

SEMITOP[®] 2

IGBT Module

SK25GH063

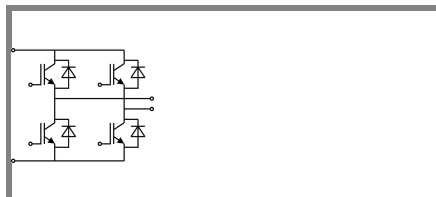
Preliminary Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- N channel, homogeneous Silicon structure (NPT-Non punchthrough IGBT)
- High short circuit capability
- Low tail current with low temperature dependence
- UL recognized, file no. E63532

Typical Applications

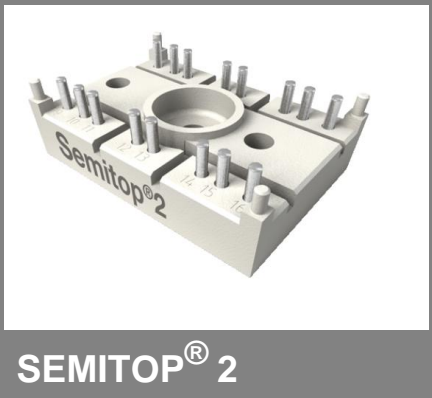
- Switching (not for linear use)
- Inverter
- Switched mode power supplies
- UPS



GH

Absolute Maximum Ratings		T _s = 25 °C, unless otherwise specified		
Symbol	Conditions	Values	Units	
IGBT				
V _{CES}	T _j = 25 °C	600	V	
I _C	T _j = 125 °C	T _s = 25 °C	30	A
		T _s = 80 °C	21	A
I _{CRM}	I _{CRM} = 2 x I _{Cnom}	60	A	
V _{GES}		± 20	V	
t _{psc}	V _{CC} = 300 V; V _{GE} ≤ 20 V; T _j = 125 °C V _{CES} < 600 V	10	μs	
Inverse Diode				
I _F	T _j = 150 °C	T _s = 25 °C	36	A
		T _s = 80 °C	24	A
I _{FRM}	I _{FRM} = 2 x I _{Fnom}		A	
I _{FSM}	t _p = 10 ms; half sine wave T _j = 150 °C	200	A	
Module				
I _{t(RMS)}			A	
T _{vj}		-40 ... +150	°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					
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 0,7\text{ mA}$	4,5	5,5	6,5	V
I_{CES}	$V_{GE} = 0\text{ V}$, $V_{CE} = V_{CES}$			$T_j = 25\text{ °C}$	0,1
				$T_j = 125\text{ °C}$	mA
I_{GES}	$V_{CE} = 0\text{ V}$, $V_{GE} = 30\text{ V}$			$T_j = 25\text{ °C}$	120
				$T_j = 125\text{ °C}$	nA
V_{CE0}				$T_j = 25\text{ °C}$	1
				$T_j = 125\text{ °C}$	V
r_{CE}	$V_{GE} = 15\text{ V}$			$T_j = 25\text{ °C}$	37
				$T_j = 125\text{ °C}$	m Ω
$V_{CE(sat)}$	$I_{Cnom} = 30\text{ A}$, $V_{GE} = 15\text{ V}$			$T_j = 25\text{ °C}_{chipleve.}$	2,1
				$T_j = 125\text{ °C}_{chipleve.}$	2,3
C_{ies}	$V_{CE} = 25$, $V_{GE} = 0\text{ V}$				1,3
C_{oes}					0,15
C_{res}					0,1
$t_{d(on)}$	$R_{Gon} = 33\text{ }\Omega$			$V_{CC} = 300\text{ V}$	37
t_r				$I_{Cnom} = 25\text{ A}$	40
E_{on}	$R_{Goff} = 33\text{ }\Omega$			$T_j = 125\text{ °C}$	1,1
$t_{d(off)}$				$V_{GE} = \pm 15\text{ V}$	200
t_f					30
E_{off}					0,8
$R_{th(j-s)}$	per IGBT			1,4	K/W



