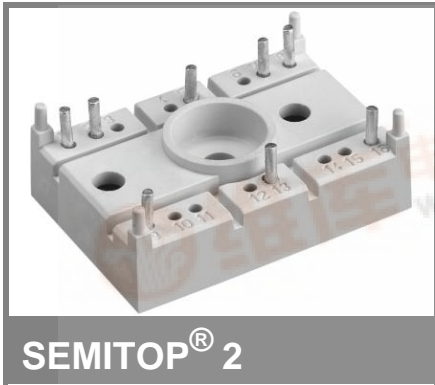


# SK 30 GB 123



## IGBT Module

- SK 30 GB 123
- SK 30 GAL 123
- SK 30 GAR 123

Preliminary Data

### Features

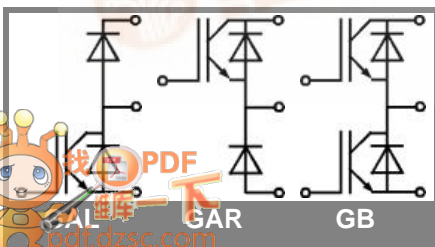
- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonding aluminium oxide ceramic (DBC)
- High short circuit capability
- N channel, homogeneous silicon structure (NPT= Non punch-through IGBT)
- Low tail current with low temperature dependance

