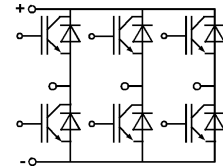


## SEMITOP® 3 IGBT Module

### SK 8 GD 062

Preliminary Data



GD

Absolute Maximum Ratings		Values	Units
Symbol	Conditions <sup>1)</sup>		
V <sub>CES</sub>		600	V
V <sub>GES</sub>		± 20	V
I <sub>C</sub>	T <sub>h</sub> = 25/80 °C	12 / 8	A
I <sub>CM</sub>	t <sub>p</sub> < 1 ms; T <sub>h</sub> = 25/80 °C	24 / 16	A
I <sub>F</sub> = -I <sub>C</sub>	T <sub>h</sub> = 25/80 °C	22 / 15	A
I <sub>FM</sub> = -I <sub>CM</sub>	t <sub>p</sub> < 1 ms; T <sub>h</sub> = 25/80 °C	44 / 30	A
T <sub>J</sub> , (T <sub>stg</sub> )		- 40 ... +(125) 150	°C
T <sub>sol</sub>	Terminals, 10 s	260	°C
V <sub>isol</sub>	AC, 1 min	2500	V

Characteristics		min.	typ.	max.	Units
Symbol	Conditions <sup>1)</sup>				
V <sub>CEsat</sub>	I <sub>C</sub> = 5 A; T <sub>J</sub> = 25 (125) °C	-	2,1(2,2)	2,7(2,8)	V
t <sub>d(on)</sub>	V <sub>CC</sub> = 300 V; V <sub>GE</sub> = ± 15 V	-	70	-	ns
t <sub>r</sub>	I <sub>C</sub> = 5 A; T <sub>J</sub> = 125 °C	-	40	-	ns
t <sub>d(off)</sub>	R <sub>Gon</sub> = R <sub>Goff</sub> = 200 Ω	-	470	-	ns
t <sub>f</sub>	inductive load	-	75	-	ns
E <sub>on</sub> + E <sub>off</sub>		-	0,53	-	mJ
C <sub>ies</sub>	V <sub>CE</sub> = 25 V; V <sub>GE</sub> = 0V, 1 MHz	-	0,29	-	nF
R <sub>thjh</sub>	per IGBT	-	-	2,6	K/W
Inverse Diode <sup>2)</sup>					
V <sub>F</sub> = V <sub>EC</sub>	I <sub>F</sub> = 10 A; T <sub>J</sub> = 25 (125) °C	-	1,45(1,4)	1,7(1,7)	V
V <sub>TO</sub>	T <sub>J</sub> = 125 °C	-	0,85	0,9	V
r <sub>T</sub>	T <sub>J</sub> = 125 °C	-	55	80	mΩ
I <sub>R</sub> RM	I <sub>F</sub> = 10 A; V <sub>R</sub> = 300 V	-	13	-	A
Q <sub>rr</sub>	di <sub>F</sub> /dt = - 200 A/μs	-	1,5	-	μC
E <sub>off</sub>	V <sub>GE</sub> = 0 V; T <sub>J</sub> = 125 °C	-	0,45	-	mJ
R <sub>thjh</sub>	per Diode	-	-	2,3	K/W
Mechanical Data					
M <sub>1</sub>	case to heatsink, SI units	-	-	-	Nm
	US units	-	-	-	lb.in.
w		-	-	-	g
Case	SEMITOP® 3	→ B 17 – 24			

### Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- N channel, epitaxial silicon structure (PT Punch-through IGBT)
- High short circuit capability
- Fast and soft inverse CAL-diodes

