩ
V _{CE(sat)}	I _{Cnom} = 100 A, V _{GE} = 15 V	T _j = 25°C _{chiplev.}		1,8	2	V
		T _j = 150°C _{chiplev.}		2,2	2,4	V
C _{ies}	V _{CE} = 25, V _{GE} = 0 V	f = 1 MHz		5,54		nF
C _{oes}				0,41		nF
C _{res}				0,32		nF
Q _G	V _{GE} = -7V...+15V			750		nC
R _{Gint}	T _j = 25 °C			2		Ω
t _{d(on)}	R _{Gon} = 16 Ω di/dt = 1800 A/μs	V _{CC} = 600V I _C = 100A T _j = 150 °C		63		ns
t _r				65		ns
E _{on}				16,6		mJ
t _{d(off)}				521		ns
t _f	R _{Goff} = 16 Ω di/dt = 1800 A/μs			80		ns
E _{off}			10		mJ	
R _{th(j-s)}	per IGBT			0,43		K/W

SK100GH12T4T



IGBT module

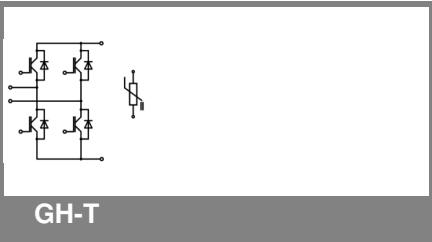
SK100GH12T4T

Features

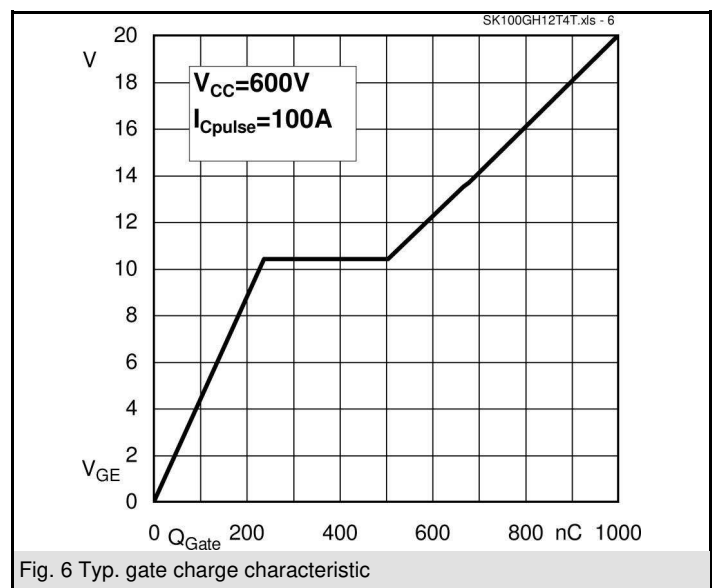
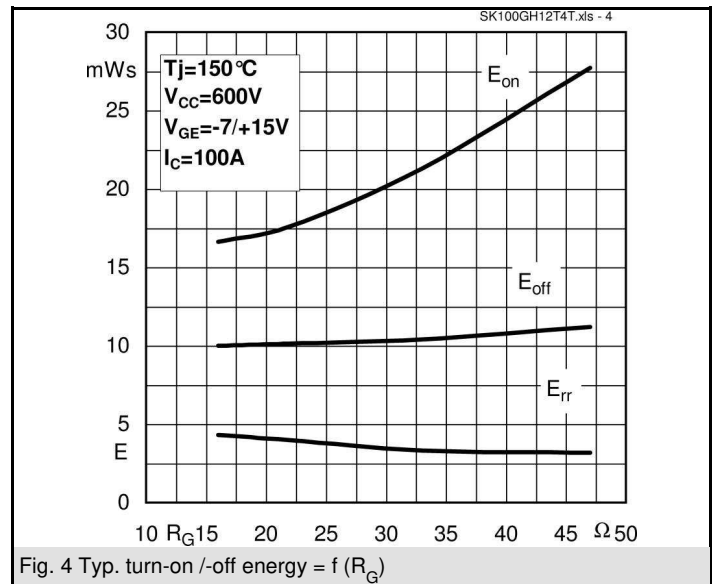
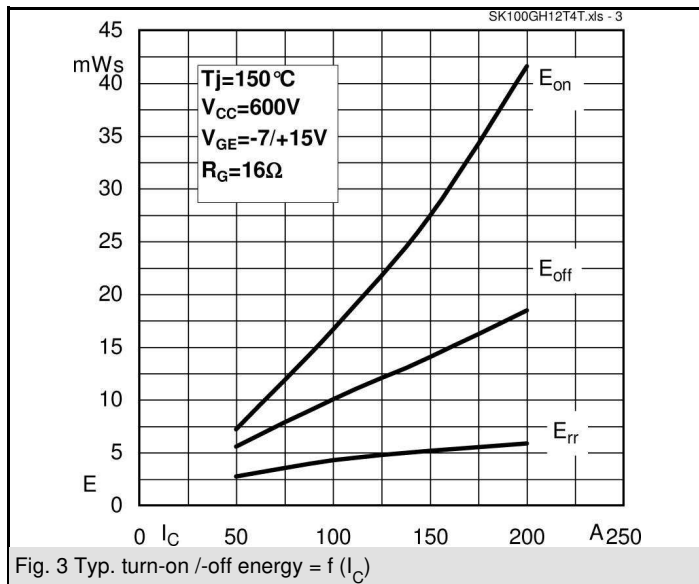
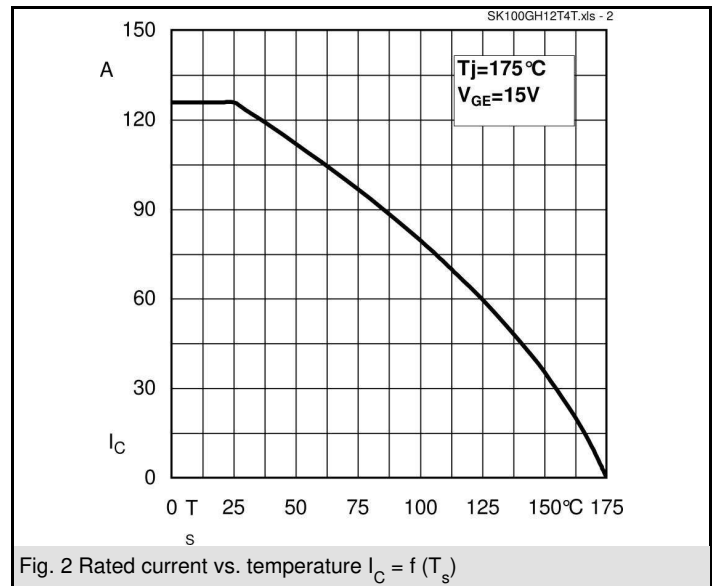
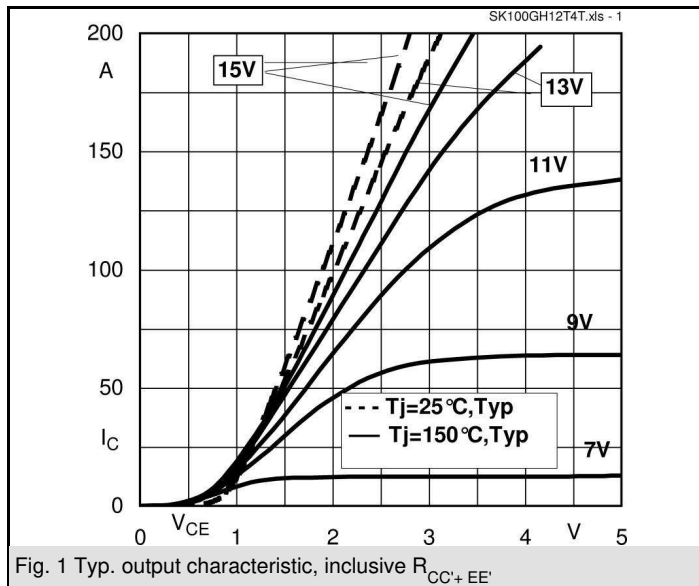
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- New IGBT4 Technology
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- Integrated NTC Temperature sensor