### Typical Applications

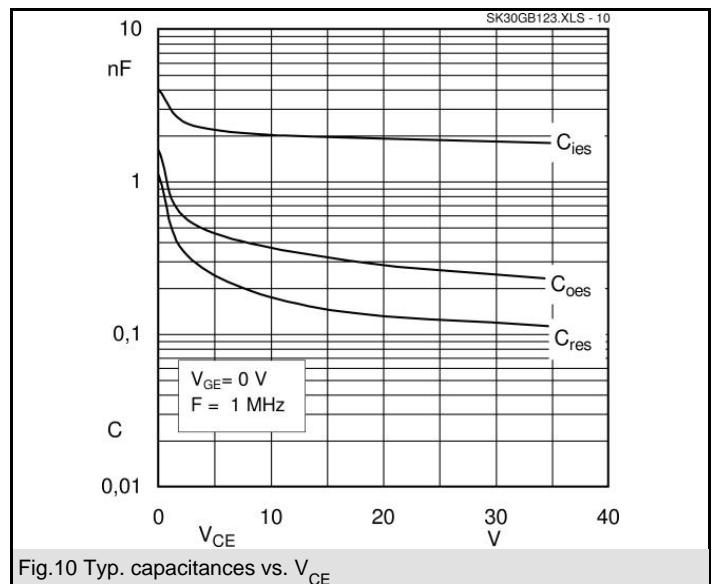
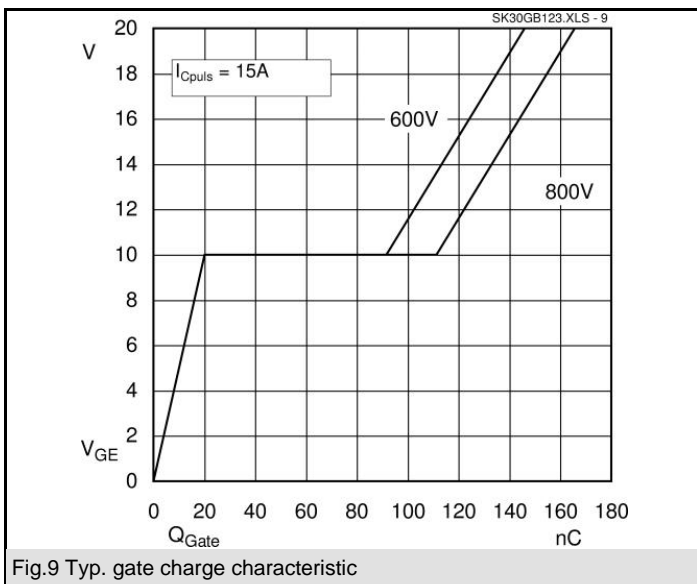
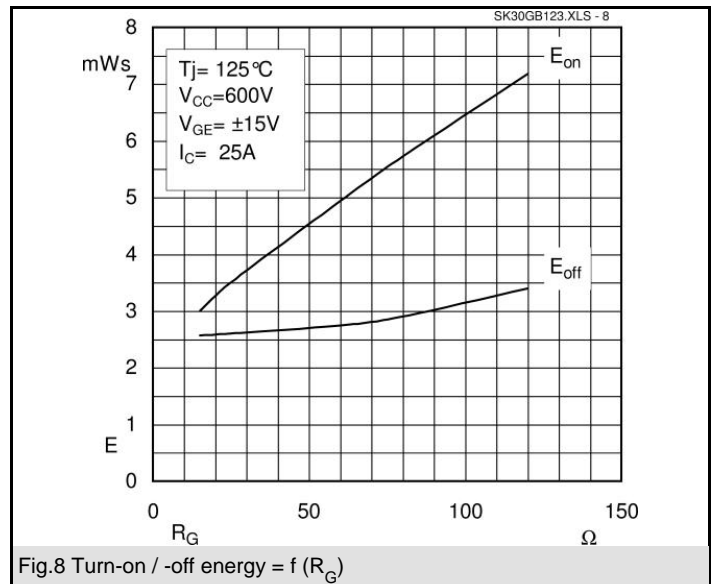
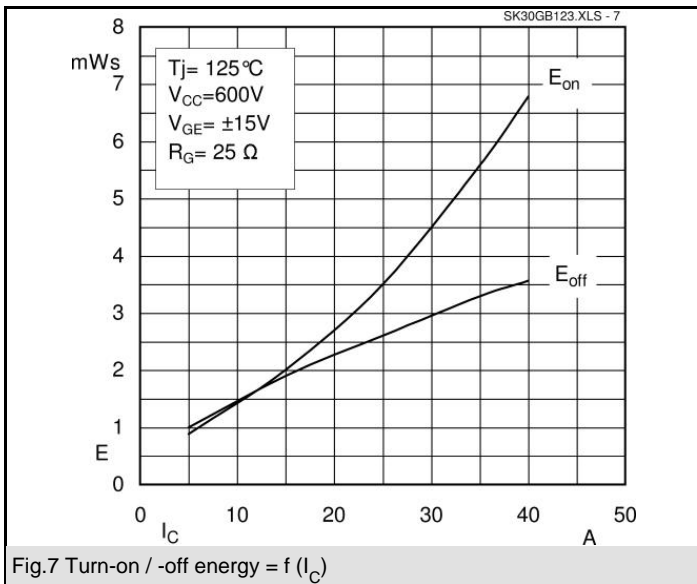
