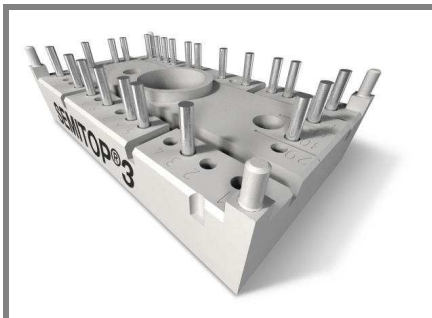


SK35GD12T4ET



SEMITOP[®] 3

IGBT Module

SK35GD12T4ET

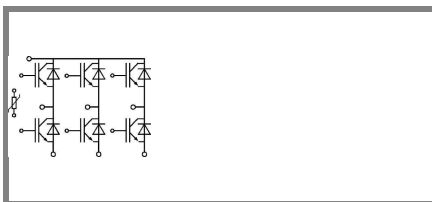
Features

- 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

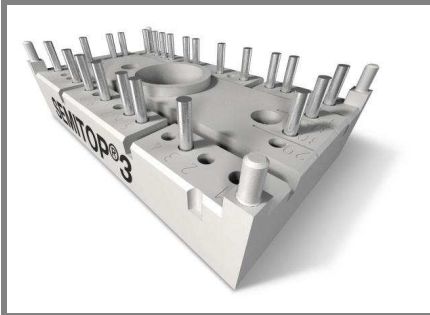


GD-ET

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		°C
T_{stg}		-40 ... +125		°C
V_{isol}	AC, 1 min.	2500		V

Characteristics		$T_s = 25\text{ °C}$, unless otherwise specified				
Symbol	Conditions	min.	typ.	max.	Units	
IGBT						
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 1,2\text{ mA}$	5	5,8	6,5	V	
I_{CES}	$V_{GE} = 0\text{ V}$, $V_{CE} = V_{CES}$	$T_j = 25\text{ °C}$			1,0	mA
		$T_j = 125\text{ °C}$				mA
I_{GES}	$V_{CE} = 0\text{ V}$, $V_{GE} = 20\text{ V}$	$T_j = 25\text{ °C}$			120	nA
		$T_j = 125\text{ °C}$				nA
V_{CE0}		$T_j = 25\text{ °C}$	1,1	1,3		V
		$T_j = 150\text{ °C}$	1	1,2		V
r_{CE}	$V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}$			21,4	mΩ
		$T_j = 150\text{ °C}$			35,7	mΩ
$V_{CE(sat)}$	$I_{Cnom} = 35\text{ A}$, $V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}_{chiplev.}$	1,85	2,05		V
		$T_j = 150\text{ °C}_{chiplev.}$	2,25	2,45		V
C_{ies}	$V_{CE} = 25$, $V_{GE} = 0\text{ V}$	$f = 1\text{ MHz}$			1,95	nF
C_{oes}					0,155	nF
C_{res}					0,115	nF
Q_G	$V_{GE} = -7V...+15V$			190	nC	
$t_{d(on)}$	$R_{Gon} = 22\text{ } \Omega$	$V_{CC} = 600V$ $I_C = 35A$			28	ns
t_r					25	ns
E_{on}					3,27	mJ
$t_{d(off)}$	$R_{Goff} = 22\text{ } \Omega$ $di/dt = 2900\text{ A}/\mu s$	$T_j = 150\text{ °C}$ $V_{GE} = \pm 15\text{ V}$			303	ns
t_f					70	ns
E_{off}					3,3	mJ
$R_{th(j-s)}$	per IGBT			1,21	K/W	

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SEMITOP[®] 3

IGBT Module

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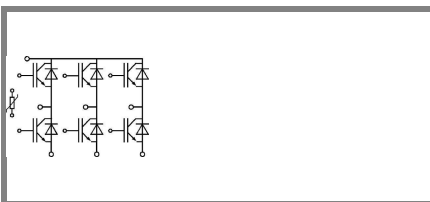
Features