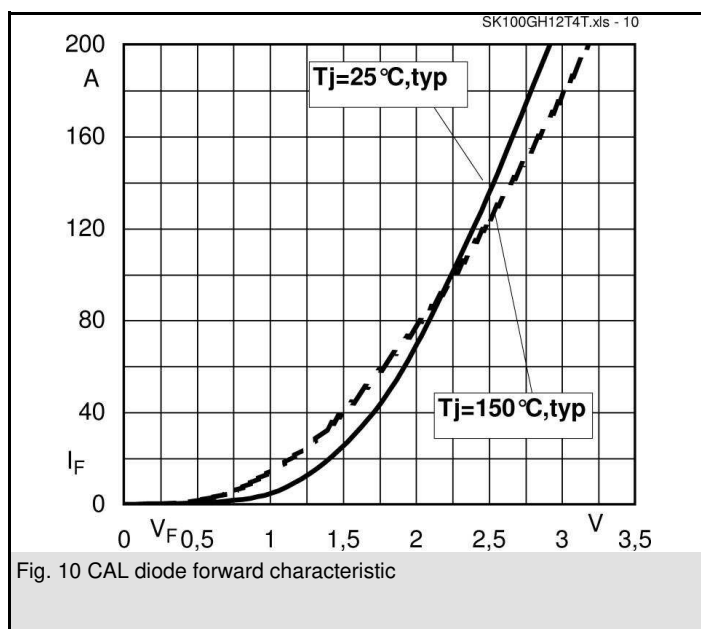
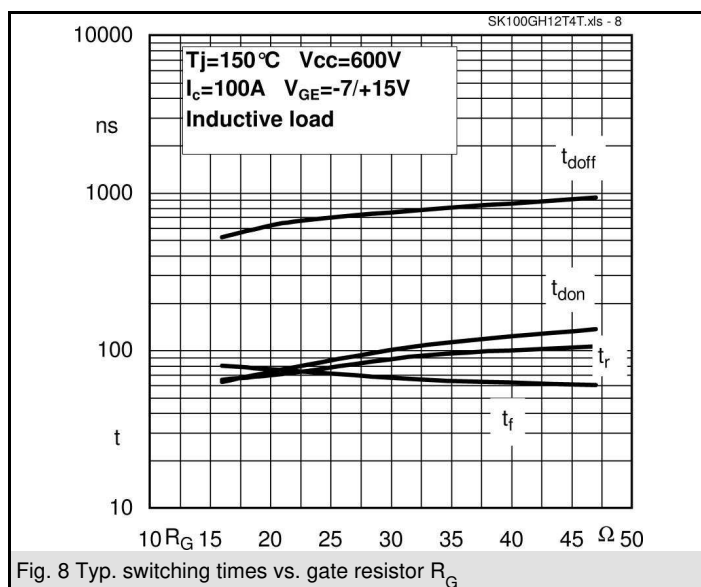
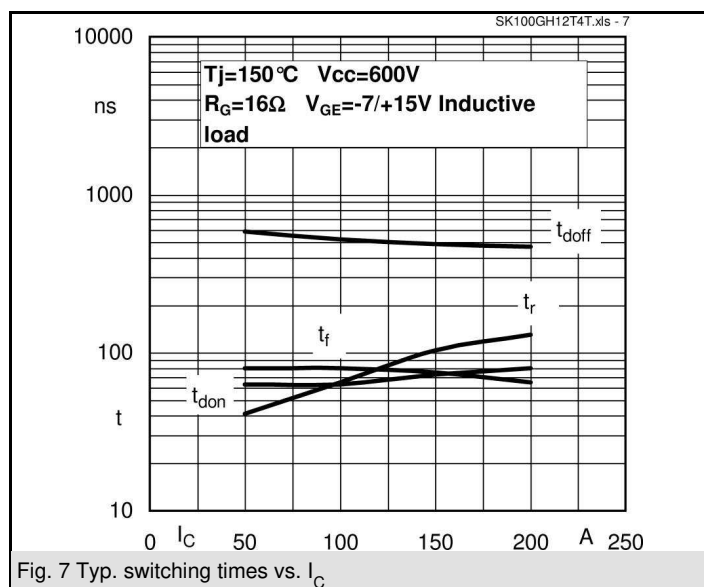
Typical Applications*