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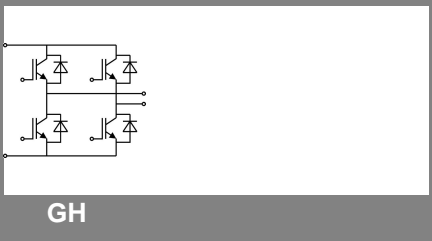
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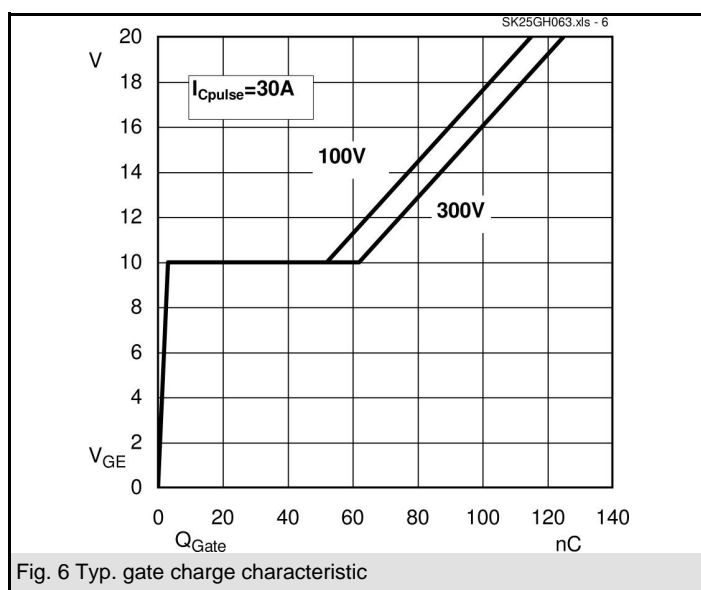
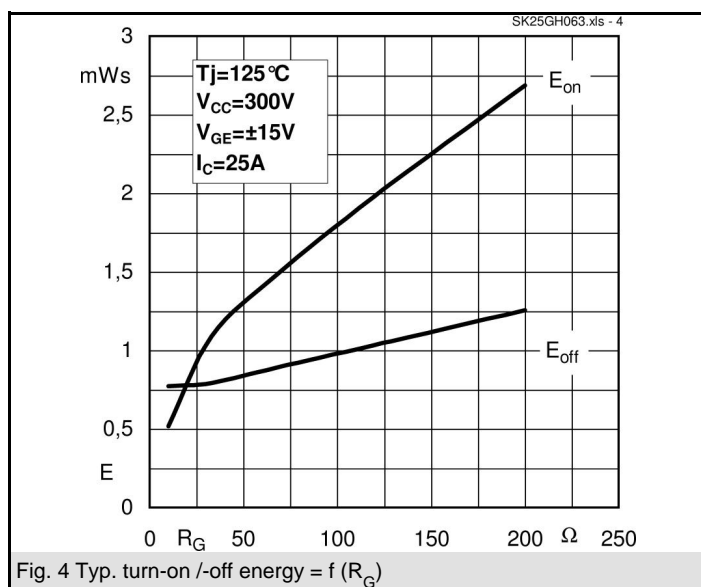
