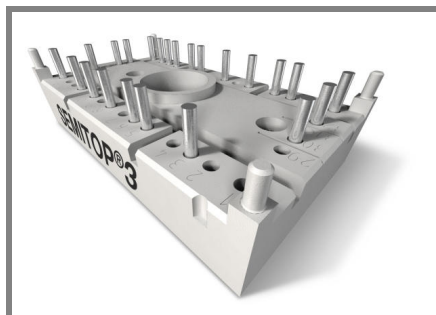




SEMITOP® 3

IGBT Module

SK35GD065ET

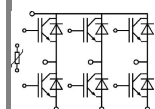
Preliminary Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Ultrafast NPT technology IGBT
- CAL technology FWD
- Integrated NTC temperature sensor

Typical Applications

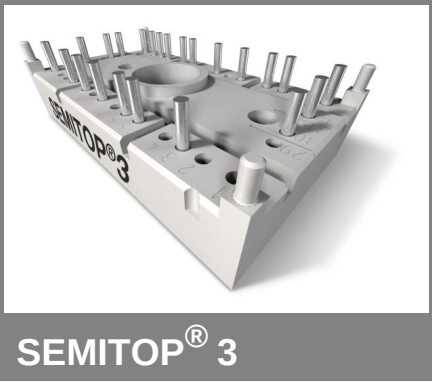
- Inverter



GD-ET

Absolute Maximum Ratings				$T_s = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions			Values	Units
IGBT					
V_{CES}	$T_j = 25\text{ °C}$			600	V
I_C	$T_j = 125\text{ °C}$	$T_s = 25\text{ °C}$		45	A
		$T_s = 80\text{ °C}$		33	A
I_{CRM}	$I_{CRM} = 2 \times I_{Cnom}$			100	A
V_{GES}				± 20	V
t_{psc}	$V_{CC} = 300\text{ V}$; $V_{GE} \leq 20\text{ V}$; $T_j = 125\text{ °C}$ $V_{CES} < 600\text{ V}$			10	μs
Inverse Diode					
I_F	$T_j = 150\text{ °C}$	$T_s = 25\text{ °C}$		36	A
		$T_s = 80\text{ °C}$		24	A
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$			70	A
Module					
$I_{t(RMS)}$					A
T_{vj}				-40 ... +150	$^{\circ}\text{C}$
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 mA		3	4	5	V
I _{CES}	V _{GE} = 0 V, V _{CE} = V _{CES} T _j = 25 °C T _j = 125 °C					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 = 125 °C		1,2 1,1 1,3 1,2	V V
r _{CE}	V _{GE} = 15 V T _j = 25°C T _j = 125°C		16 22		24 30	mΩ mΩ
V _{CE(sat)}	I _{Cnom} = 50 A, V _{GE} = 15 V T _j = 25°C _{chiplev.} T _j = 125°C _{chiplev.}		2 2,2		2,5	V V
C _{ies} C _{oes} C _{res}	V _{CE} = 25, V _{GE} = 0 V f = 1 MHz		2,7 0,25 0,153			nF nF nF
t _{d(on)} t _r E _{on}	R _{Gon} = 15 Ω	V _{CC} = 300V I _C = 50A	35 35 1,3			ns ns mJ
t _{d(off)} t _f E _{off}	R _{Goff} = 15 Ω	T _j = 125 °C V _{GE} =±15V	240 25 0,6			ns ns mJ
R _{th(j-s)}	per IGBT		1			K/W



IGBT Module

SK35GD065ET

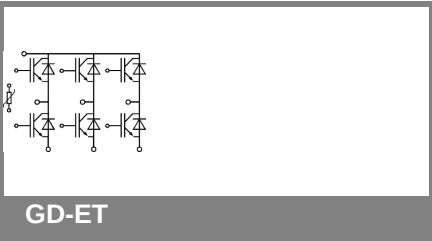
Preliminary Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Ultrafast NPT technology IGBT
- CAL technology FWD
- Integrated NTC temperature sensor

