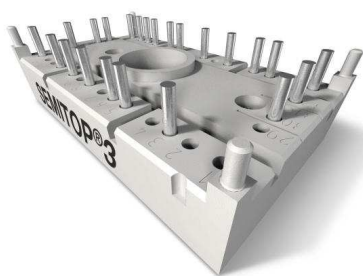


SK35GD12T4ET



SEMITOP® 3

IGBT Module

SK35GD12T4ET

Target Data

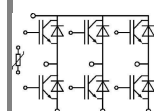
Features

- 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

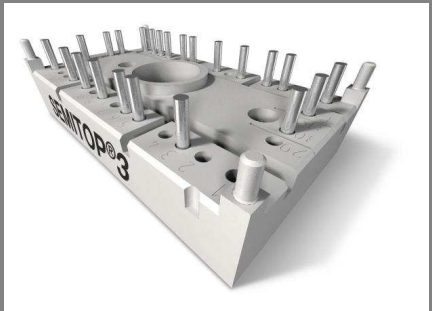


GD-ET

Absolute Maximum Ratings				$T_s = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions			Values	Units
IGBT					
V_{CES}	$T_j = 25\text{ °C}$			1200	V
I_C	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$		44	A
		$T_s = 70\text{ °C}$		35	A
I_{CRM}	$I_{CRM} = 3 \times I_{Cnom}$			105	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	$T_j = 175\text{ °C}$	$T_s = 25\text{ °C}$		40	A
		$T_s = 70\text{ °C}$		31	A
I_{FRM}	$I_{FRM} = 3 \times I_{Fnom}$			105	A
I_{FSM}	$t_p = 10\text{ ms}$; half sine wave $T_j = 150\text{ °C}$			225	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 = 1,2 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		0,005			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		21,4 35,7			mΩ mΩ
V _{CE(sat)}	I _{Cnom} = 35 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		1,95 0,155 0,115			nF nF nF
Q _G	V _{GE} = -7V...+15V		190			nC
t _{d(on)} t _r E _{on}	R _{Gon} = 22 Ω V _{CC} = 600V I _C = 35A		28 25 3,27			ns ns mJ
t _{d(off)} t _f E _{off}	R _{Goff} = 22 Ω di/dt = 2900 A/μs T _j = 150 °C V _{GE} = ±15 V		303 70 3,3			ns ns mJ
R _{th(j-s)}	per IGBT		1,21			K/W