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

Typical Applications*

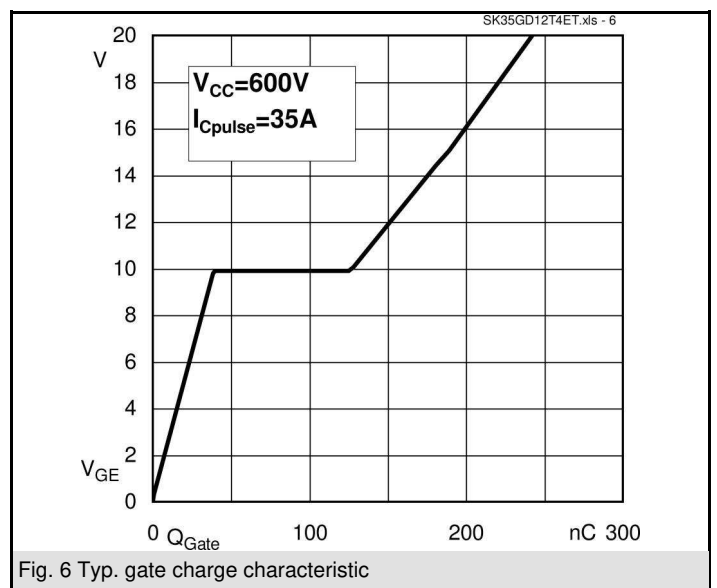
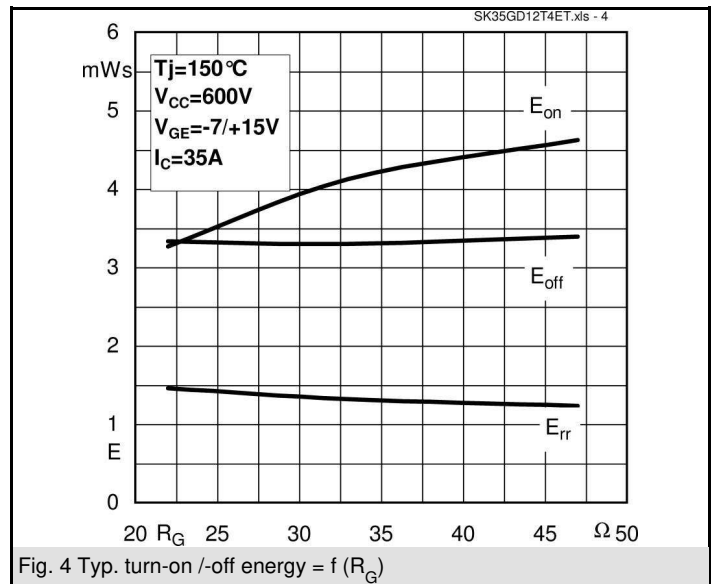
