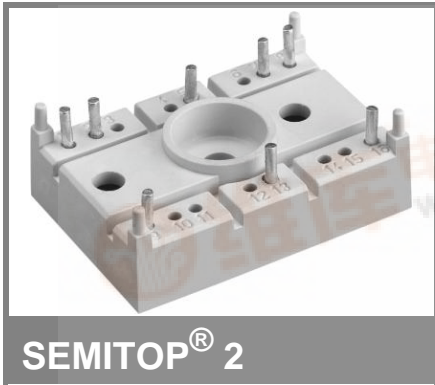


# SK 50 GAL 065



## Fast IGBT Module

SK 50 GAR 065

SK 50 GAL 065

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 punch-through IGBT)
- Low tail current with low temperature dependence
- Low threshold voltage

### Typical Applications

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

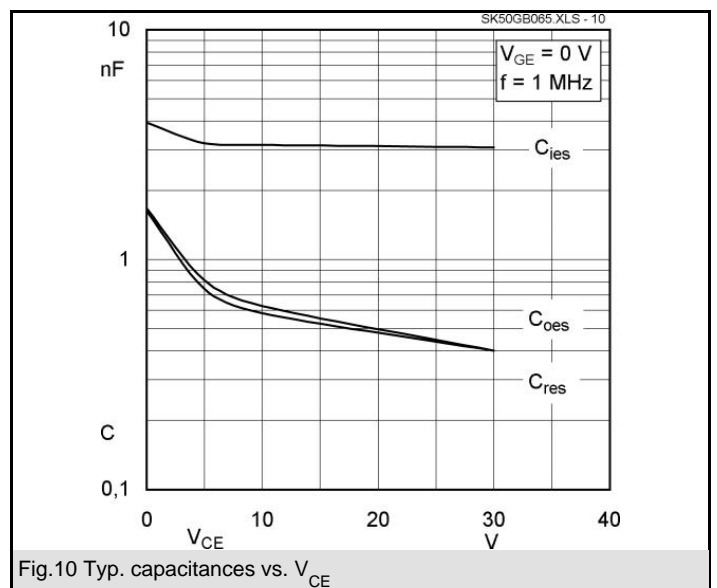
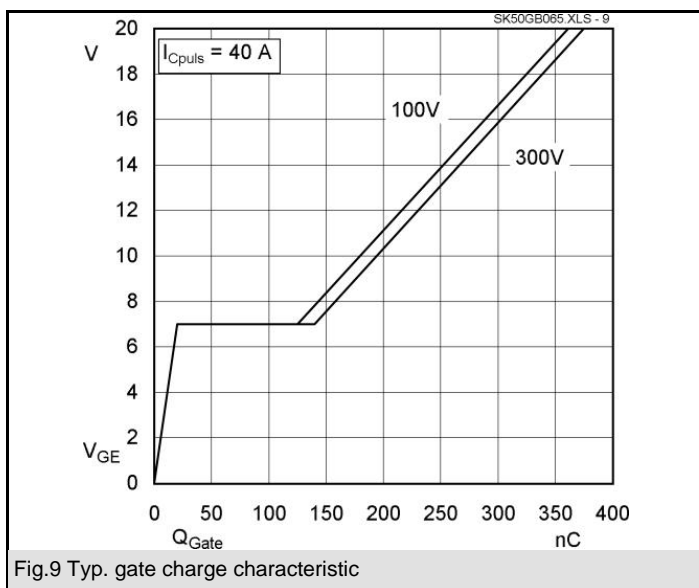
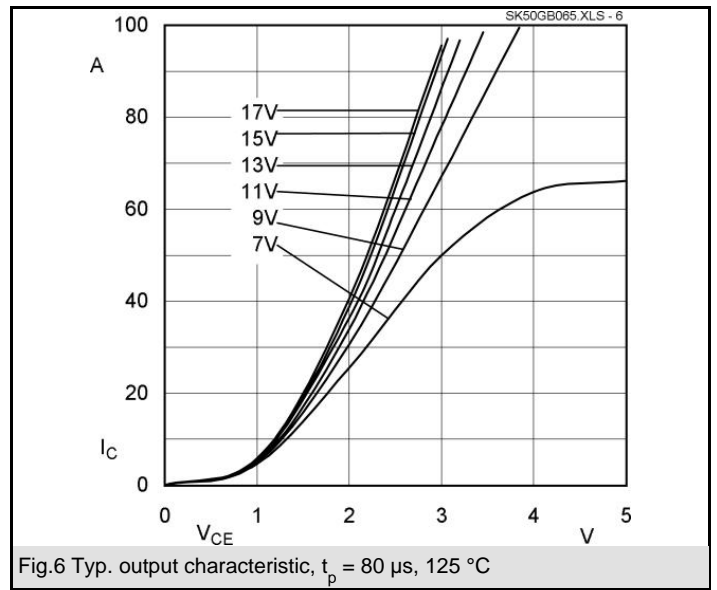
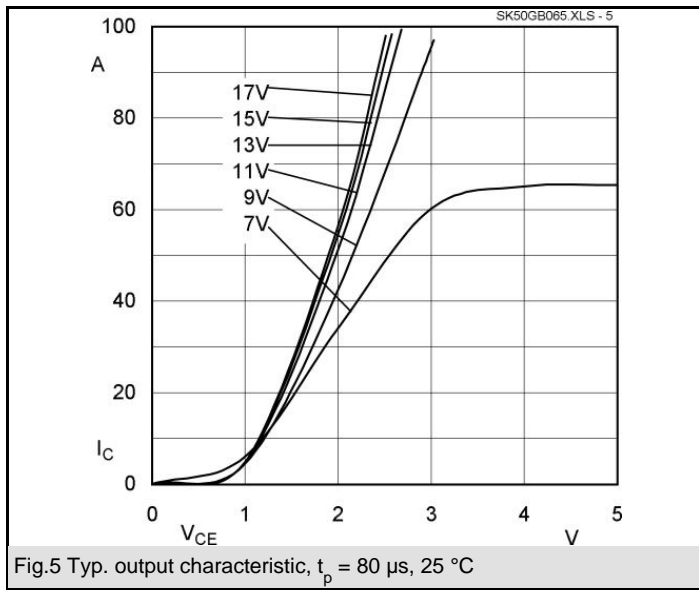
Absolute Maximum Ratings		T <sub>s</sub> = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
<b>IGBT</b>			
V <sub>CES</sub>		600	V
V <sub>GES</sub>		± 20	V
I <sub>C</sub>	T <sub>s</sub> = 25 (80) °C;	54 (40)	A
I <sub>CM</sub>	t <sub>p</sub> < 1 ms; T <sub>s</sub> = 25 (80) °C;	108 (80)	A
T <sub>j</sub>		- 40 ... + 150	°C
<b>Freewheeling CAL diode</b>			
I <sub>F</sub>	T <sub>s</sub> = 25 (80) °C;	57 (38)	A
I <sub>FM</sub> = - I <sub>CM</sub>	t <sub>p</sub> < 1 ms; T <sub>s</sub> = 25 (80) °C;	90 (60)	A
T <sub>j</sub>		- 40 ... + 150	°C
T <sub>stg</sub>		- 40 ... + 125	°C
T <sub>sol</sub>	Terminals, 10 s	260	°C
V <sub>isol</sub>	AC 50 Hz, r.m.s. 1 min. / 1 s	2500 / 3000	V

