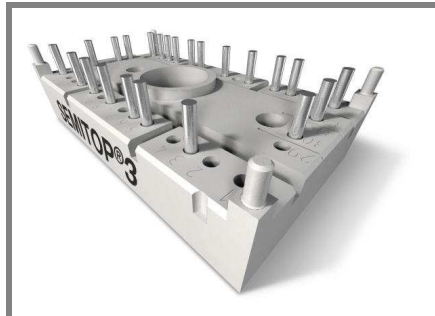


SK10GD12T4ET



SEMITOP® 3

IGBT Module

SK10GD12T4ET

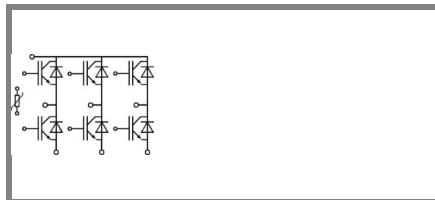
Features

- 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

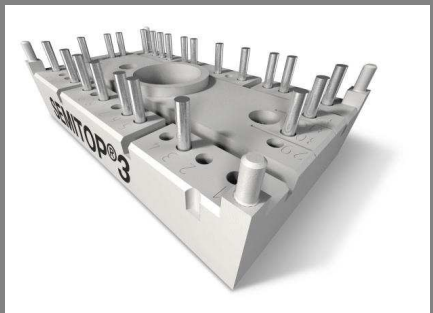


GD-ET

Absolute Maximum Ratings				$T_s = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions			Values	Units
IGBT					
V_{CES}	$T_j = 25\text{ °C}$			1200	V
I_C	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$		17	A
		$T_s = 70\text{ °C}$		15	A
I_{CRM}	$I_{CRM} = 3 \times I_{Cnom}$			24	A
V_{GES}				± 20	V
t_{psc}	$V_{CC} = 800\text{ V}$; $V_{GE} \leq 15\text{ V}$; $T_j = 150\text{ °C}$ $V_{CES} < 1200\text{ V}$			10	μs
Inverse Diode					
I_F	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$		15	A
		$T_s = 70\text{ °C}$		12	A
I_{FRM}	$I_{FRM} = 3 \times I_{Fnom}$			24	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 = 0,3 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		1,1 1			V V
r _{CE}	V _{GE} = 15 V T _j = 25°C T _j = 150°C		93,8 156			mΩ mΩ
V _{CE(sat)}	I _{Cnom} = 8 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		0,49 0,05 0,03			nF nF nF
Q _G	V _{GE} =-7V...+15V		37,5			nC
t _{d(on)} t _r E _{on}	R _{Gon} = 32 Ω di/dt = 1375 A/μs	V _{CC} = 600V I _C = 8A	16 14 0,41			ns ns mJ
t _{d(off)} t _f E _{off}	R _{Goff} = 32 Ω di/dt = 1375 A/μs	T _j = 150 °C V _{GE} = ±15 V	273 85 0,76			ns ns mJ
R _{th(j-s)}	per IGBT		2,2			K/W

SK10GD12T4ET



SEMITOP® 3

IGBT Module

SK10GD12T4ET

Features

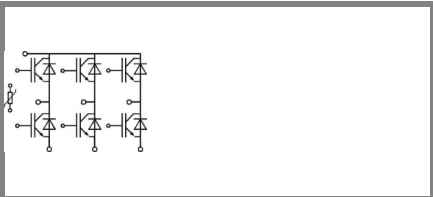
- One screw mounting module
- Trench4 IGBT technology
- CAL4 technology FWD
- Integrated NTC temperature sensor