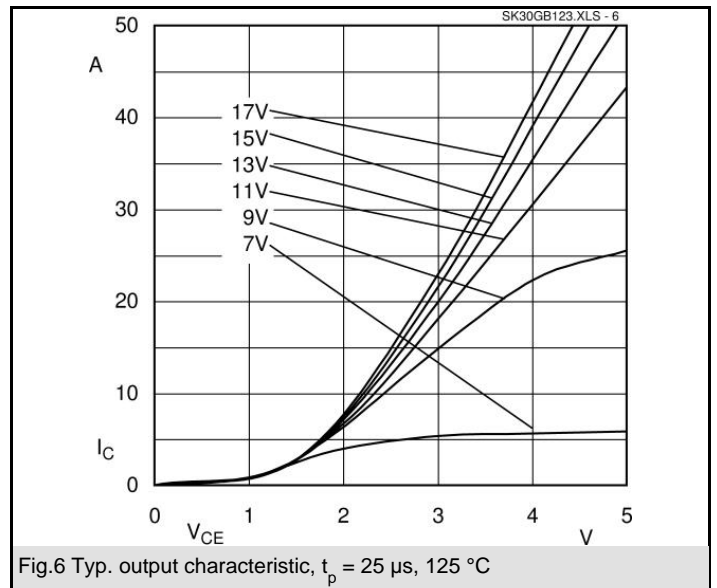
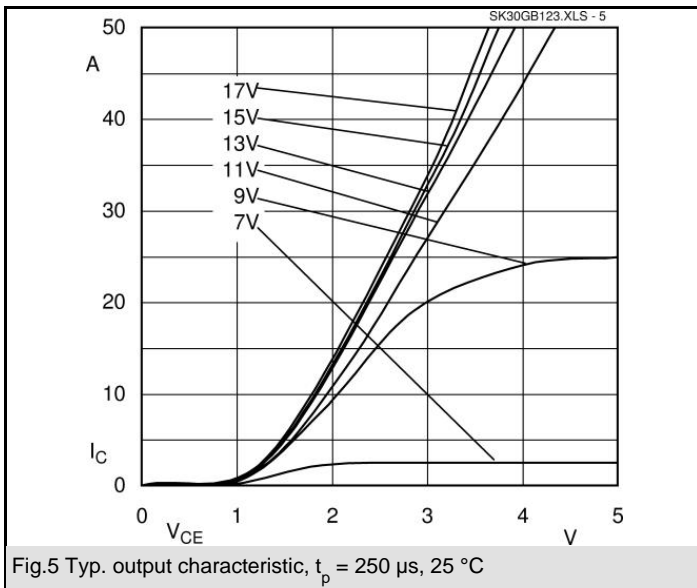
- Switching (not for linear use)
- Inverter
- Switched mode power supplies
- UPS