Typical Applications

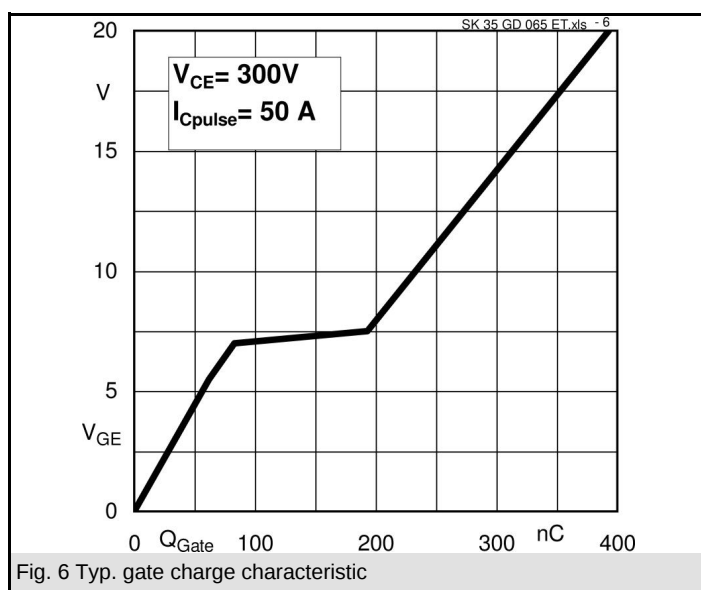
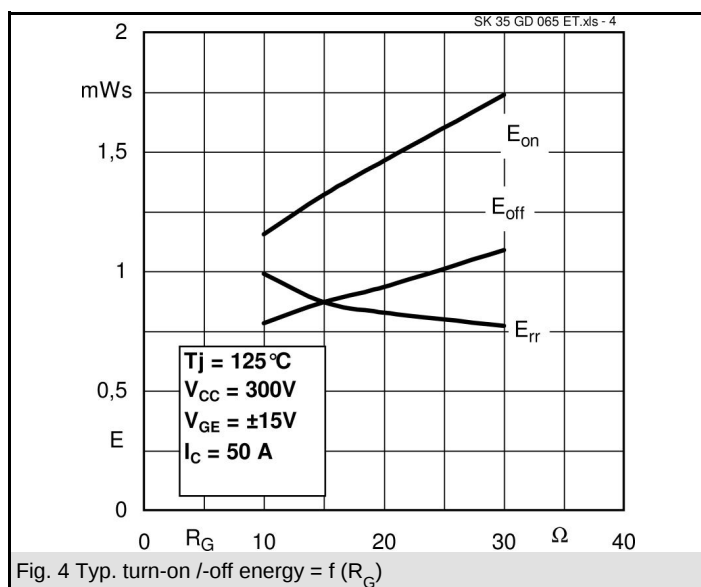
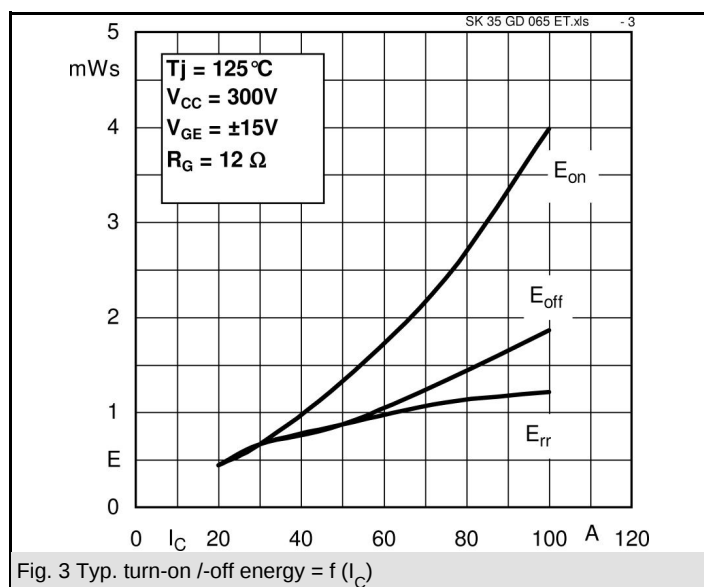
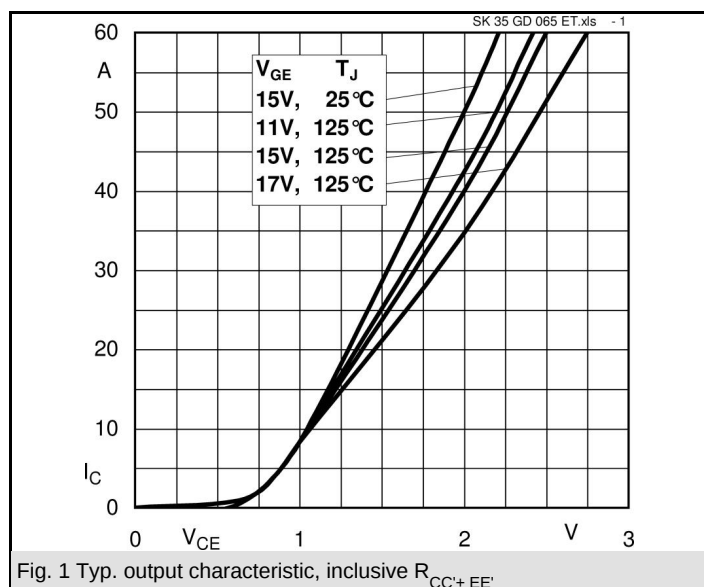
- Inverter

