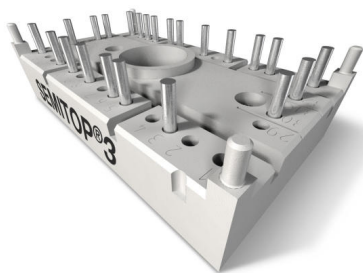


SK25GD12T4ET



SEMITOP® 3

IGBT Module

SK25GD12T4ET

Target Data

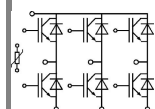
Features

- One screw mounting module
- Trench4 IGBT technology
- CAL4 technology FWD
- Integrated NTC temperature sensor

Typical Applications*

Remarks

- $V_{CE,sat}$, V_F = chip level value

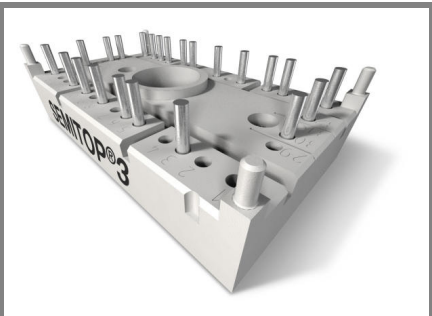


GD-ET

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	37	A
		T _s = 70 °C	30	A
I _{CRM}	I _{CRM} = 3 x I _{Cnom}		75	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	30	A
		T _s = 70 °C	25	A
I _{FRM}	I _{FRM} = 3 x I _{Fnom}		75	A
I _{FSM}	t _p = 10 ms; half sine wave T _j = 150 °C		160	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 °C, unless otherwise specified			
Symbol	Conditions		min.	typ.	max.	Units
IGBT						
V _{GE(th)}	V _{GE} = V _{CE} , I _C = 0,85 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	0,0024			mA mA
I _{GES}	V _{CE} = 0 V, V _{GE} = 20 V	T _J = 25 °C T _J = 125 °C	120			nA nA
V _{CE0}		T _J = 25 °C T _J = 150 °C	1,1 1		1,3 1,2	V V
r _{CE}	V _{GE} = 15 V	T _J = 25°C T _J = 150°C	30 50			mΩ mΩ
V _{CE(sat)}	I _{Cnom} = 25 A, V _{GE} = 15 V	T _J = 25°C _{chiplev.} T _J = 150°C _{chiplev.}	1,85 2,25		2,05 2,45	V V
C _{ies} C _{oes} C _{res}	V _{CE} = 25, V _{GE} = 0 V	f = 1 MHz	1,43 0,115 0,085			nF nF nF
Q _G	V _{GE} =-7V...+15V		137,5			nC
t _{d(on)} t _r E _{on}	R _{Gon} = 19 Ω di/dt = 2825 A/μs	V _{CC} = 600V I _C = 25A	22 19,5 2,27			ns ns mJ
t _{d(off)} t _f E _{off}	R _{Goff} = 19 Ω di/dt = 2825 A/μs	T _J = 150 °C V _{GE} = -7/+15V	288 77,5 2,7			ns ns mJ
R _{th(j-s)}	per IGBT		1,31			K/W

SK25GD12T4ET



SEMITOP[®] 3

IGBT Module

SK25GD12T4ET

Target Data

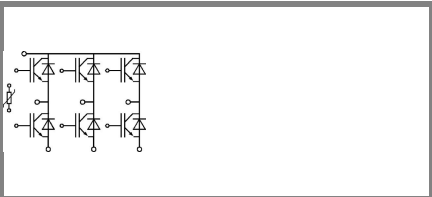
Features

- One screw mounting module
- Trench4 IGBT technology
- CAL4 technology FWD
- Integrated NTC temperature sensor

