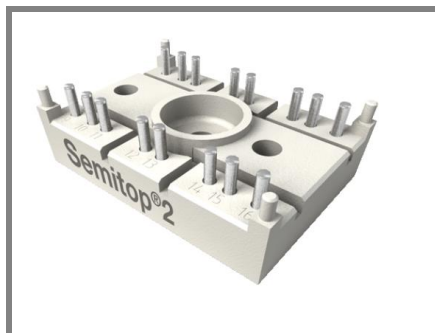


SK20GH065



SEMITOP[®] 2

IGBT Module

SK20GH065

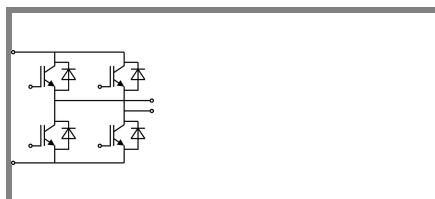
Target Data

Features

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

Typical Applications

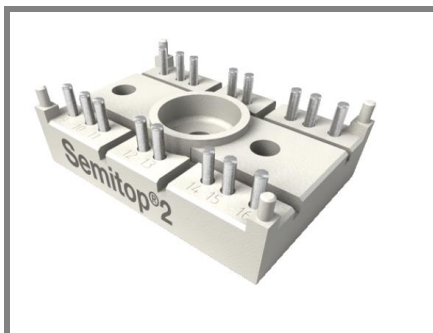
- Switching (not for linear use)
- Inverter
- Switched mode power supplies
- UPS



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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	$T_j = 125\text{ °C}$	$T_s = 25\text{ °C}$	24 A
		$T_s = 80\text{ °C}$	18 A
I_{CRM}	$I_{CRM} = 2 \times I_{Cnom}$	40	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	$T_j = 125\text{ °C}$	$T_s = 25\text{ °C}$	25 A
		$T_s = 80\text{ °C}$	18 A
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$	40	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		$T_s = 25\text{ °C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
$V_{GE(th)}$	$V_{GE} = V_{CE}, I_C = 0,5\text{ mA}$	3	4	5	V
I_{CES}	$V_{GE} = 0\text{ V}, V_{CE} = V_{CES}, T_j = 25\text{ °C}$			0,07	mA
I_{GES}	$V_{CE} = 0\text{ V}, V_{GE} = 20\text{ V}, T_j = 25\text{ °C}$			120	nA
V_{CE0}		$T_j = 25\text{ °C}$	1		V
		$T_j = 125\text{ °C}$	1,1		V
r_{CE}	$V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}$			m Ω
		$T_j = 125\text{ °C}$		55	m Ω
$V_{CE(sat)}$	$I_{Cnom} = 20\text{ A}, V_{GE} = 15\text{ V}$	$T_j = 25\text{ °C}_{chiplev.}$	2		V
		$T_j = 125\text{ °C}_{chiplev.}$	2,2		V
C_{res}	$V_{CE} = 25, V_{GE} = 0\text{ V}, f = 1\text{ MHz}$		1,1		nF
C_{oes}		0,107		nF	
C_{res}		0,063		nF	
$t_{d(on)}$	$R_{Gon} = 30\ \Omega$	$V_{CC} = 300\text{ V}$ $I_{Cnom} = 20\text{ A}$	21		ns
t_r			28		ns
E_{on}	$R_{Goff} = 30\ \Omega$	$T_j = 125\text{ °C}$ $V_{GE} = \pm 15\text{ V}$	0,6		mJ
$t_{d(off)}$			170		ns
t_f			20		ns
E_{off}			0,4		mJ
$R_{th(j-s)}$	per IGBT			1,7	K/W



SEMITOP[®] 2

IGBT Module

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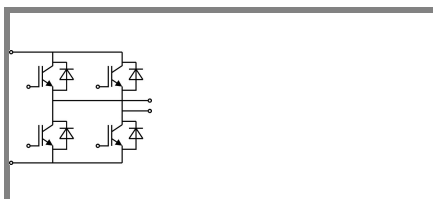
Target Data