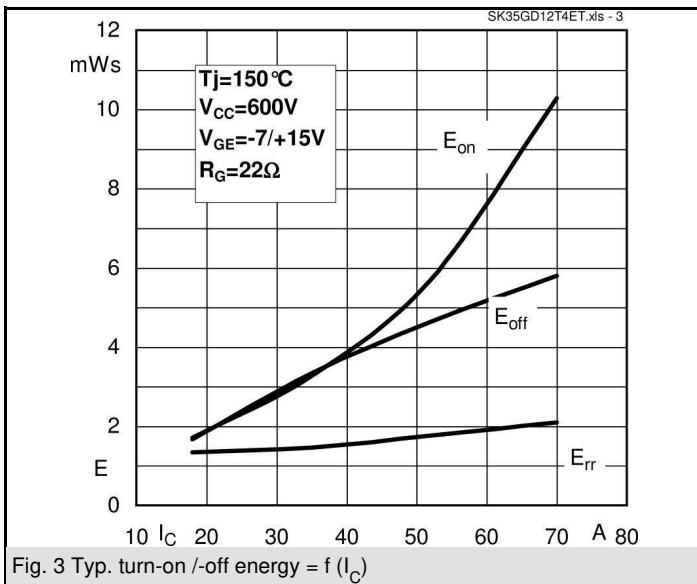
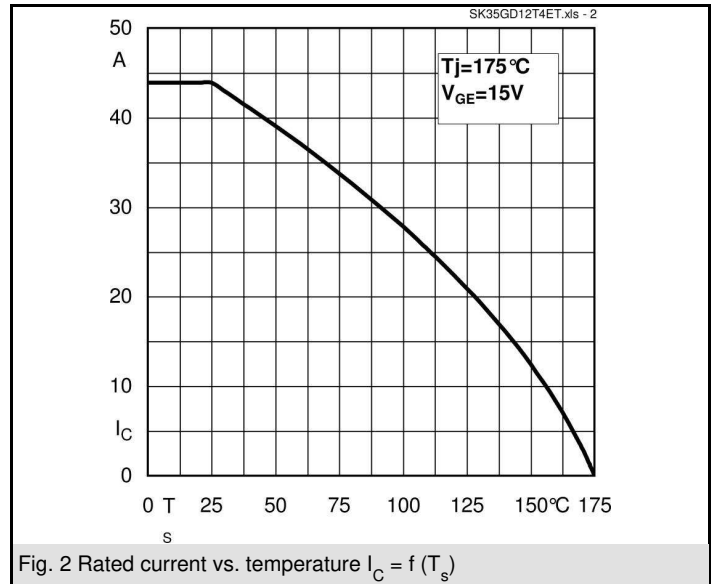
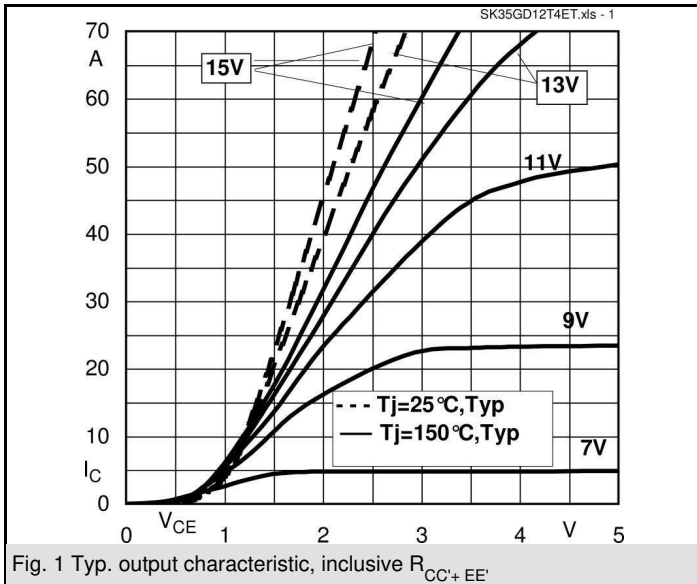
Remarks