Typical Applications*

Remarks

- $V_{CE,sat}$, V_F = chip level value

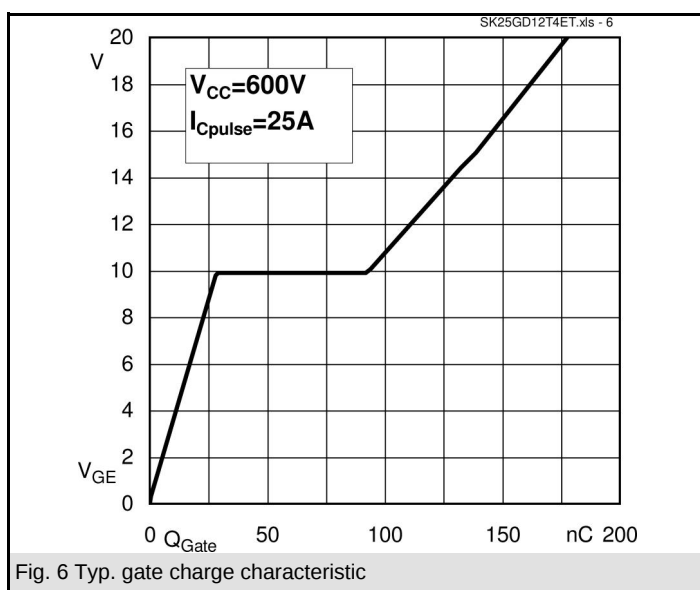
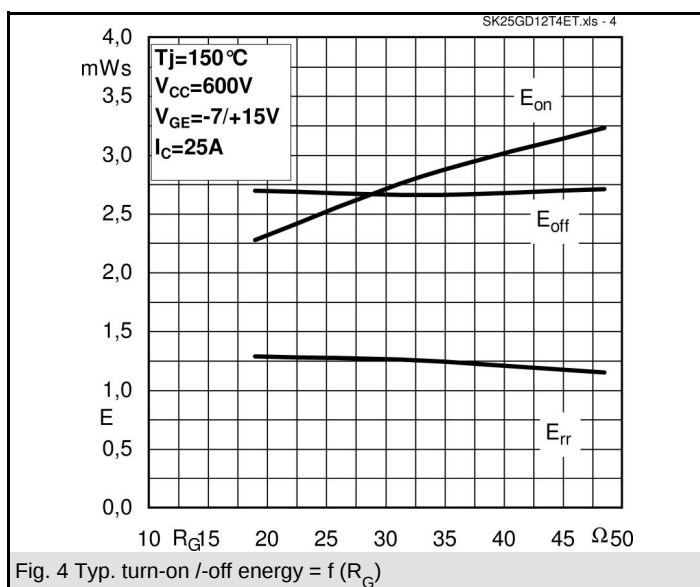
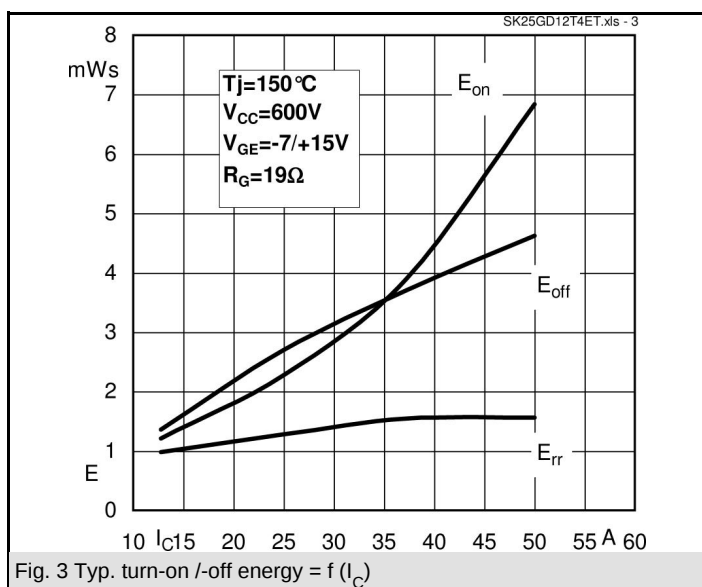
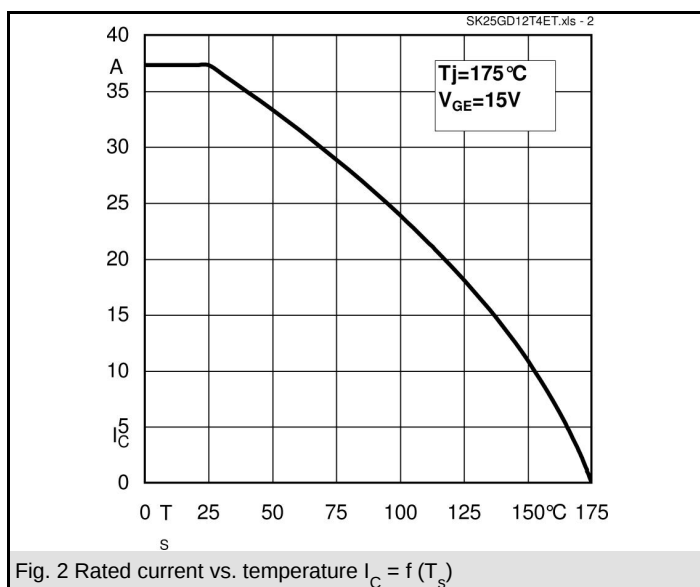
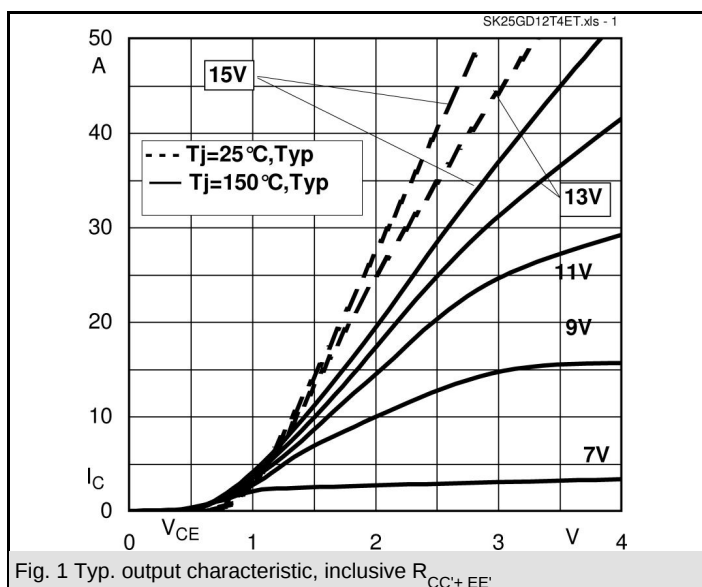