Characteristics		T <sub>s</sub> = 25 °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
<b>IGBT</b>					
V <sub>CE(sat)</sub>	I <sub>C</sub> = 40 A, T <sub>j</sub> = 25 (125) °C		1,7 (2,2)	2 (2,2)	V
V <sub>GE(th)</sub>	V <sub>CE</sub> = V <sub>GE</sub> ; I <sub>C</sub> = 0,0014 A	4,5	5,5	6,5	V
C <sub>ies</sub>	V <sub>CE</sub> = 25 V; V <sub>GE</sub> = 0 V; 1 MHz		3		nF
R <sub>th(j-s)</sub>	per IGBT			0,85	K/W
	per module				K/W
t <sub>d(on)</sub>	under following conditions: V <sub>CC</sub> = 300 V, V <sub>GE</sub> = ± 15 V		60	80	ns
t <sub>r</sub>	I <sub>C</sub> = 40 A, T <sub>j</sub> = 125 °C		30	40	ns
t <sub>d(off)</sub>	R <sub>Gon</sub> = R <sub>Goff</sub> = 16 Ω		220	280	ns
t <sub>f</sub>			20	26	ns
E <sub>on</sub> + E <sub>off</sub>	Inductive load		1,8	2,4	mJ
<b>Freewheeling CAL diode</b>					
V <sub>F</sub> = V <sub>EC</sub>	I <sub>F</sub> = 30 A; T <sub>j</sub> = 25 (125) °C		1,3 (1,2)	1,5 (1,45)	V
V <sub>(TO)</sub>	T <sub>j</sub> = 25 (125) °C		(0,85)	(0,9)	V
r <sub>T</sub>	T <sub>j</sub> = 25 (125) °C		(9)	(16)	mΩ
R <sub>th(j-s)</sub>				1,2	K/W
under following conditions:					
I <sub>RRM</sub>	I <sub>F</sub> = 30 A; V <sub>R</sub> = 300 V		22		A
Q <sub>rr</sub>	di <sub>F</sub> /dt = -500 A/μs		2,2		μC
E <sub>off</sub>	V <sub>GE</sub> = 0 V; T <sub>j</sub> = 125 °C		0,2		mJ
<b>Mechanical data</b>					
M1	mounting torque			2	Nm
w			19		g
Case	SEMITOP® 2		T 32		



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# SK 50 GAL 065

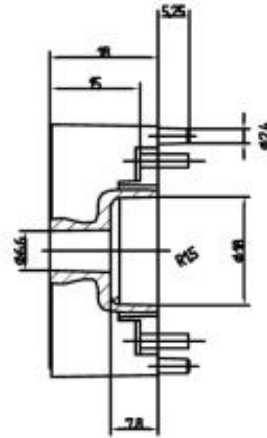
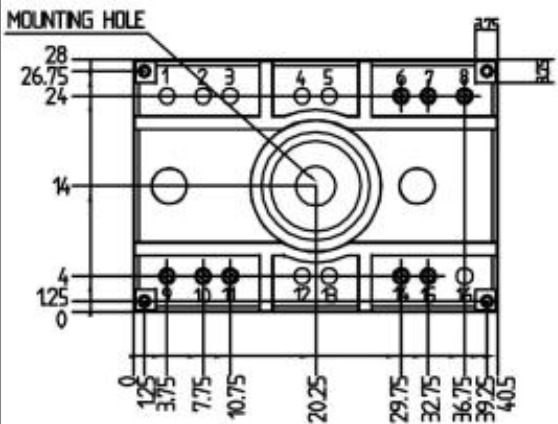
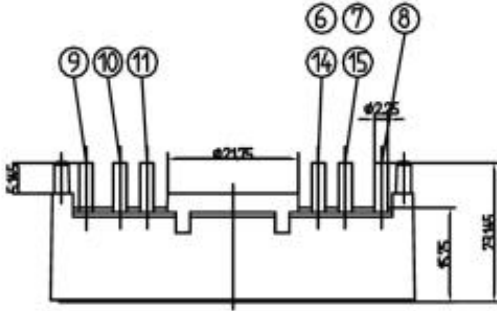


**SK 50 GAL 065**

# SK 50 GAL 065

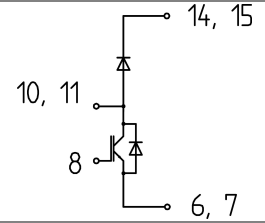
UL Recognized  
File no. E 63 532

Dimensions in mm



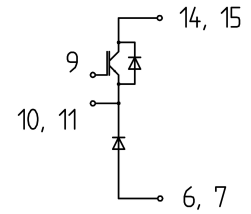
SUGGESTED HOLEDIAMETER FOR THE SOLDER PINS AND THE MOUNTING PINS IN THE PCB: 2 mm

Case T67



Case T67

GAL



Case T67

GAR

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

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