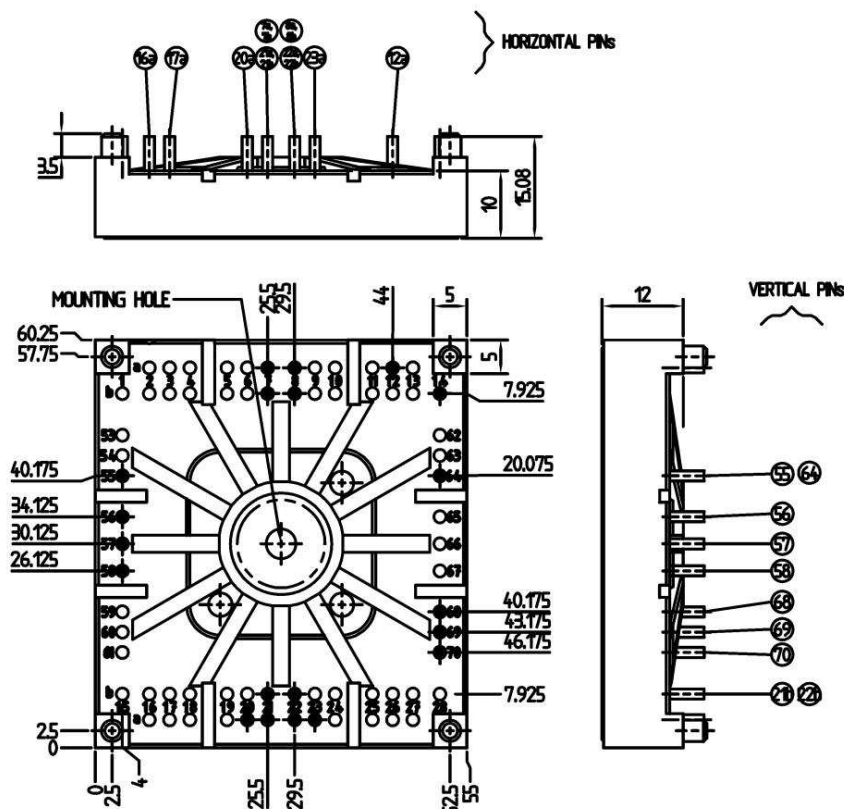
- Voltage regulator



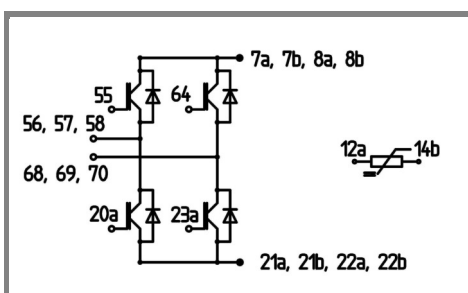
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 100 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2,2	2,5	V
		T _j = 150 °C _{chiplev.}		2,1	2,45	V
V _{F0}		T _j = 25 °C		1,3	1,5	V
		T _j = 150 °C		0,9	1,1	V
r _F		T _j = 25 °C		9,5	10,5	mΩ
		T _j = 150 °C		13	14	mΩ
I _{RRM}	I _F = 100 A	T _j = 150 °C		52		A
Q _{rr}	di/dt = 1800 A/μs			14		μC
E _{rr}	V _{CC} =600V			5,2		mJ
R _{th(j-s)D}	per diode			0,62		K/W
Freewheeling Diode						
V _F = V _{EC}	I _{Fnom} = A; V _{GE} = V	T _j = °C _{chiplev.}				V
V _{F0}		T _j = °C				V
r _F		T _j = °C				V
I _{RRM}	I _F = A	T _j = °C				A
Q _{rr}						μC
E _{rr}						mJ
	per diode					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







Case T84 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



Case T 84

GH-T

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

*IMPORTANT INFORMATION AND WARNINGS

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