Features

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Typical Applications

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



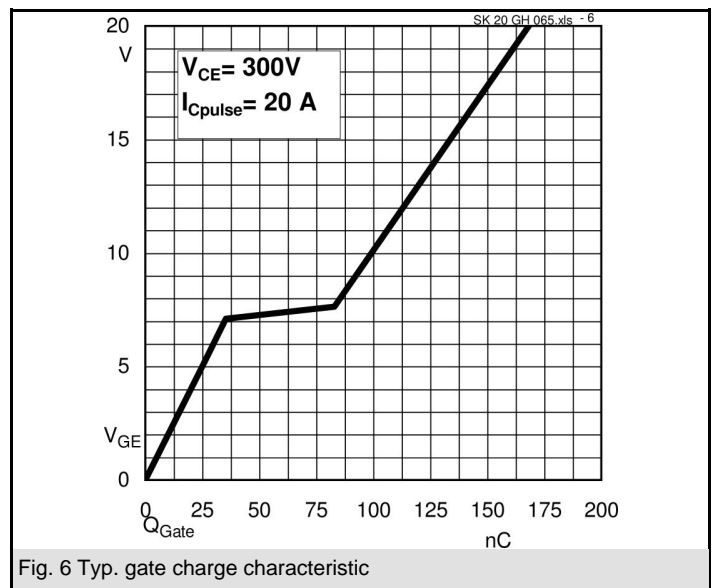
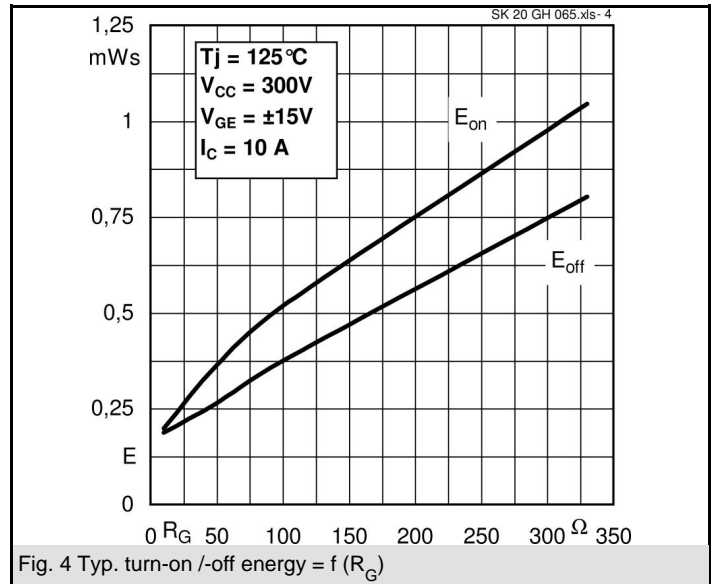
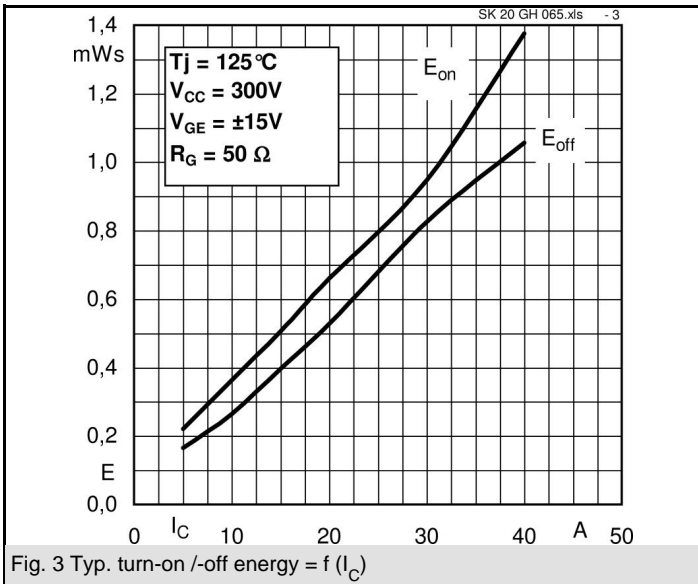