Absolute Maximum Ratings		T <sub>s</sub> = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
<b>IGBT</b>			
V <sub>CES</sub>		1200	V
V <sub>GES</sub>		± 20	V
I <sub>C</sub>	T <sub>s</sub> = 25 (80) °C;	33 (22)	A
I <sub>CM</sub>	t <sub>p</sub> < 1 ms; T <sub>s</sub> = 25 (80) °C;	66 (44)	A
T <sub>j</sub>		- 40 ... + 150	°C
<b>Inverse/Freewheeling CAL diode</b>			
I <sub>F</sub>	T <sub>s</sub> = 25 (80) °C;	37 (25)	A
I <sub>FM</sub> = - I <sub>CM</sub>	t <sub>p</sub> < 1 ms; T <sub>s</sub> = 25 (80) °C;	74 (50)	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

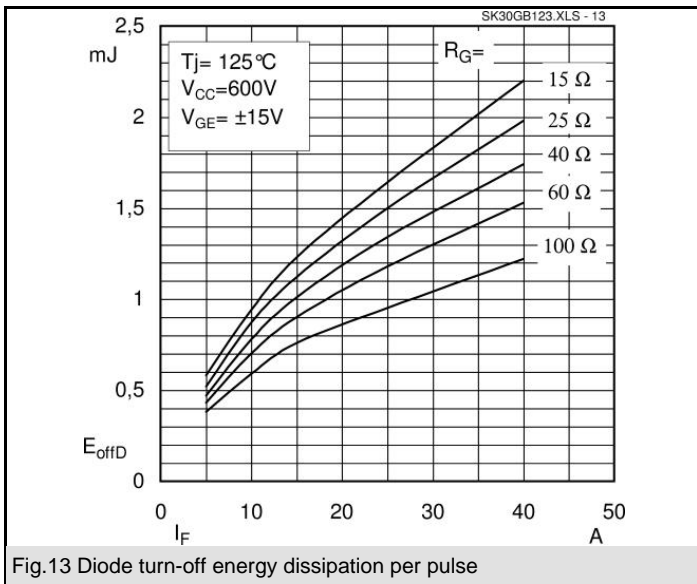
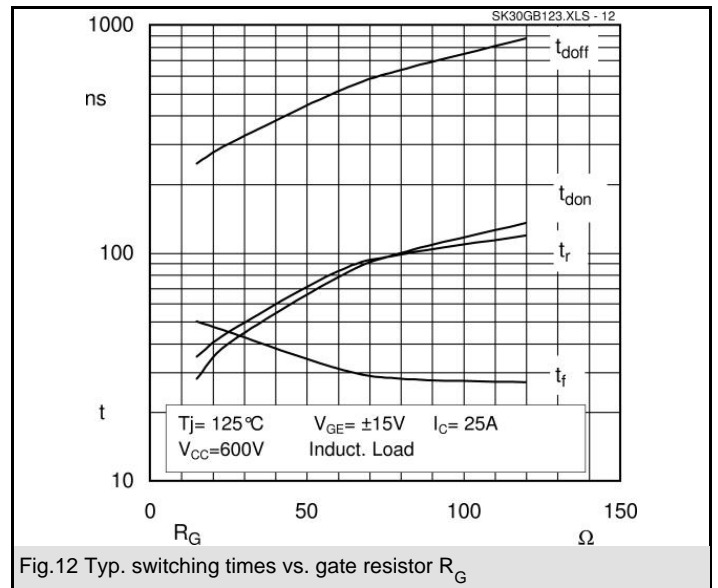
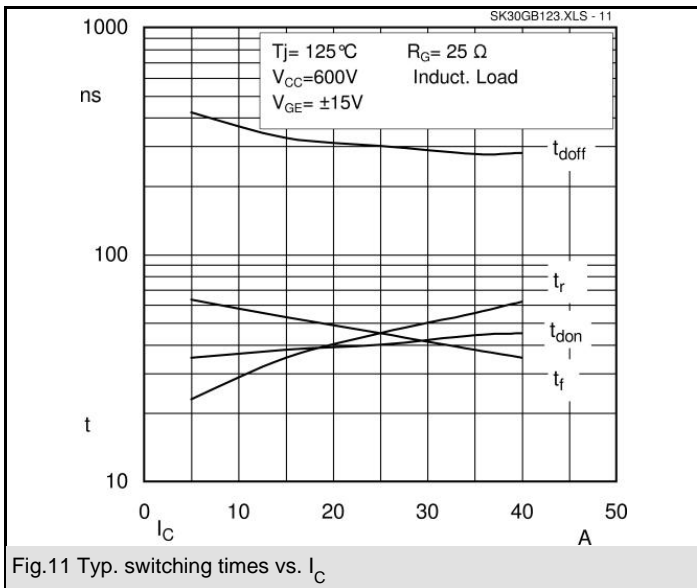
Characteristics		T <sub>s</sub> = 25 °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
<b>IGBT</b>					
V <sub>CE(sat)</sub>	I <sub>C</sub> = 25 A, T <sub>j</sub> = 25 (125) °C		2,5 (3,1)	3 (3,7)	V
V <sub>GE(th)</sub>	V <sub>CE</sub> = V <sub>GE</sub> ; I <sub>C</sub> = 0,001 A	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		1,65		nF
R <sub>th(j-s)</sub>	per IGBT			1	K/W
	per module				K/W
under following conditions:					
t <sub>d(on)</sub>	V <sub>CC</sub> = 600 V, V <sub>GE</sub> = ± 15 V		40		ns
t <sub>r</sub>	I <sub>C</sub> = 25 A, T <sub>j</sub> = 125 °C		45		ns
t <sub>d(off)</sub>	R <sub>Gon</sub> = R <sub>Goff</sub> = 25 Ω		300		ns
t <sub>f</sub>			45		ns
E <sub>on</sub> + E <sub>off</sub>	Inductive load		6,1		mJ
<b>Inverse/Freewheeling CAL diode</b>					
V <sub>F</sub> = V <sub>EC</sub>	I <sub>F</sub> = 25 A; T <sub>j</sub> = 25 (125) °C		2 (1,8)	2,5 (2,3)	V
V <sub>(TO)</sub>	T <sub>j</sub> = (125) °C		(1)	(1,2)	V
r <sub>T</sub>	T <sub>j</sub> = (125) °C		(32)	(44)	mΩ
R <sub>th(j-s)</sub>				1,2	K/W
under following conditions:					
I <sub>RRM</sub>	I <sub>F</sub> = 22 A; V <sub>R</sub> = 600 V		25		A
Q <sub>rr</sub>	di <sub>F</sub> /dt = -500 A/μs		4,5		μC
E <sub>off</sub>	V <sub>GE</sub> = 0 V; T <sub>j</sub> = 125 °C		1		mJ
<b>Mechanical data</b>					
M1	mounting torque			2	Nm
w			19		g
Case	SEMITOP® 2		T 8		