Typical Applications*

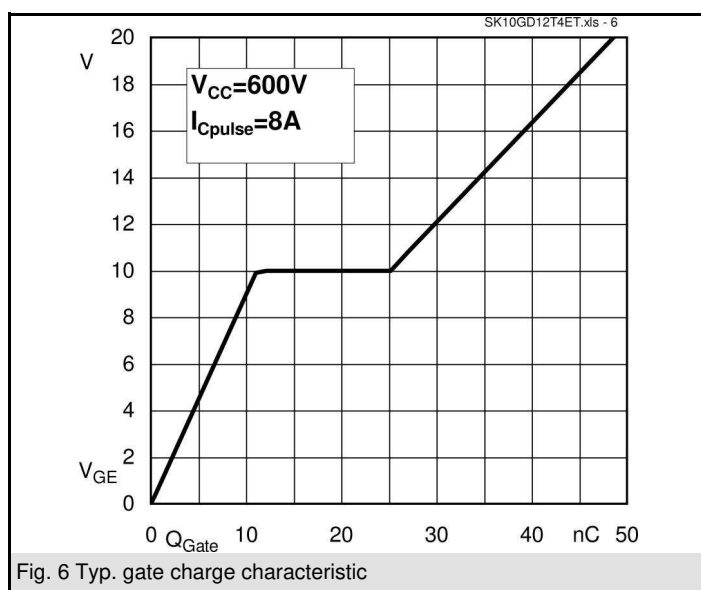
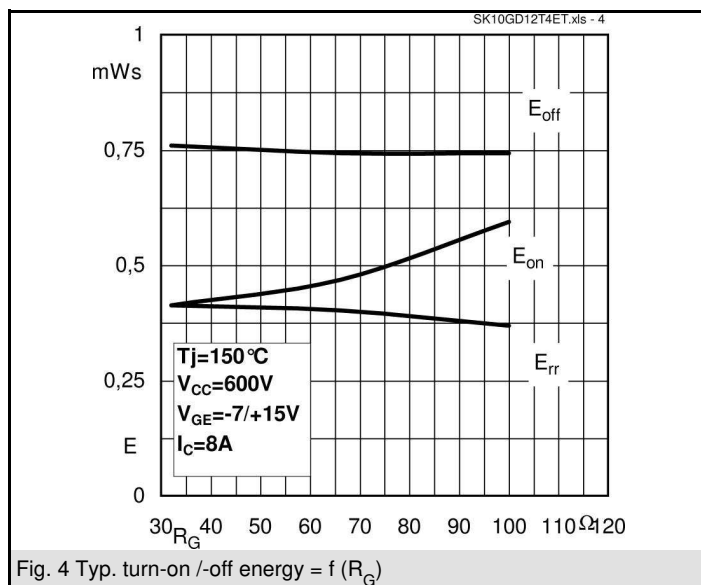
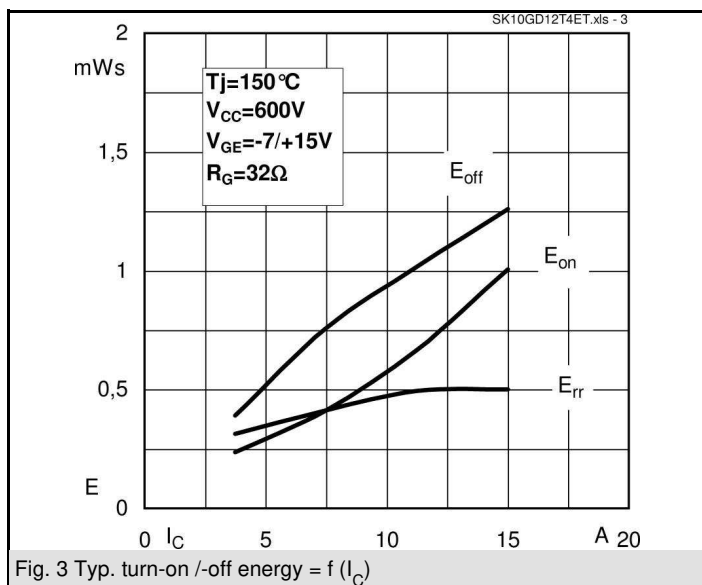
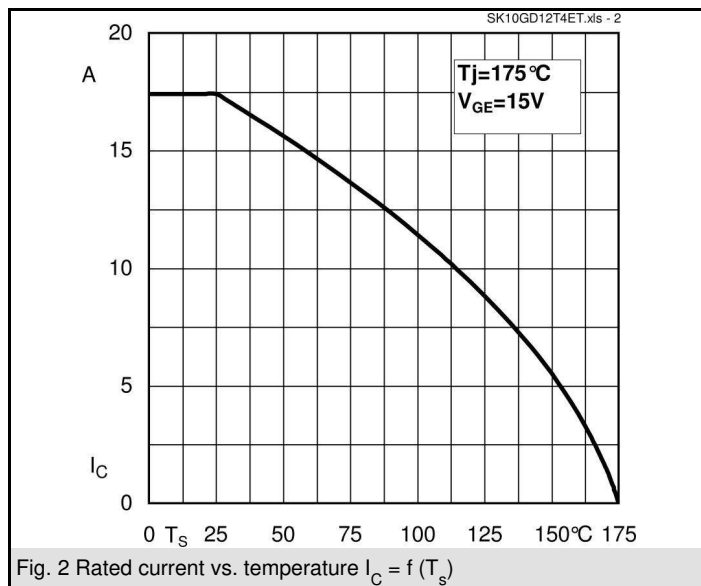
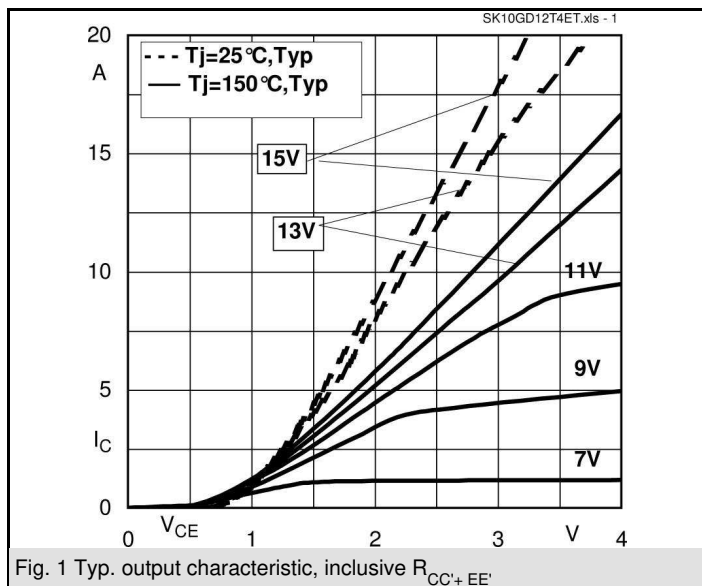
Remarks