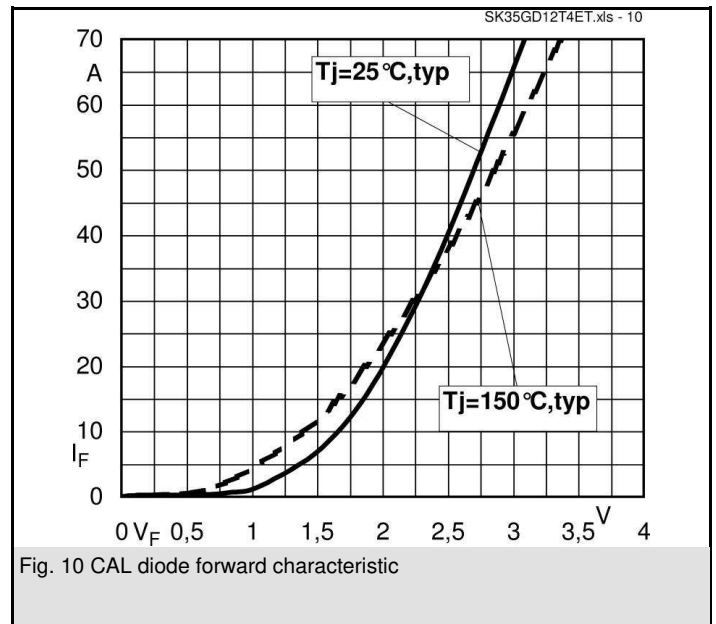
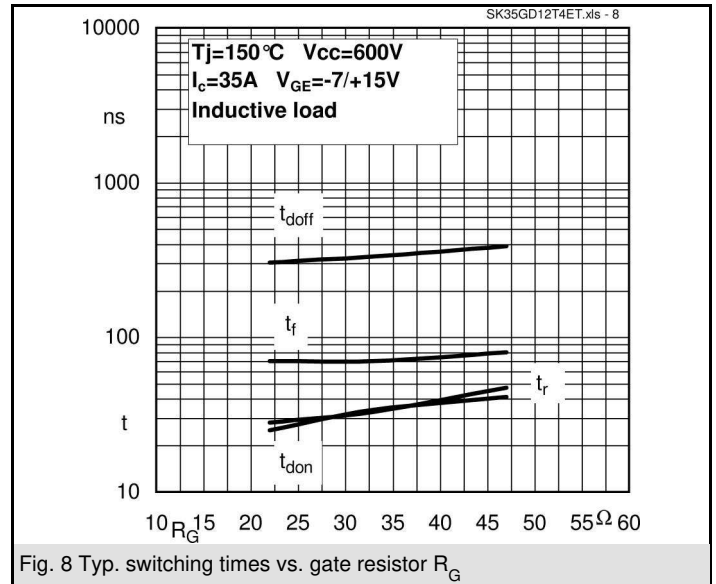
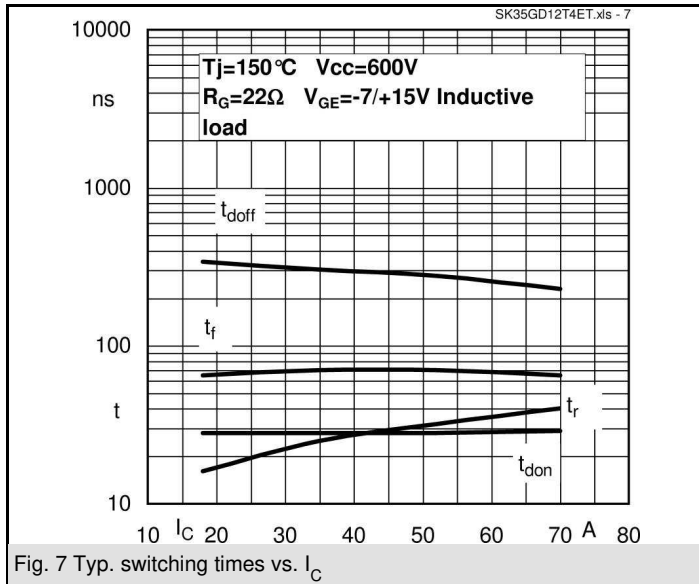
- $V_{CE,sat}$, V_F = chip level value