SK35GD12T4ET



SEMITOP[®] 3

IGBT Module

SK35GD12T4ET

Target Data

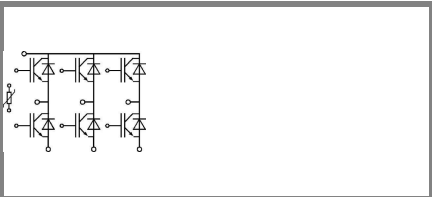
Features

- 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

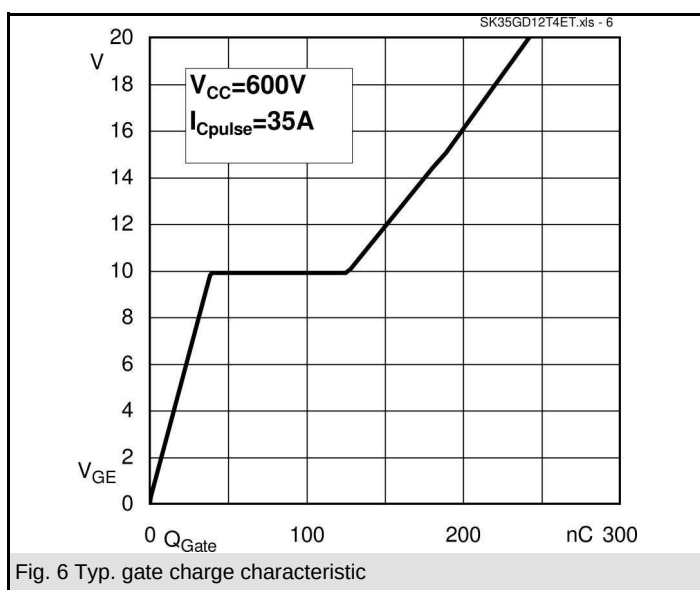
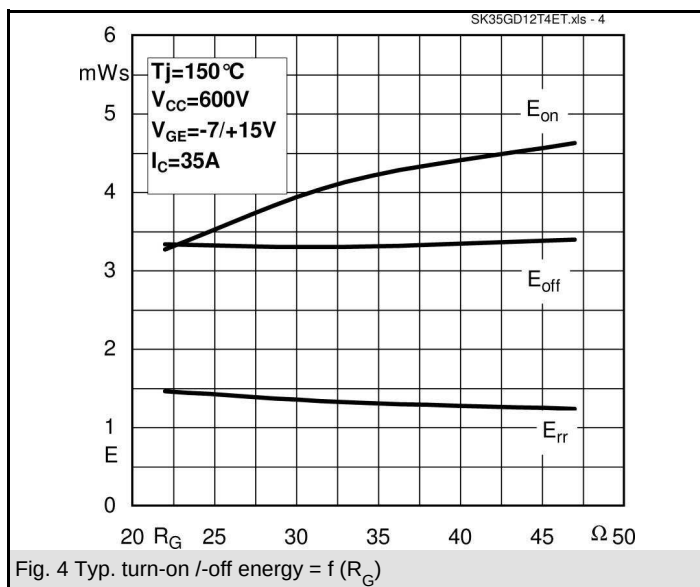
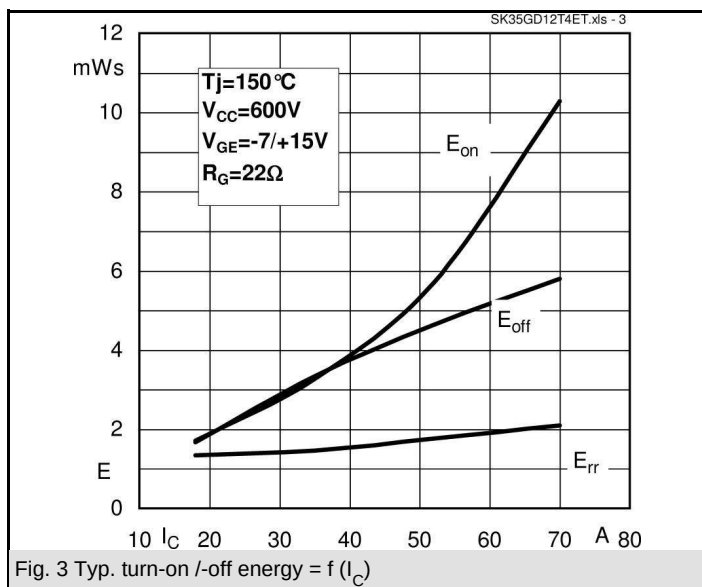
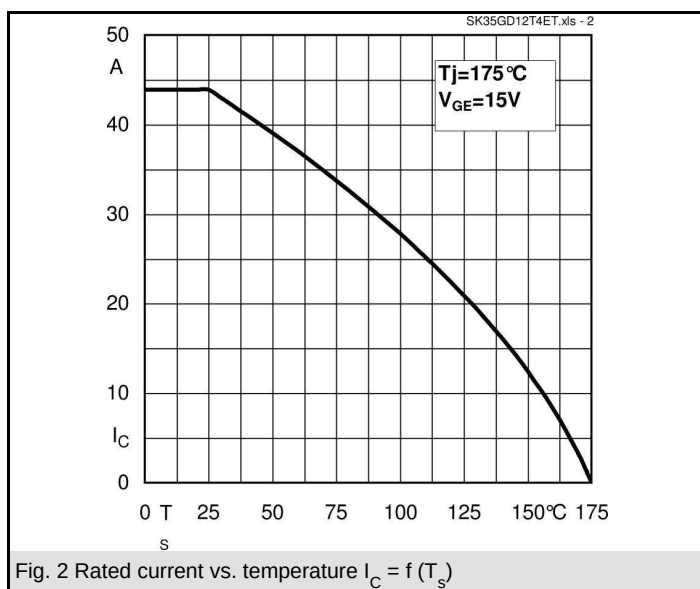
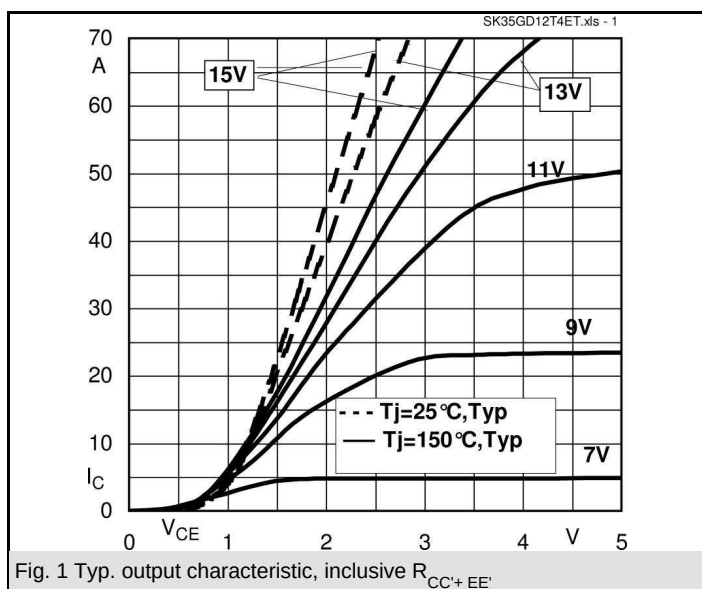