# SK 30 GB 123



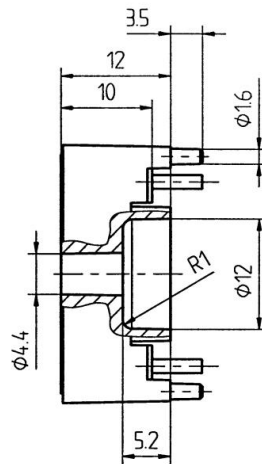
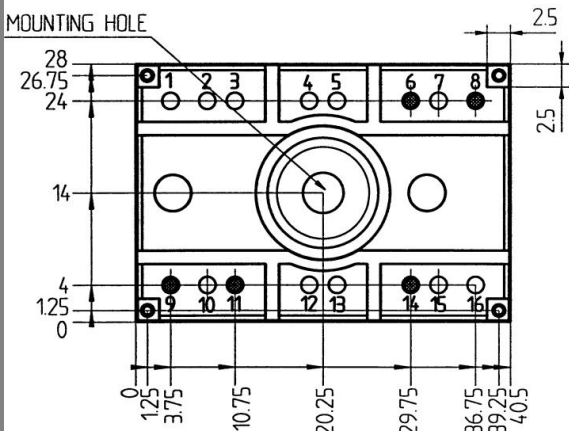
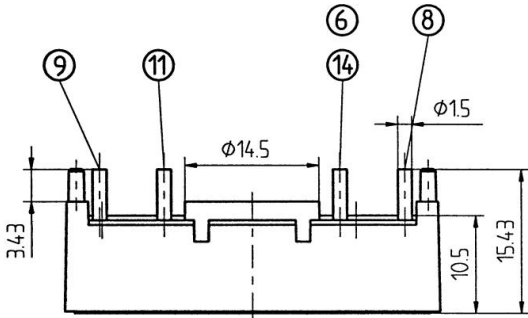
# SK 30 GB 123



# SK 30 GB 123

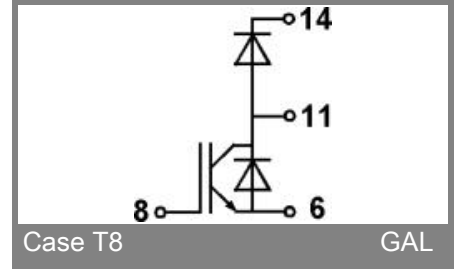
UL Recognized  
File no. E 63532

Dimensions in mm



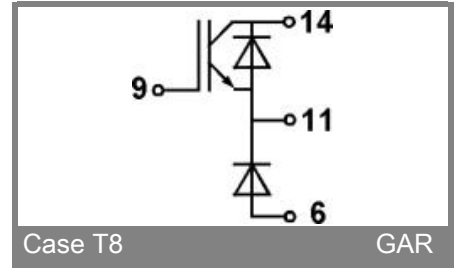
SUGGESTED HOLEDIAMETER FOR THE SOLDER PINS AND THE MOUNTING PINS IN THE PCB: 2 mm

Case T8



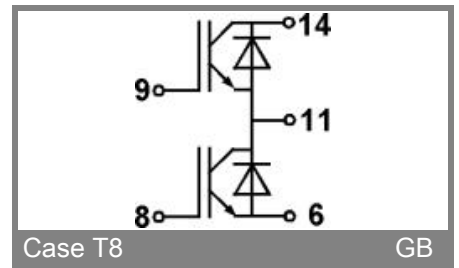
Case T8

GAL



Case T8

GAR



Case T8

GB

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

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