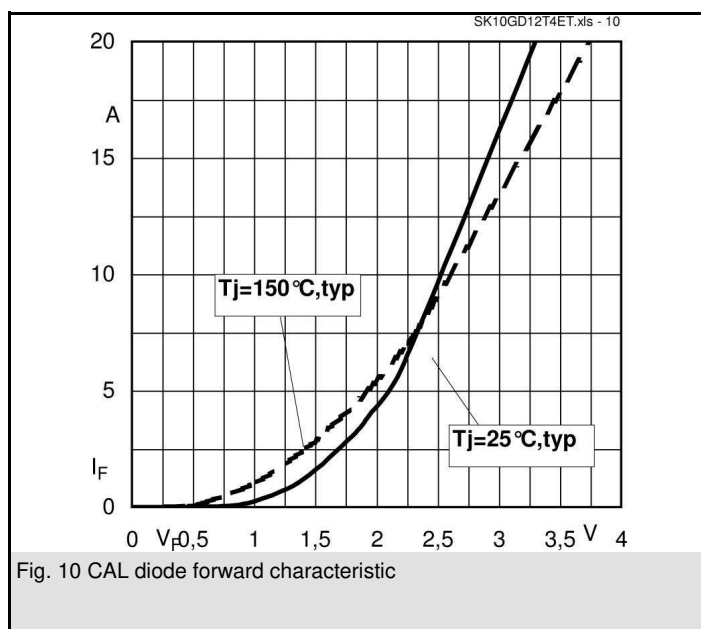
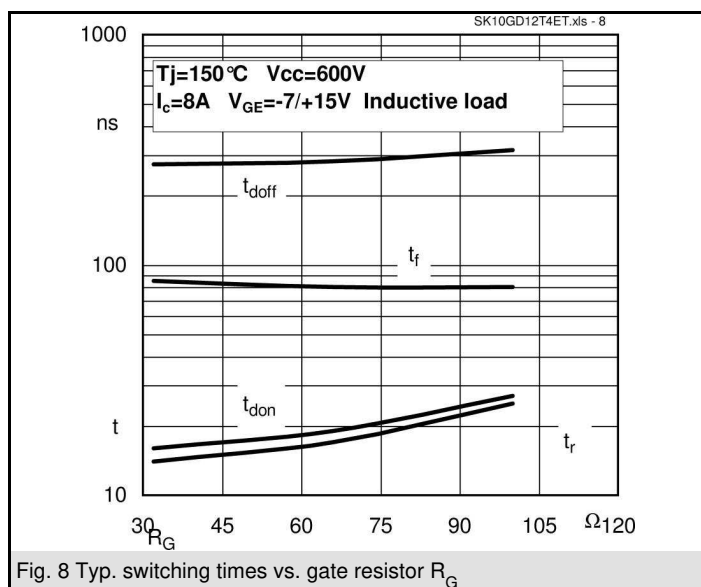
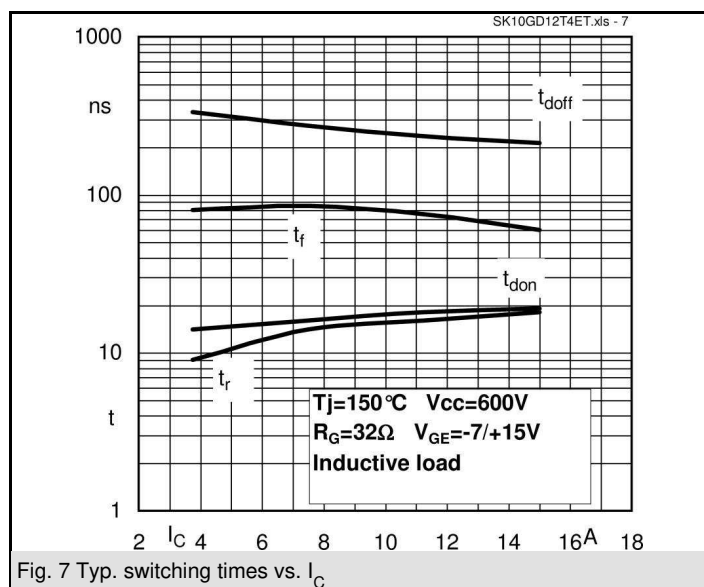
- $V_{CE,sat}$, V_F = chip level value