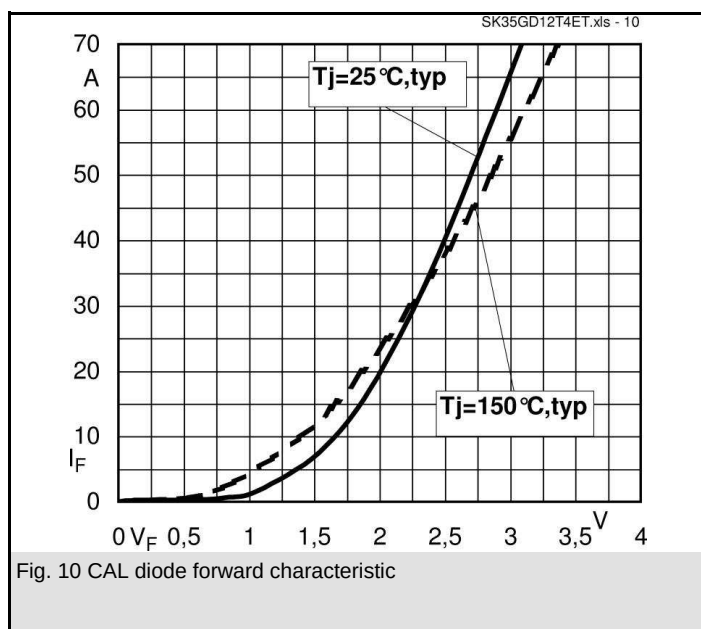
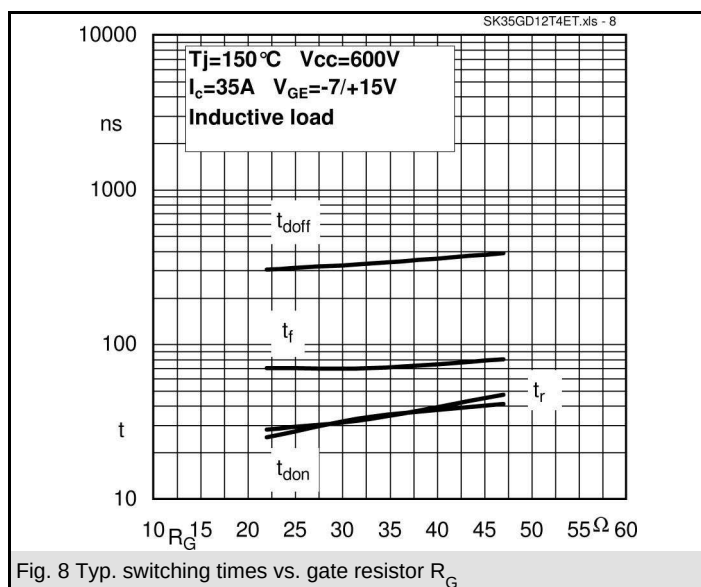
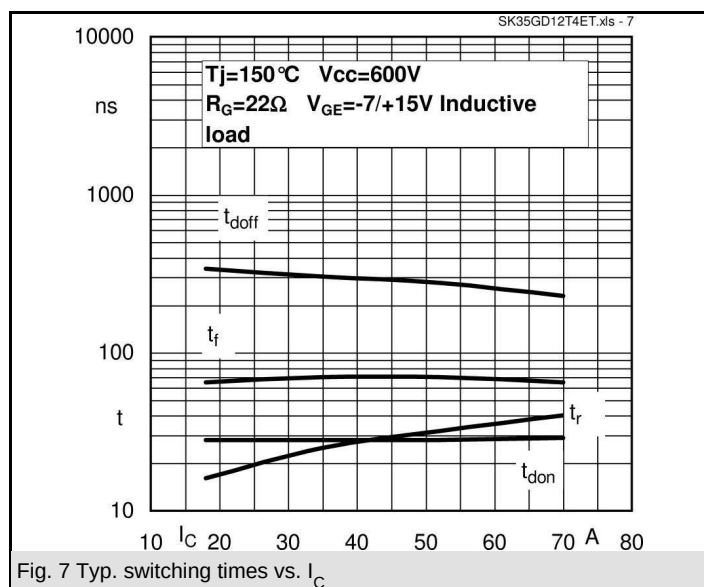
GD-ET

