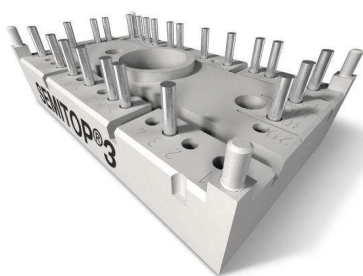


SK15GD12T4ET



SEMITOP® 3

IGBT Module

SK15GD12T4ET

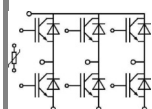
Features

- 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

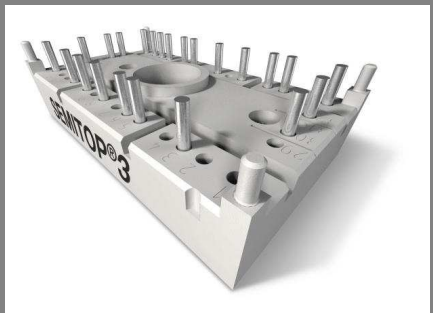


GD-ET

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	27	A
		T _s = 70 °C	21	A
I _{CRM}	I _{CRM} = 3 x I _{Cnom}		45	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	21	A
		T _s = 70 °C	17	A
I _{FRM}	I _{FRM} = 3 x I _{Fnom}		45	A
I _{FSM}	t _p = 10 ms; half sine wave T _j = 150 °C		90	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 = 0,5 mA		5	5,8	6,5	V
I _{CES}	V _{GE} = 0 V, V _{CE} = V _{CES}	T _J = 25 °C T _J = 150 °C			1,0	mA mA
I _{GES}	V _{CE} = 0 V, V _{GE} = 20 V	T _J = 25 °C T _J = 150 °C			120	nA nA
V _{CE0}		T _J = 25 °C T _J = 150 °C		0,8 0,7	0,9 0,8	V V
r _{CE}	V _{GE} = 15 V	T _J = 25°C T _J = 150°C		70 100	77 110	mΩ mΩ
V _{CE(sat)}	I _{Cnom} = 15 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		0,9 0,08 0,055		nF nF nF
Q _G	V _{GE} =-7V...+15V			65		nC
t _{d(on)} t _r E _{on}	R _{Gon} = 16 Ω di/dt = 2750 A/μs	V _{CC} = 600V I _C = 15A		16 14 0,83		ns ns mJ
t _{d(off)} t _f E _{off}	R _{Goff} = 16 Ω di/dt = 2750 A/μs	T _J = 150 °C V _{GE} = -7...+15 V		273 85 1,52		ns ns mJ
R _{th(j-s)}	per IGBT			1,65		K/W

SK15GD12T4ET



SEMITOP® 3

IGBT Module

SK15GD12T4ET

Features

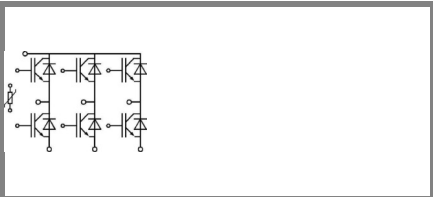
- One screw mounting module
- Trench4 IGBT technology
- CAL4 technology FWD
- Integrated NTC temperature sensor

