

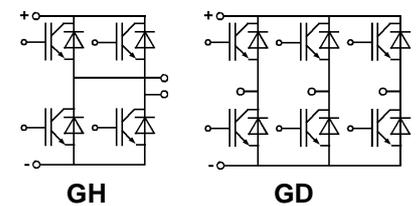
SEMITOP® IGBT Module

SK 10 GH 123
SK 10 GD 123

Preliminary Data

Absolute Maximum Ratings			
Symbol	Conditions ¹⁾	Values	Units
V _{CES}		1200	V
V _{GES}		± 20	V
I _C	T _h = 25/80 °C	16 / 11	A
I _{CM}	t _p < 1 ms; T _h = 25/80 °C	32 / 22	A
I _F = -I _C	T _h = 25/80 °C	18 / 12	A
I _{FM} = -I _{CM}	t _p < 1 ms; T _h = 25/80 °C	36 / 24	A
T _J , (T _{stg})		- 40 ... (+125) 150	°C
T _{sol}	Terminals, 10 s	260	°C
V _{isol}	AC, 1 min	2500	V

Characteristics					
Symbol	Conditions ¹⁾	min.	typ.	max.	Units
V _{CEsat}	I _C = 10 A; T _J = 25 (125) °C	-	2,7(3,3)	3,2(3,9)	V
t _{d(on)}	V _{CC} = 600 V; V _{GE} = ± 15 V	-	55	110	ns
t _r	I _C = 10 A; T _J = 125 °C	-	50	100	ns
t _{d(off)}	R _{Gon} = R _{Goff} = 150 Ω	-	380	570	ns
t _f	inductive load	-	80	120	ns
E _{on} + E _{off}		-	2,7	-	mJ
C _{ies}	V _{CE} = 25 V; V _{GE} = 0V, 1 MHz	-	0,53	-	nF
R _{thjh}	per IGBT	-	-	1,8	K/W
Inverse Diode ²⁾					
V _F = V _{EC}	I _F = 10 A; T _J = 25 (125) °C	-	2,0(1,8)	2,5(2,3)	V
V _{TO}	T _J = 125 °C	-	1,0	1,2	V
r _T	T _J = 125 °C	-	80	110	mΩ
I _R RM	I _F = 10 A; V _R = 600 V	-	12	-	A
Q _{rr}	di _F /dt = - 300 A/μs	-	1,8	-	μC
E _{off}	V _{GE} = 0 V; T _J = 125 °C	-	0,4	-	mJ
R _{thjh}	per Diode	-	-	2,1	K/W
Mechanical Data					
M ₁	case to heatsink, SI units	-	-	-	
	SK 10 GH 123	-	-	2	Nm
	SK 10 GD 123	-	-	-	Nm
w	SK 10 GH 123	-	-	-	g
	SK 10 GD 123	-	-	-	g
Case	SK 10 GH 123 SEMITOP® 2 SK 10 GD 123 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, homogeneous silicon structure (NPT Non-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

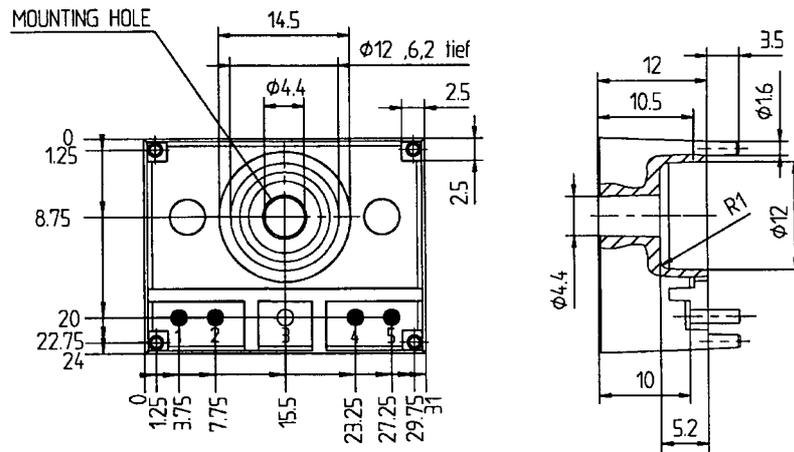
¹⁾ T_h = 25 °C, unless otherwise specified

²⁾ CAL = Controlled Axial Lifetime Technology (soft and fast recovery)

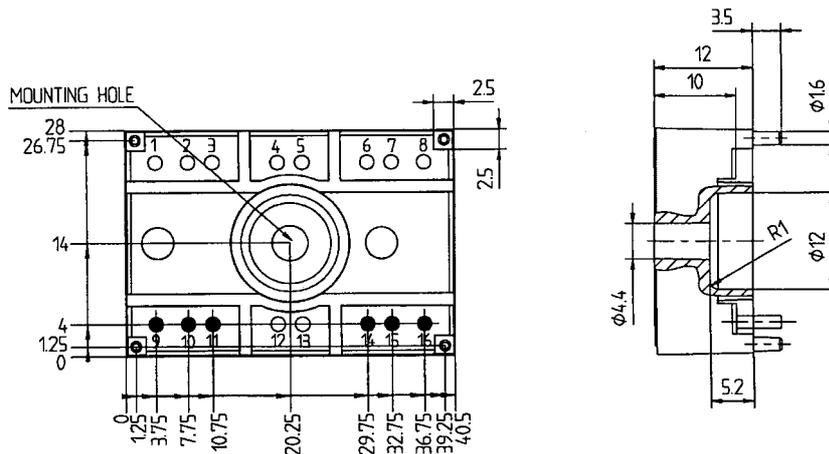
Cases → B 17 – 24

SEMITOR® Cases

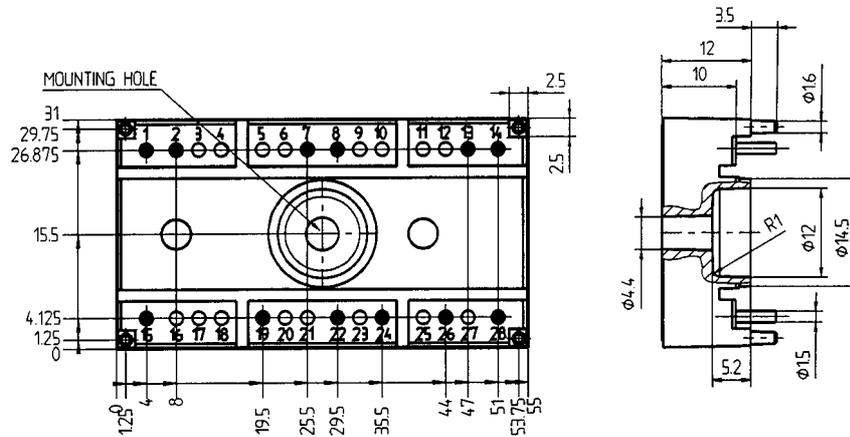
SEMITOR® 1



SEMITOR® 2



SEMITOR® 3



Dimensions in mm