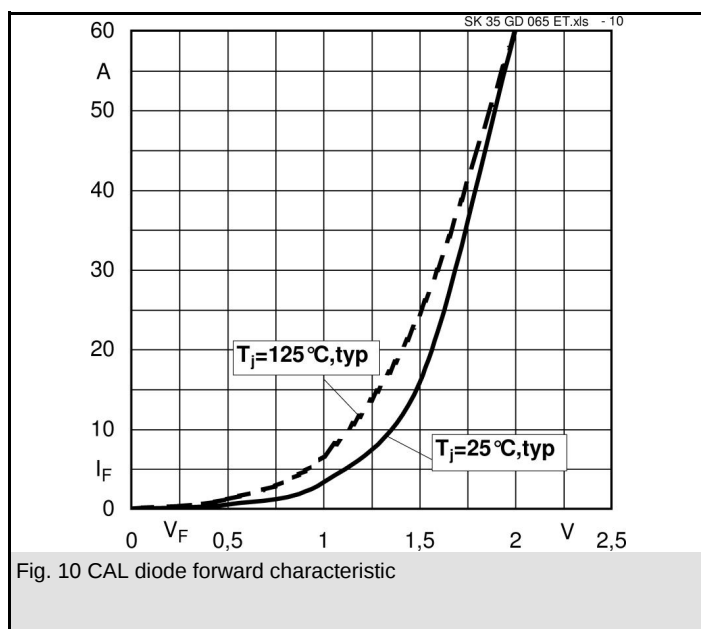
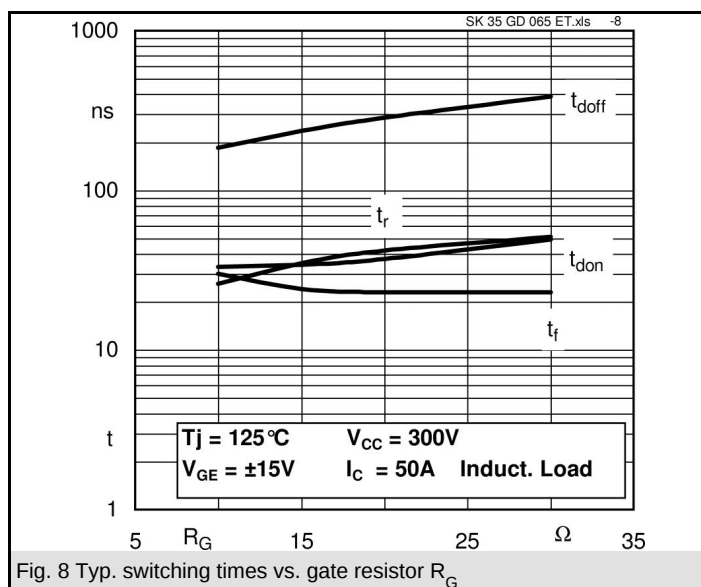
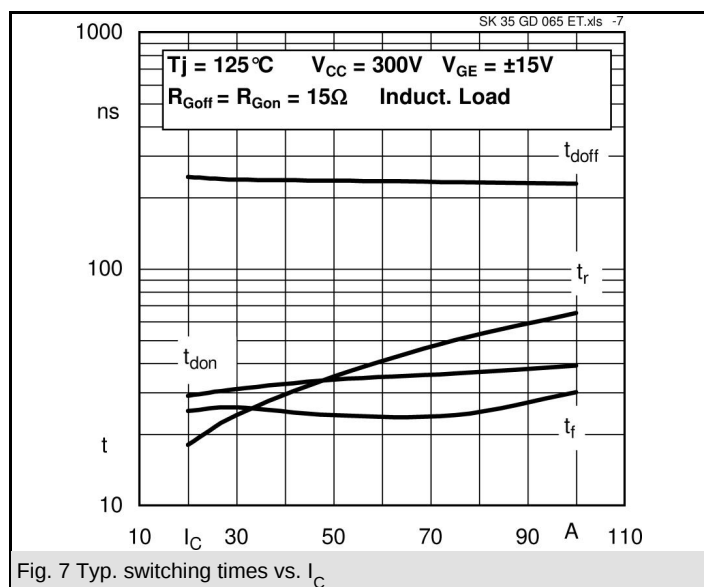