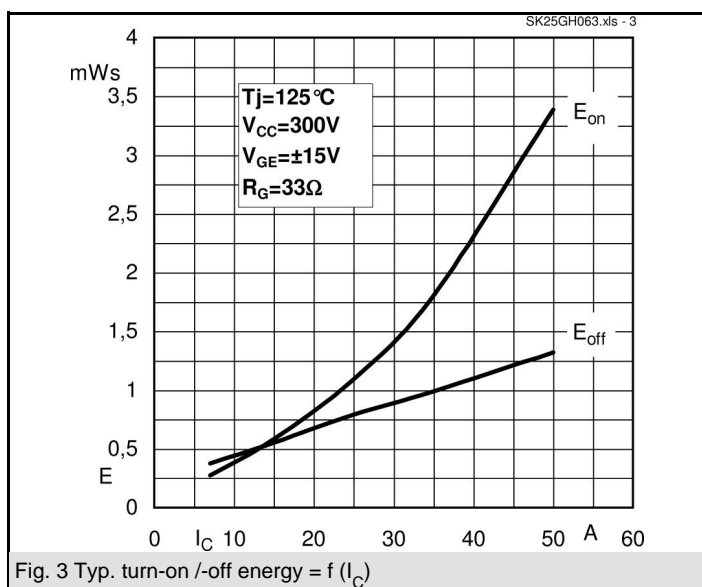
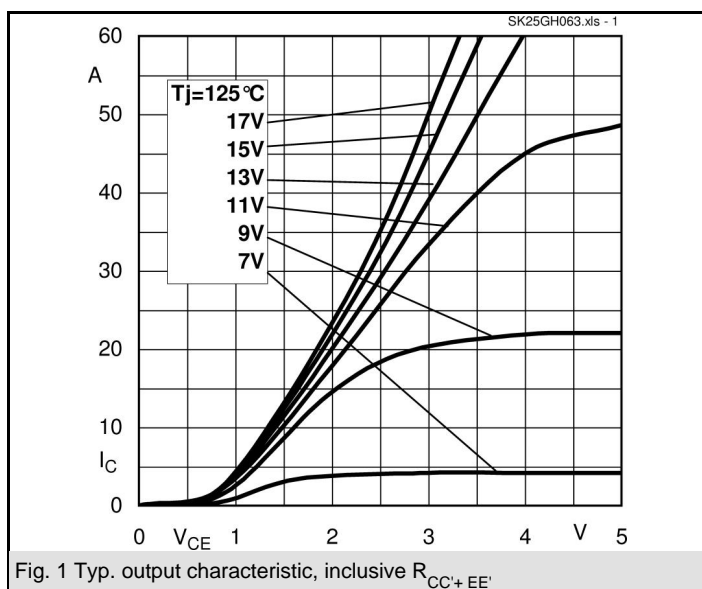
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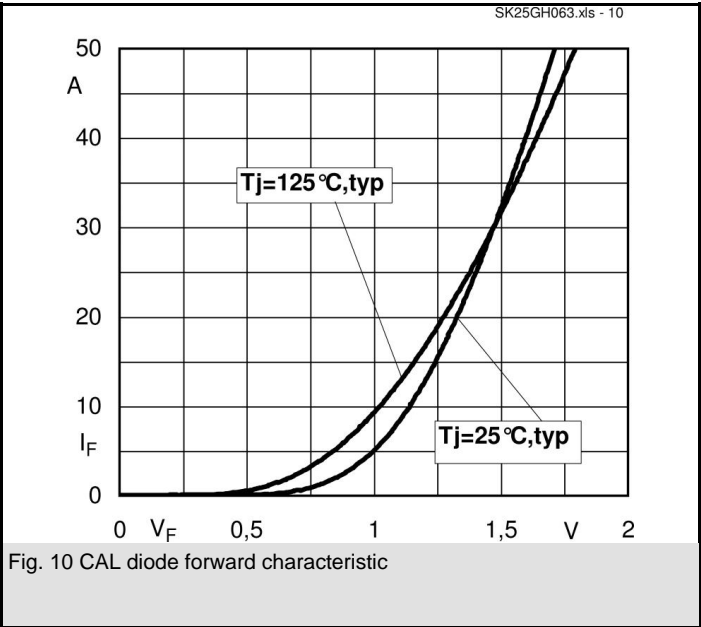
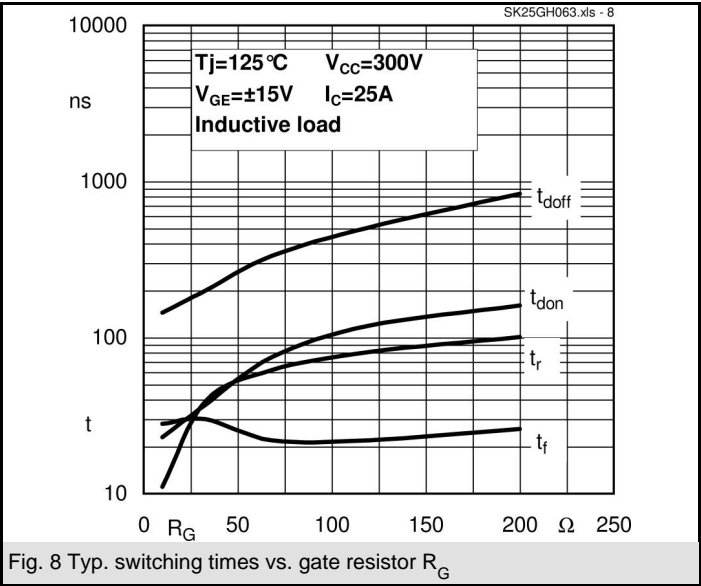
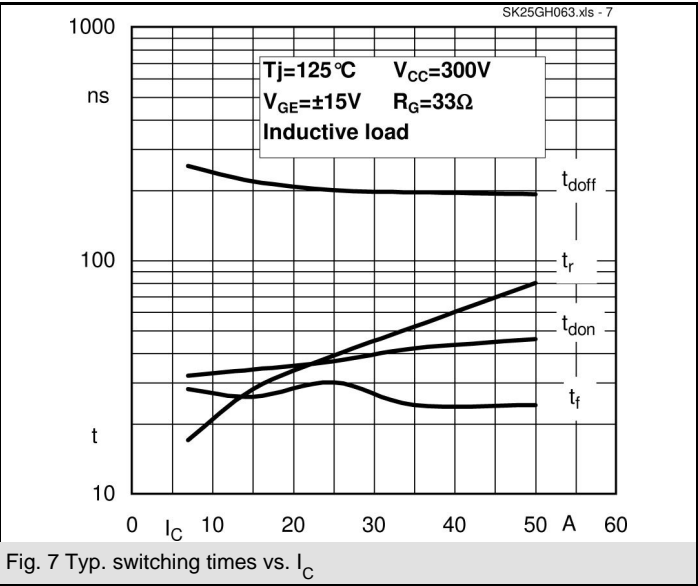