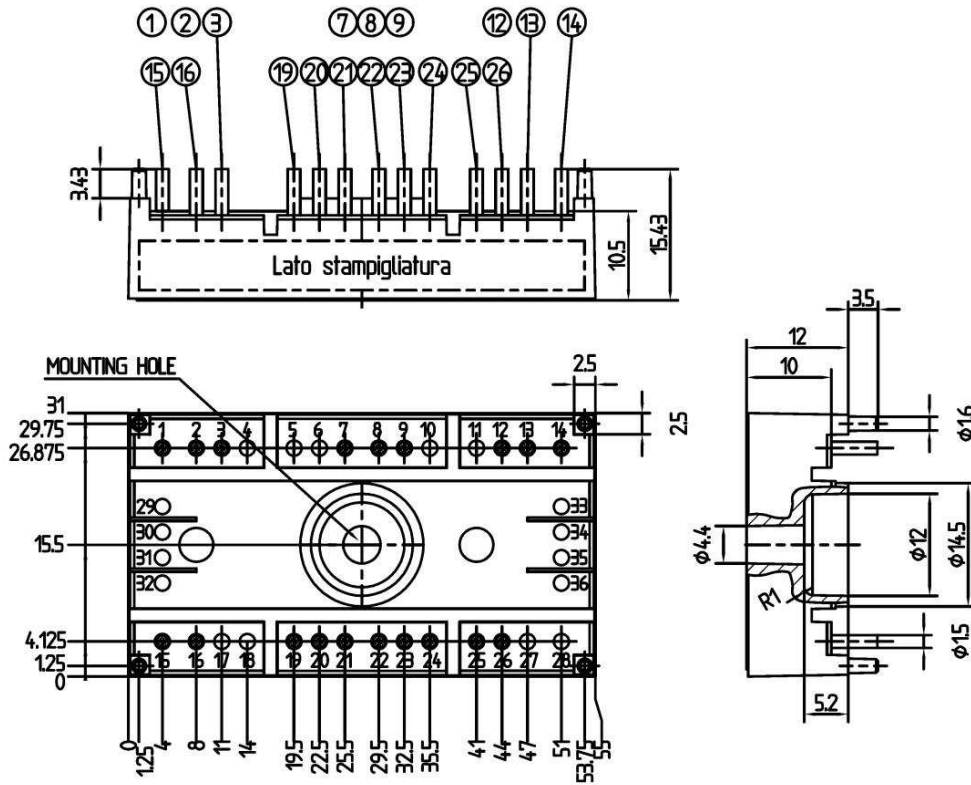
GD-ET

Characteristics			min.	typ.	max.	Units
Inverse Diode						
$V_F = V_{EC}$	$I_{Fnom} = 35 \text{ A}; V_{GE} = 0 \text{ V}$	$T_j = 25 \text{ }^\circ\text{C}_{\text{chiplev.}}$		2,3	2,62	V
		$T_j = 150 \text{ }^\circ\text{C}_{\text{chiplev.}}$		2,29	2,62	V
V_{F0}		$T_j = 25 \text{ }^\circ\text{C}$		1,3	1,5	V
		$T_j = 150 \text{ }^\circ\text{C}$		0,9	1,1	V
r_F		$T_j = 25 \text{ }^\circ\text{C}$		27	32	m Ω
		$T_j = 150 \text{ }^\circ\text{C}$		39,7	43,4	m Ω
I_{RRM}	$I_F = 35 \text{ A}$	$T_j = 150 \text{ }^\circ\text{C}$		30		A
Q_{rr}	$di/dt = 2900 \text{ A}/\mu\text{s}$			2		μC
E_{rr}	$V_{CC} = 600\text{V}$			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}	$T_s = 100^\circ\text{C}$ ($R_{25} = 5\text{k}\Omega$)			493 \pm 5%		Ω

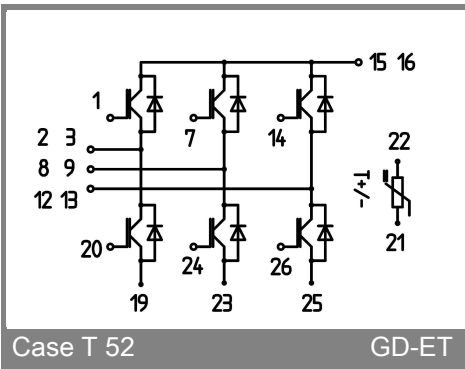




SK35GD12T4ET



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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