### Typical Applications

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

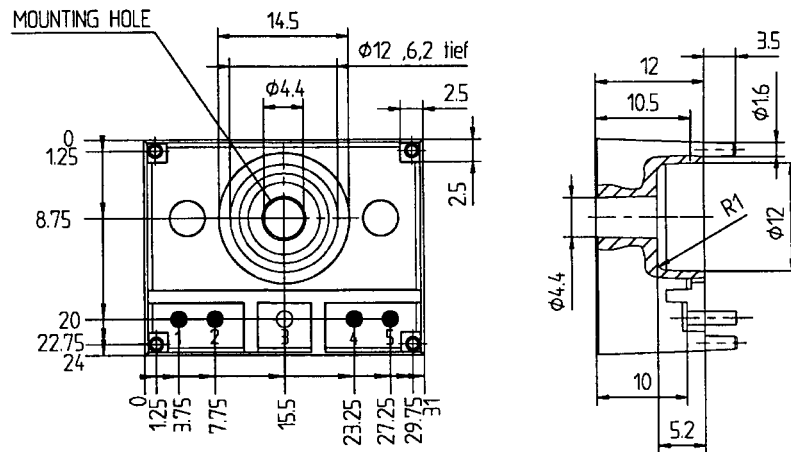
<sup>1)</sup> T<sub>h</sub> = 25 °C, unless otherwise specified

<sup>2)</sup> CAL = Controlled Axial Lifetime Technology ( soft and fast recovery)

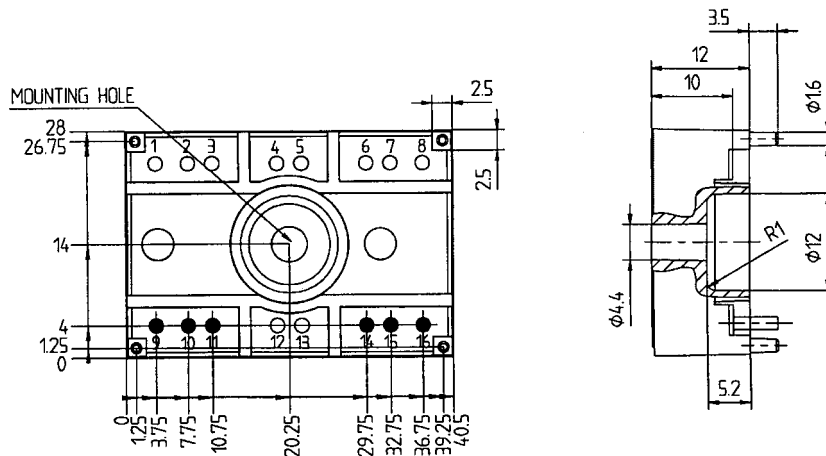
Case → B 17 – 24

## SEMITOR® Cases

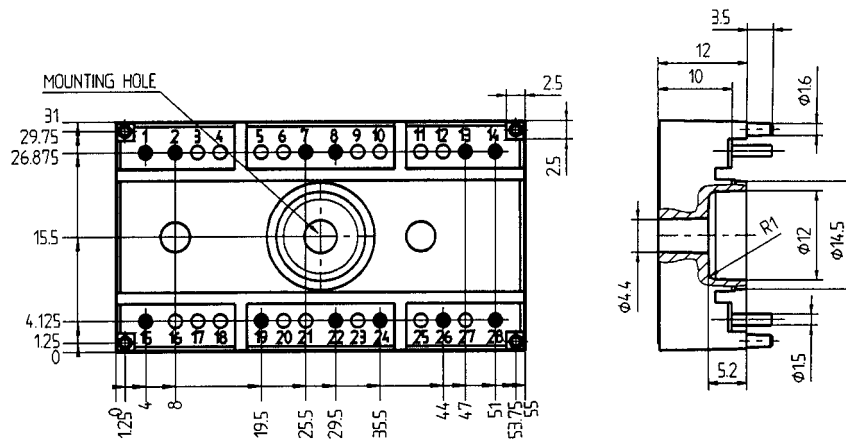
### SEMITOR® 1



### SEMITOR® 2



### SEMITOR® 3



Dimensions in mm