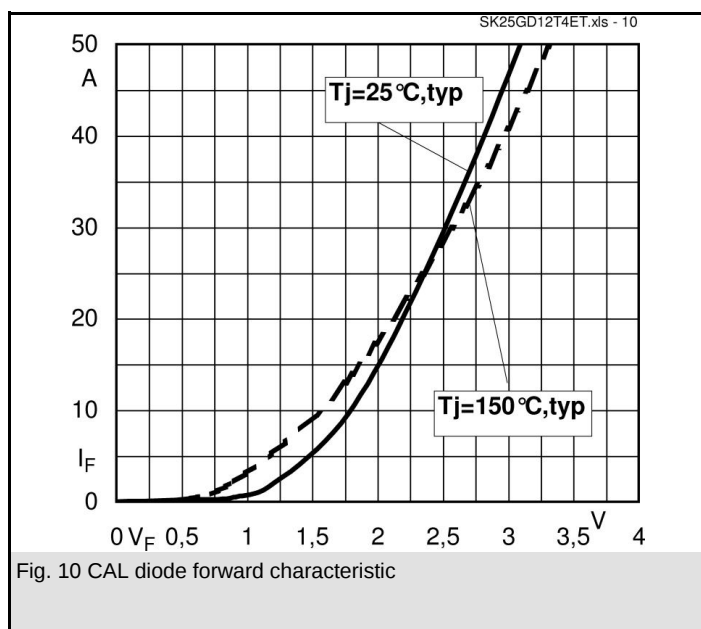
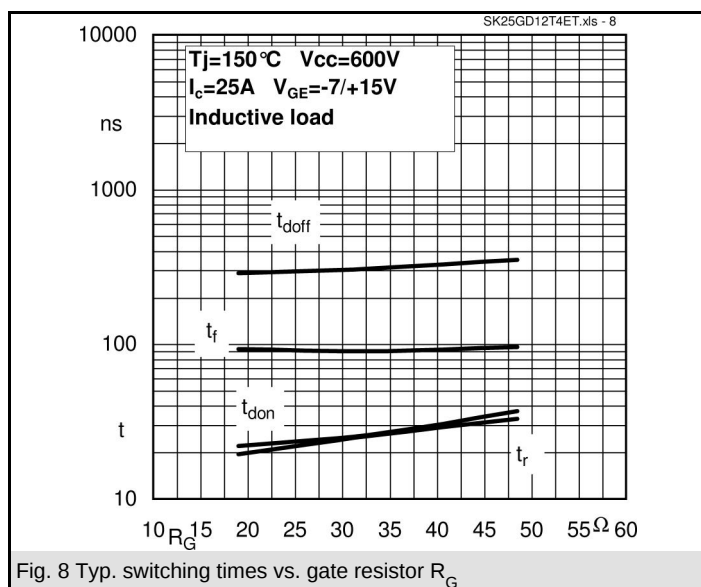
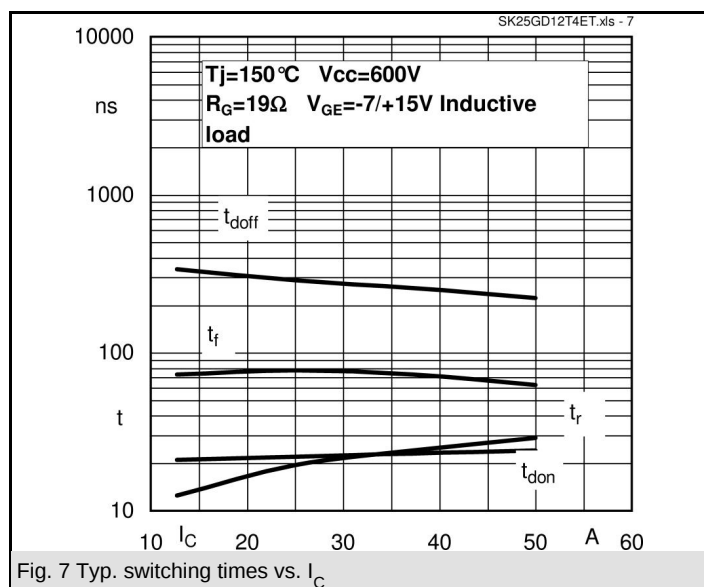
GD-ET