Typical Applications*

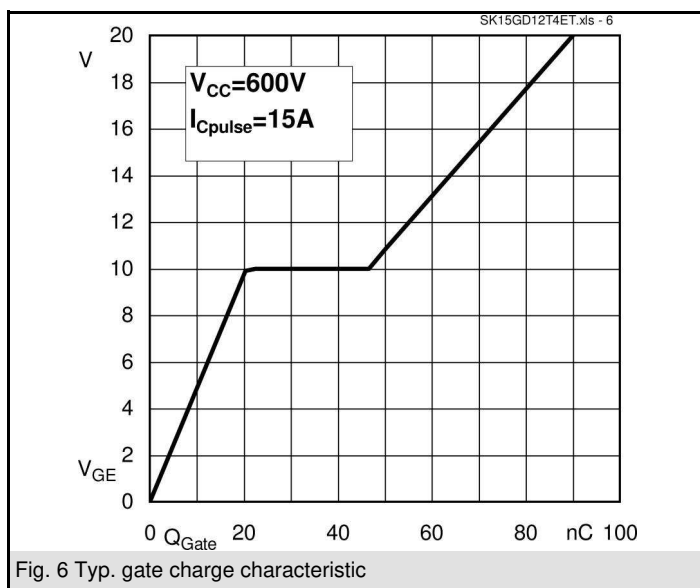
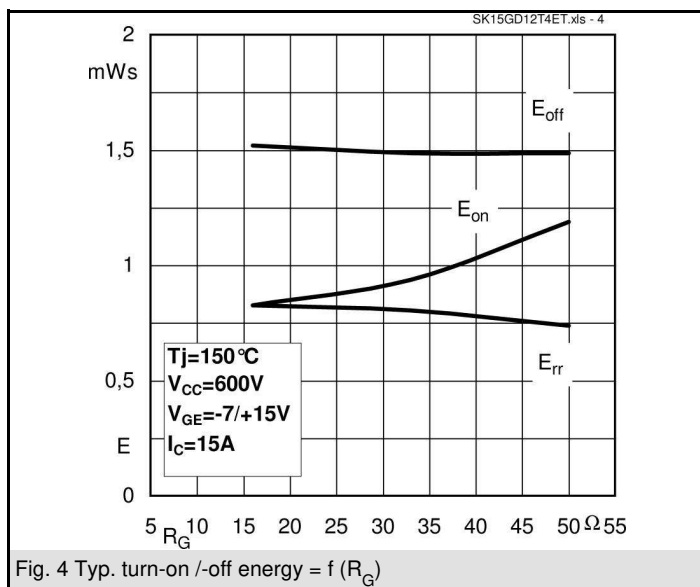
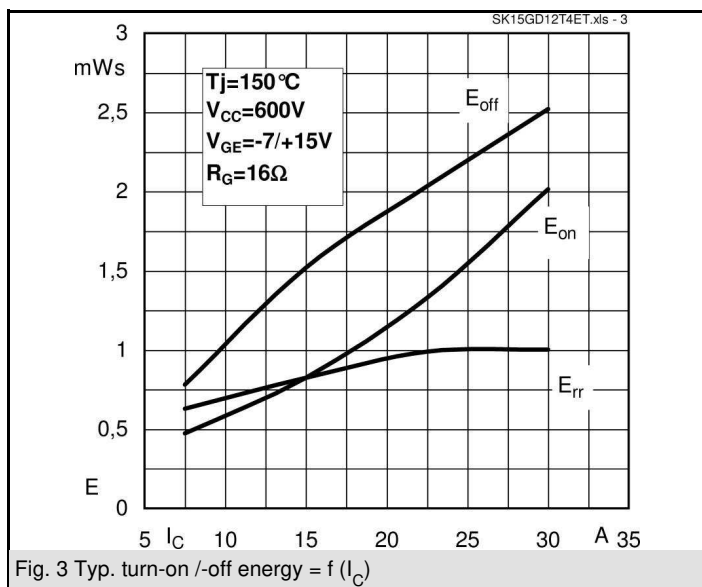
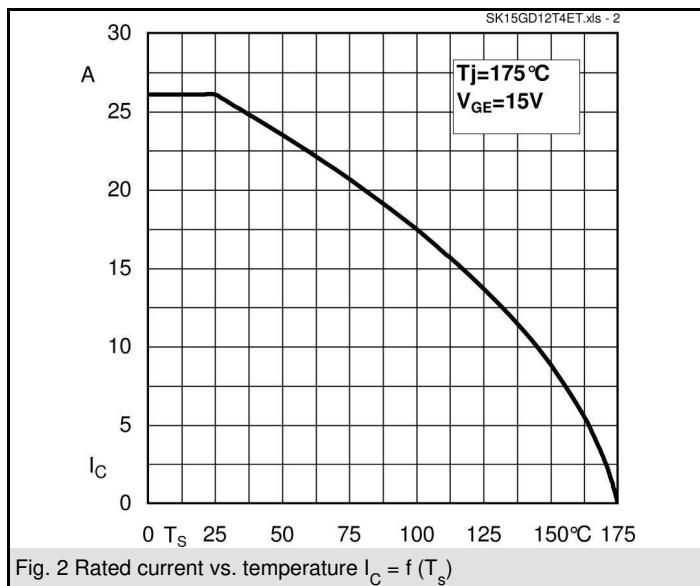
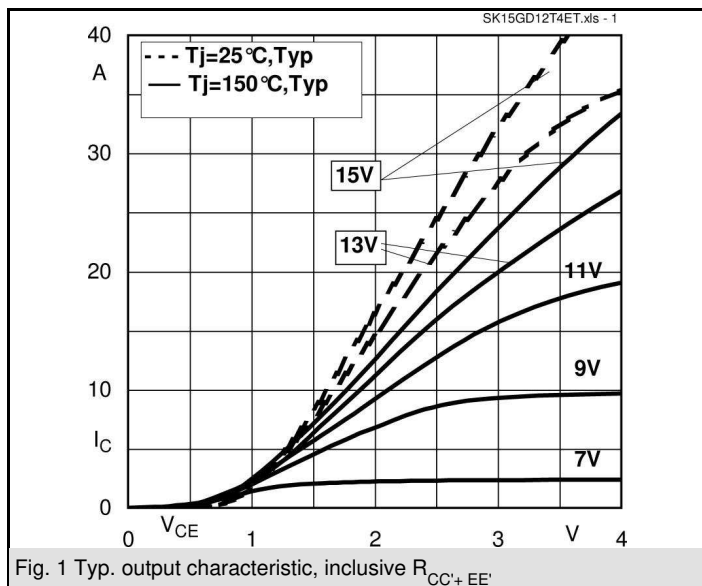
Remarks