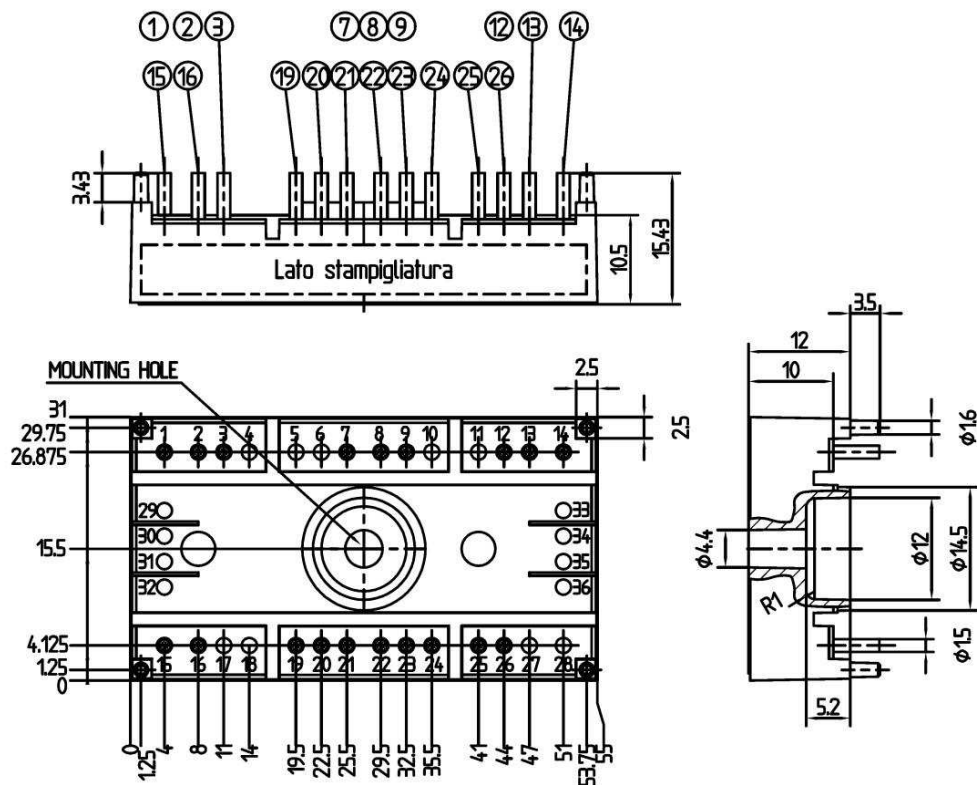
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 35 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		2,3	2,62	V
		T _j = 150 °C _{chiplev.}		2,29	2,62	V
V _{F0}		T _j = 25 °C		1,3	1,5	V
		T _j = 150 °C		0,9	1,1	V
r _F		T _j = 25 °C		27	32	mΩ
		T _j = 150 °C		39,7	43,4	mΩ
I _{RRM}	I _F = 35 A di/dt = 2900 A/μs V _{CC} = 600V	T _j = 150 °C		30		A
Q _{rr}				2		μC
E _{rr}				1,46		mJ
R _{th(j-s)D}	per diode			1,55		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)