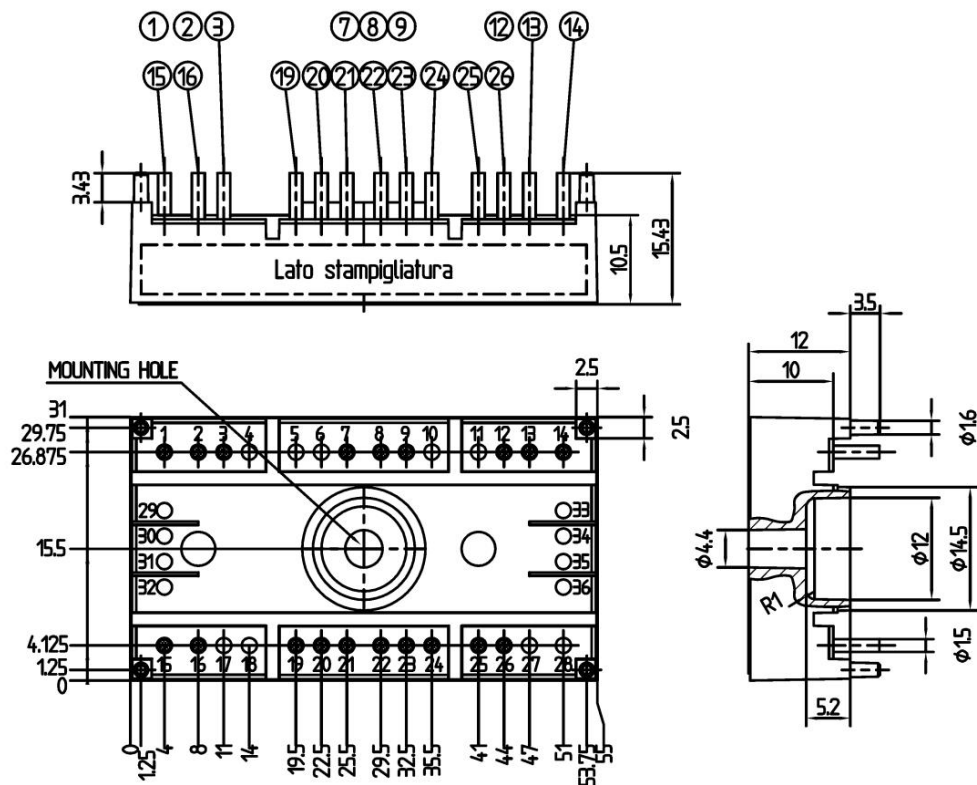
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 25 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2,4	2,62	V
		T _j = 150 °C _{chiplev.}		2,45	2,8	V
V _{F0}		T _j = 25 °C		1,3	1,5	V
		T _j = 150 °C		0,9	1,1	V
r _F		T _j = 25 °C		44	45	mΩ
		T _j = 150 °C		62	68	mΩ
I _{RRM}	I _F = 25 A	T _j = 150 °C		31,5		A
Q _{rr}	di/dt = 2825 A/μs			1,15		μC
E _{rr}	V _{CC} = 600V			1,28		mJ
R _{th(j-s)D}	per diode			1,91		K/W
M _s	to heat sink		2,25		2,5	Nm
w				30		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.

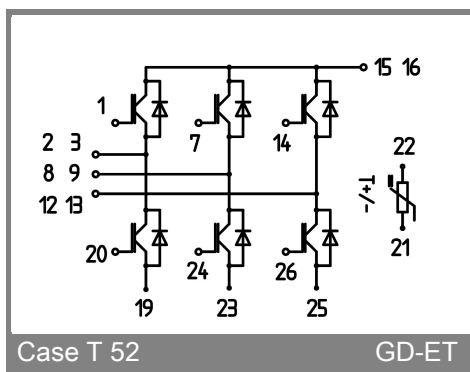
* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and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







Case T52 (Suggested hole diameter for solder pins and plastic mounting pins: 2mm)



Case T 52

GD-ET