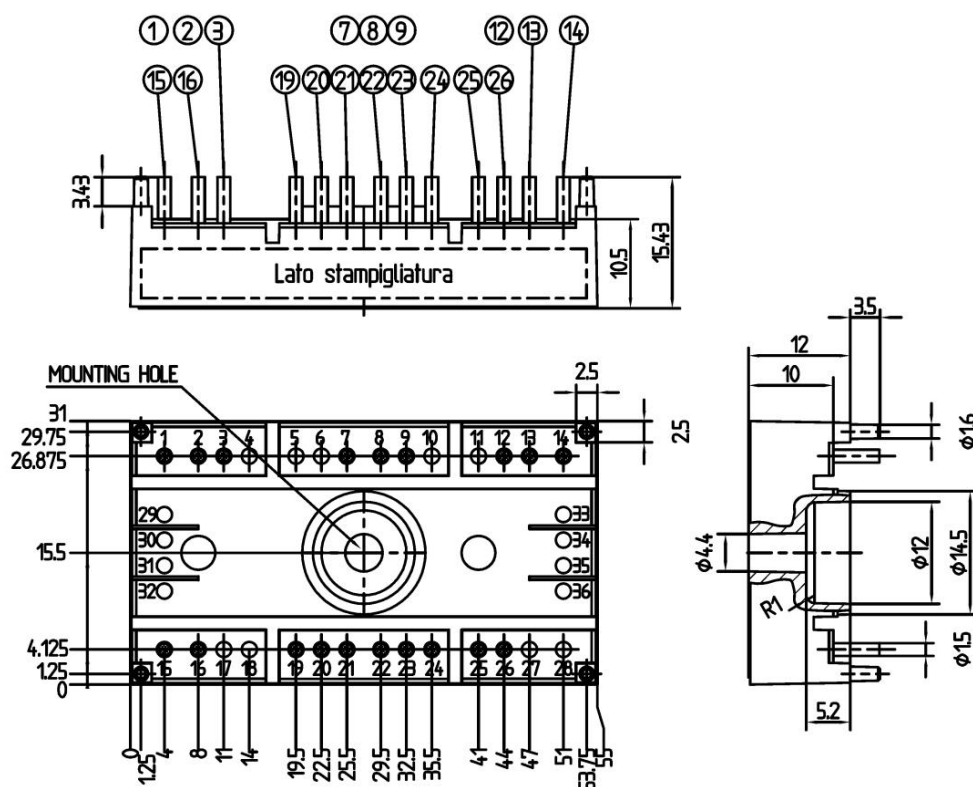
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 50 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		1,9	2,3	V
		T _j = 125 °C _{chiplev.}		1,9	2,4	V
V _{F0}		T _j = 25 °C		1	1,1	V
		T _j = 125 °C		0,9		V
r _F		T _j = 25 °C		18	24	mΩ
		T _j = 125 °C		20	28	mΩ
I _{RRM}	I _F = 50 A	T _j = 125 °C		57		A
Q _{rr}	di/dt = -2400 A/μs			4,6		μC
E _{rr}	V _{CC} = 300V			0,9		mJ
R _{th(j-s)D}	per diode				1,7	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

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

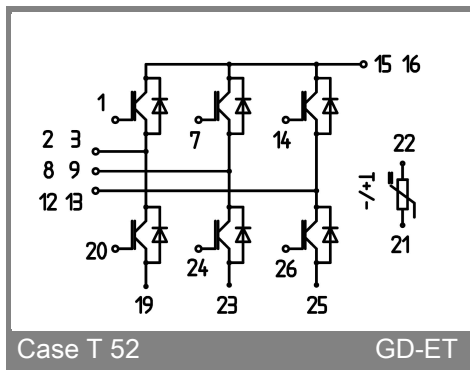
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Case T52 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



Case T 52

GD-ET