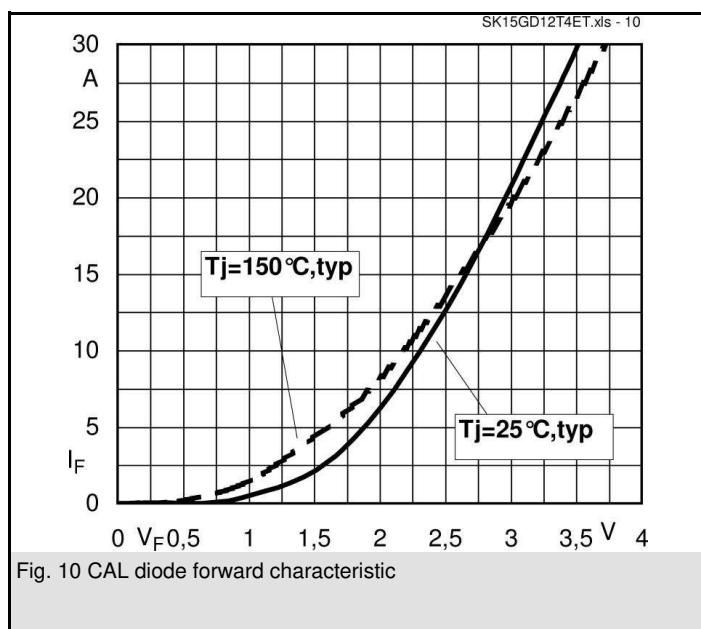
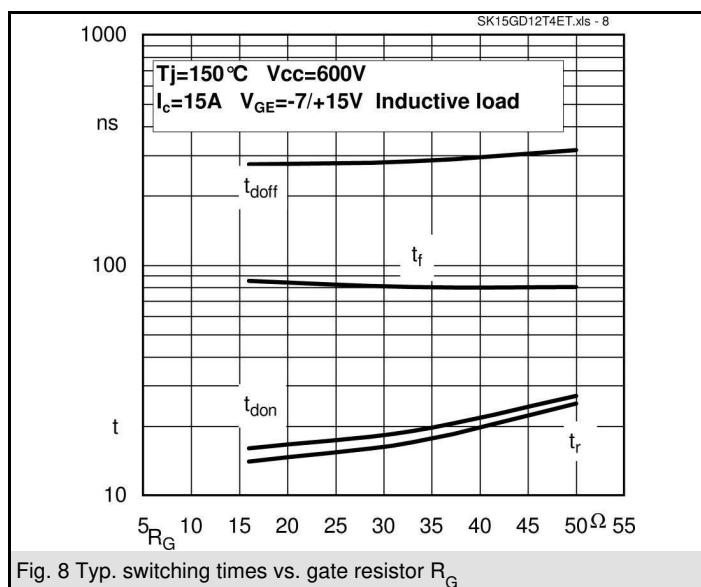
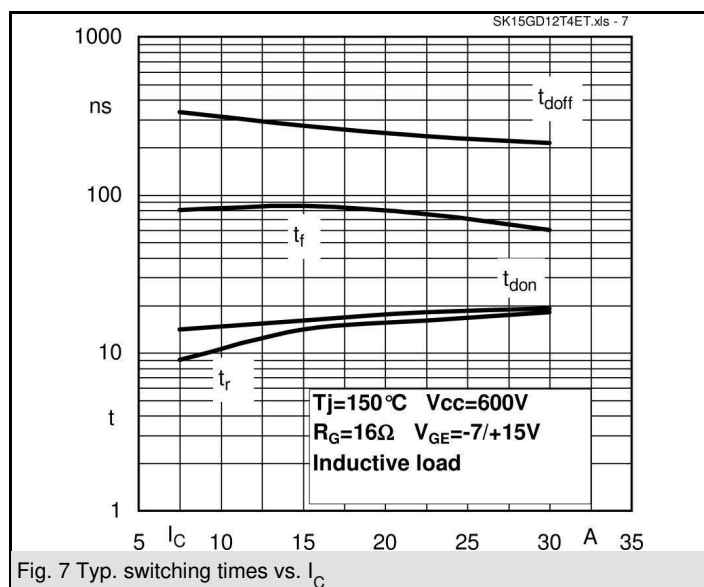
- $V_{CE,sat}$, V_F = chip level value