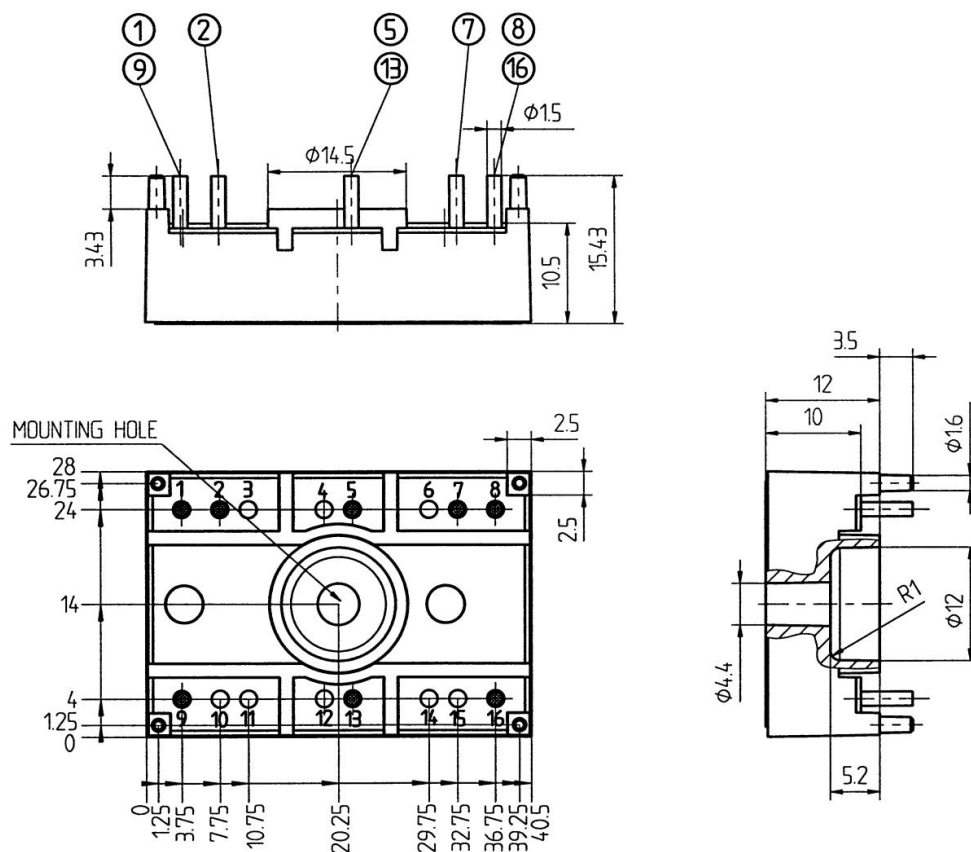
Characteristics						
Symbol	Conditions		min.	typ.	max.	Units
Inverse Diode						
V _F = V _{EC}	I _{Fnom} = 25 A; V _{GE} = 0 V	T _j = 25 °C _{chiplev.}		1,45	1,7	V
		T _j = 125 °C _{chiplev.}		1,4	1,75	V
V _{F0}		T _j = 125 °C		0,85	0,9	V
r _F		T _j = 125 °C		22	32	mΩ
I _{RRM}	I _{Fnom} = 25 A di/dt = -500 A/μs V _{CC} = 300V	T _j = 125 °C		16		A
Q _{rr}				2		μC
E _{rr}				0,25		mJ
R _{th(j-s)D}	per diode				1,7	K/W
M _s	to heat sink M1				2	Nm
w				21		g

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

This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.







Case T5 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)