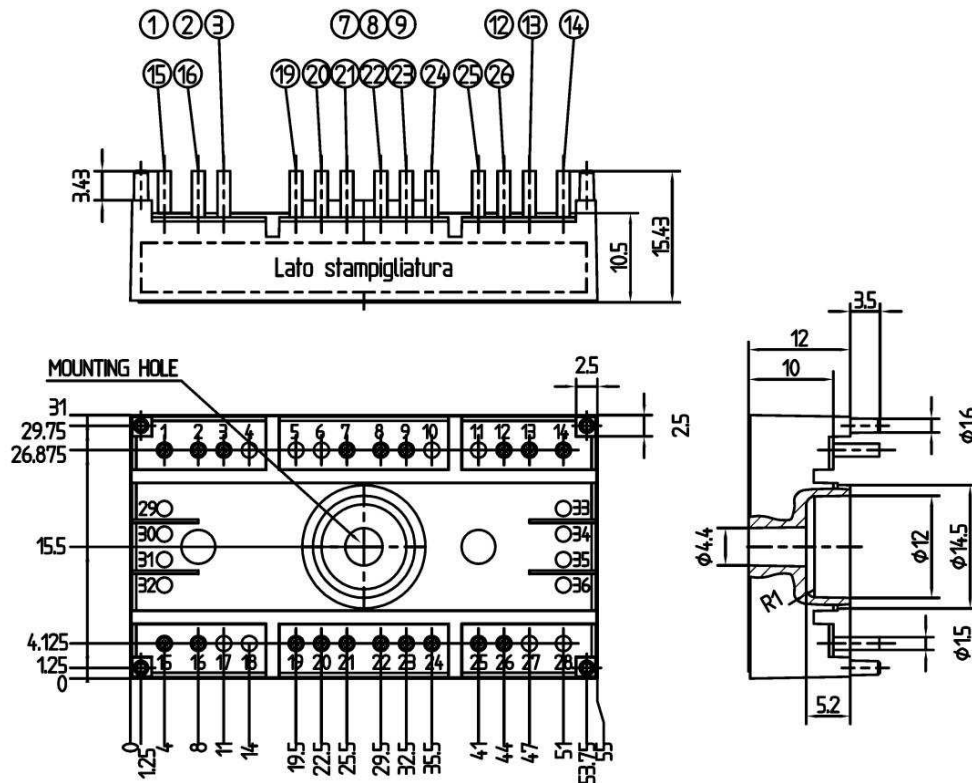
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 8 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2,38	2,71	V
		T _j = 150 °C _{chiplev.}		2,44	2,77	V
V _{F0}		T _j = 25 °C		1,3	1,5	V
		T _j = 150 °C		0,9	1,1	V
r _F		T _j = 25 °C		135	151,3	mΩ
		T _j = 150 °C		192	208,8	mΩ
I _{RRM}	I _F = 8 A	T _j = 150 °C		15		A
Q _{rr}	di/dt = 1375 A/μs			0,2		μC
E _{rr}	V _{CC} = 600V			0,41		mJ
R _{th(j-s)D}	per diode			2,7		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



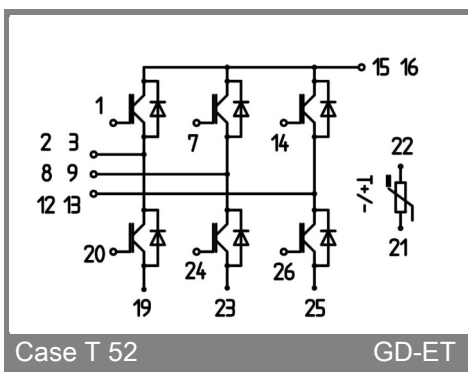
GD-ET







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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