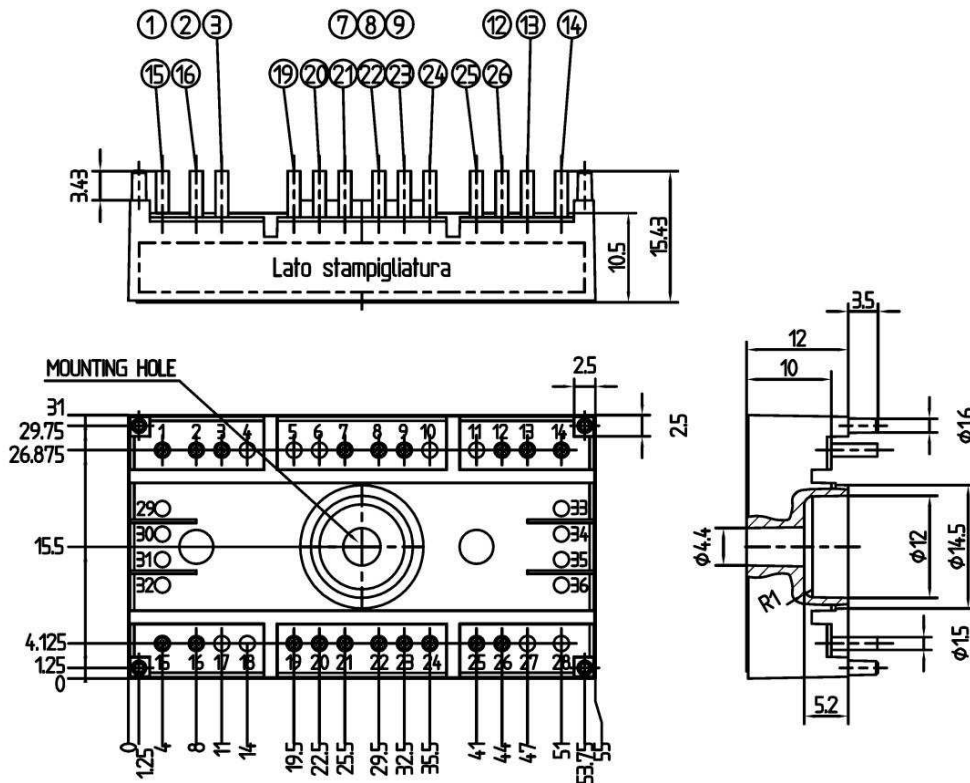
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 15 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2,38	2,71	V
		T _j = 150 °C _{chiplev.}		2,44	2,77	V
V _{F0}		T _j = 25 °C		1,3	1,5	V
		T _j = 150 °C		0,9	1,1	V
r _F		T _j = 25 °C		72	80,6	mΩ
		T _j = 150 °C		102,7	111,3	mΩ
I _{RRM}	I _F = 15 A	T _j = 150 °C		28		A
Q _{rr}	di/dt = 2750 A/μs			0,3		μC
E _{rr}	V _{CC} = 600V			0,82		mJ
R _{th(j-s)D}	per diode			2,34		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



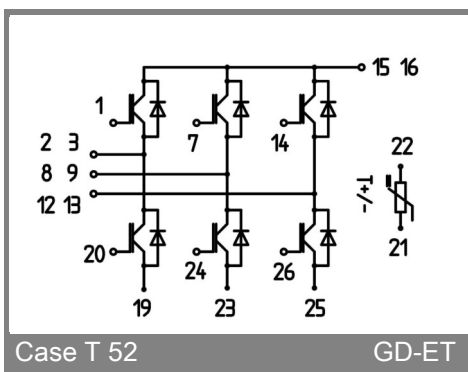
GD-ET







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



Case T 52

GD-ET

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

*IMPORTANT INFORMATION AND WARNINGS

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