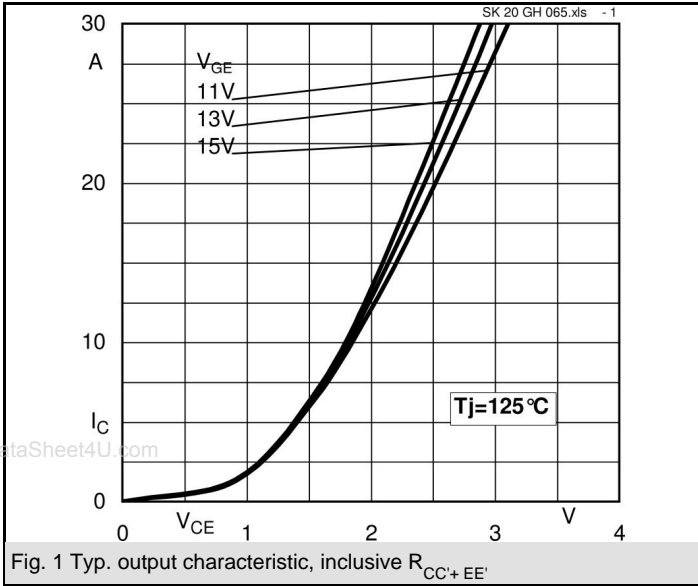
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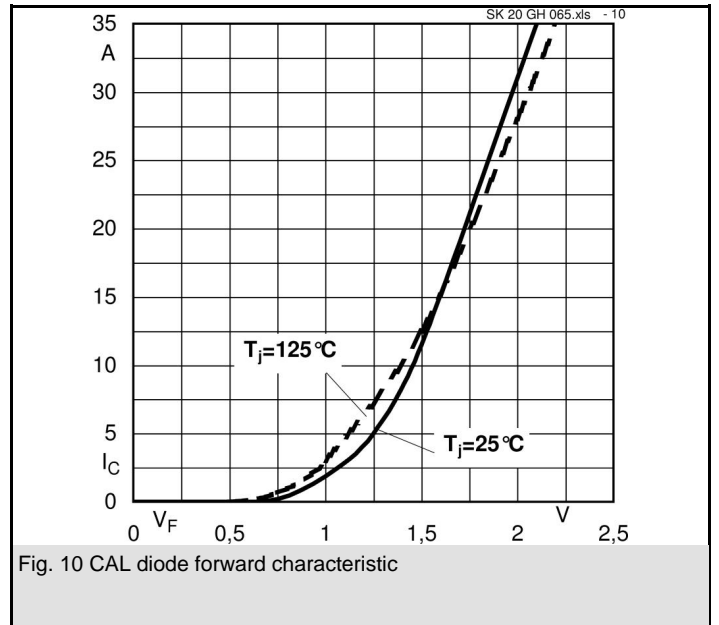
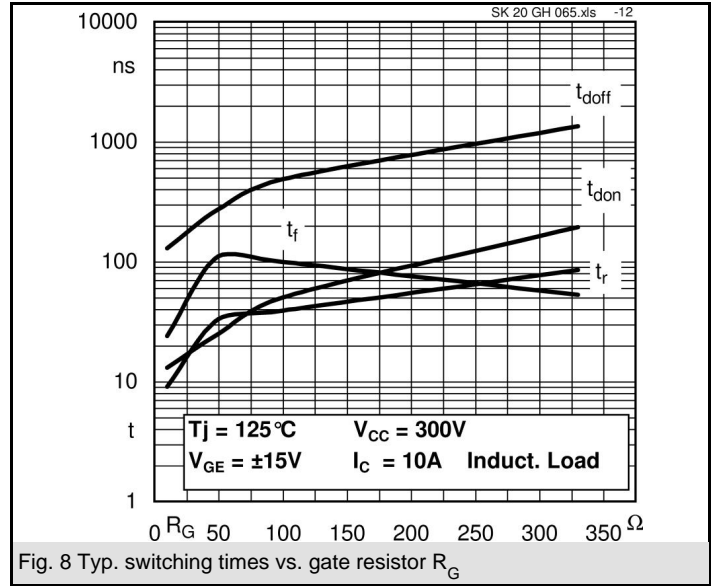
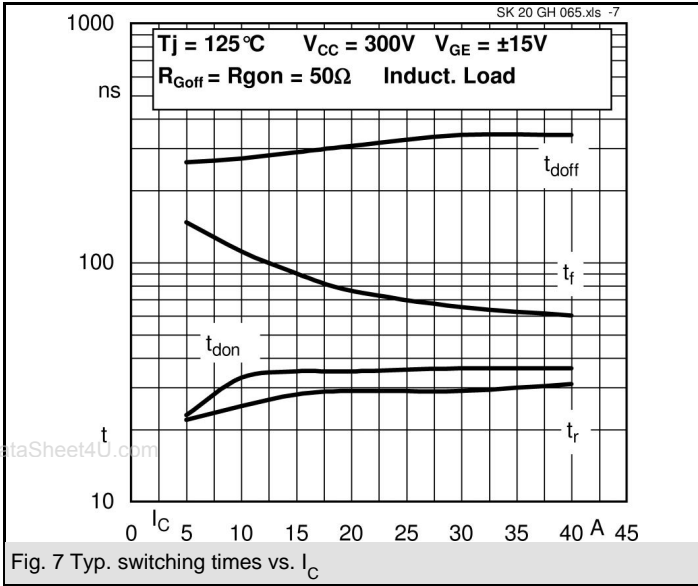
Characteristics

Symbol	Conditions	min.	typ.	max.	Units
Inverse Diode					
$V_F = V_{EC}$	$I_{Fnom} = 20 \text{ A}; V_{GE} = 0 \text{ V}$		$T_j = 25 \text{ }^\circ\text{C}_{\text{chiplev.}}$	1,6	V
			$T_j = 125 \text{ }^\circ\text{C}_{\text{chiplev.}}$	1,6	V
V_{F0}			$T_j = 25 \text{ }^\circ\text{C}$		V
			$T_j = 125 \text{ }^\circ\text{C}$	0,9	V
r_F			$T_j = 25 \text{ }^\circ\text{C}$	30	mΩ
			$T_j = 125 \text{ }^\circ\text{C}$	33	mΩ
I_{RRM}	$I_{Fnom} = \text{A}$		$T_j = 125 \text{ }^\circ\text{C}$		A
Q_{rr}					μC
E_{rr}	$V_R = 300\text{V}$				mJ
$R_{th(j-s)D}$	per diode			1,7	K/W
M_s	to heat sink			2	Nm
w			19		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.

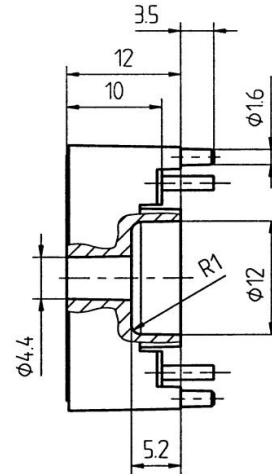
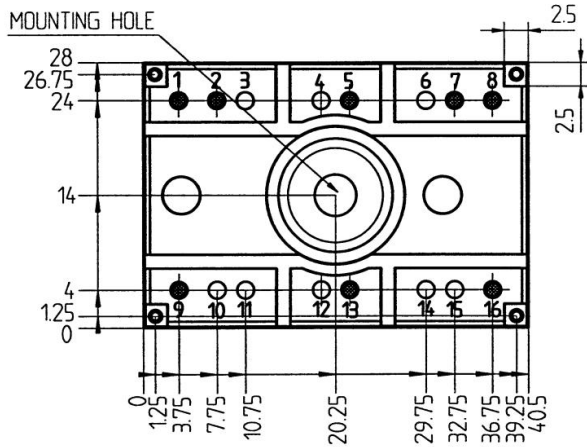
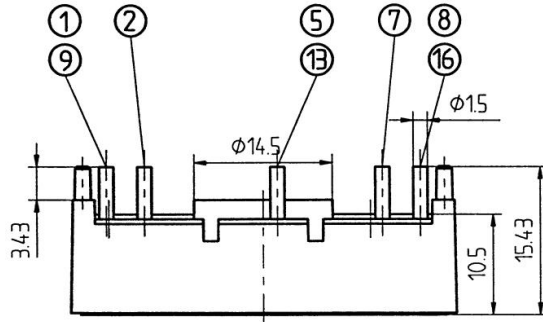




SK20GH065

UL recognized file

no. E 63 532



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

