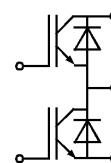


Absolute Maximum Ratings			
Symbol	Conditions ¹⁾	Values	Units
V_{CES}		600	V
V_{GES}		± 20	V
I_C	$T_h = 25/80\text{ °C}$	30 / 21	A
I_{CM}	$t_p < 1\text{ ms}; T_h = 25/80\text{ °C}$	60 / 42	A
$I_F = -I_C$	$T_h = 25/80\text{ °C}$	36 / 24	A
$I_{FM} = -I_{CM}$	$t_p < 1\text{ ms}; T_h = 25/80\text{ °C}$	72 / 48	A
$T_j, (T_{stg})$		- 40 ... +(125) 150	°C
T_{sol}	Terminals, 10 s	260	°C
V_{isol}	AC, 1 min	2500	V

SEMITOP® 1 IGBT Module

SK 25 GB 063

Preliminary Data



GB

Characteristics		min.	typ.	max.	Units
Symbol	Conditions ¹⁾				
V_{CEsat}	$I_C = 30\text{ A}; T_j = 25\text{ (125) °C}$	–	2,1	–	V
$t_{d(on)}$	$V_{CC} = 300\text{ V}; V_{GE} = \pm 15\text{ V}$ $I_C = 30\text{ A}, T_j = 125\text{ °C}$	–	38	–	ns
t_r		–	50	–	ns
$t_{d(off)}$	$R_{Gon} = R_{Goff} = 33\ \Omega$ inductive load	–	210	–	ns
t_f		–	20	–	ns
$E_{on} + E_{off}$	$V_{CE} = 25\text{ V}; V_{GE} = 0\text{ V}, 1\text{ MHz}$ per IGBT	–	2,4	–	mJ
C_{ies}		–	1,6	–	nF
R_{thjh}		–	–	1,4	K/W
Inverse Diode ²⁾					
$V_F = V_{EC}$	$I_F = 25\text{ A}; T_j = 25\text{ (125) °C}$	–	1,5(1,3)	1,7(1,7)	V
V_{TO}	$T_j = 125\text{ °C}$	–	0,85	0,9	V
r_T	$T_j = 125\text{ °C}$	–	18	32	m Ω
I_{RRM}	$I_F = 18\text{ A}; V_R = 300\text{ V}$ $di_F/dt = - 500\text{ A}/\mu\text{s}$ $V_{GE} = 0\text{ V}; T_j = 125\text{ °C}$	–	18	–	A
Q_{rr}		–	1,8	–	μC
E_{off}		–	0,55	–	mJ
R_{thjh}	per Diode	–	–	1,7	K/W
Mechanical Data					
M1 w	case to heatsink, SI units	–	–	1,5	Nm g
Case			T 3		

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
- Low tail current with low temperature dependence

Typical Applications

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

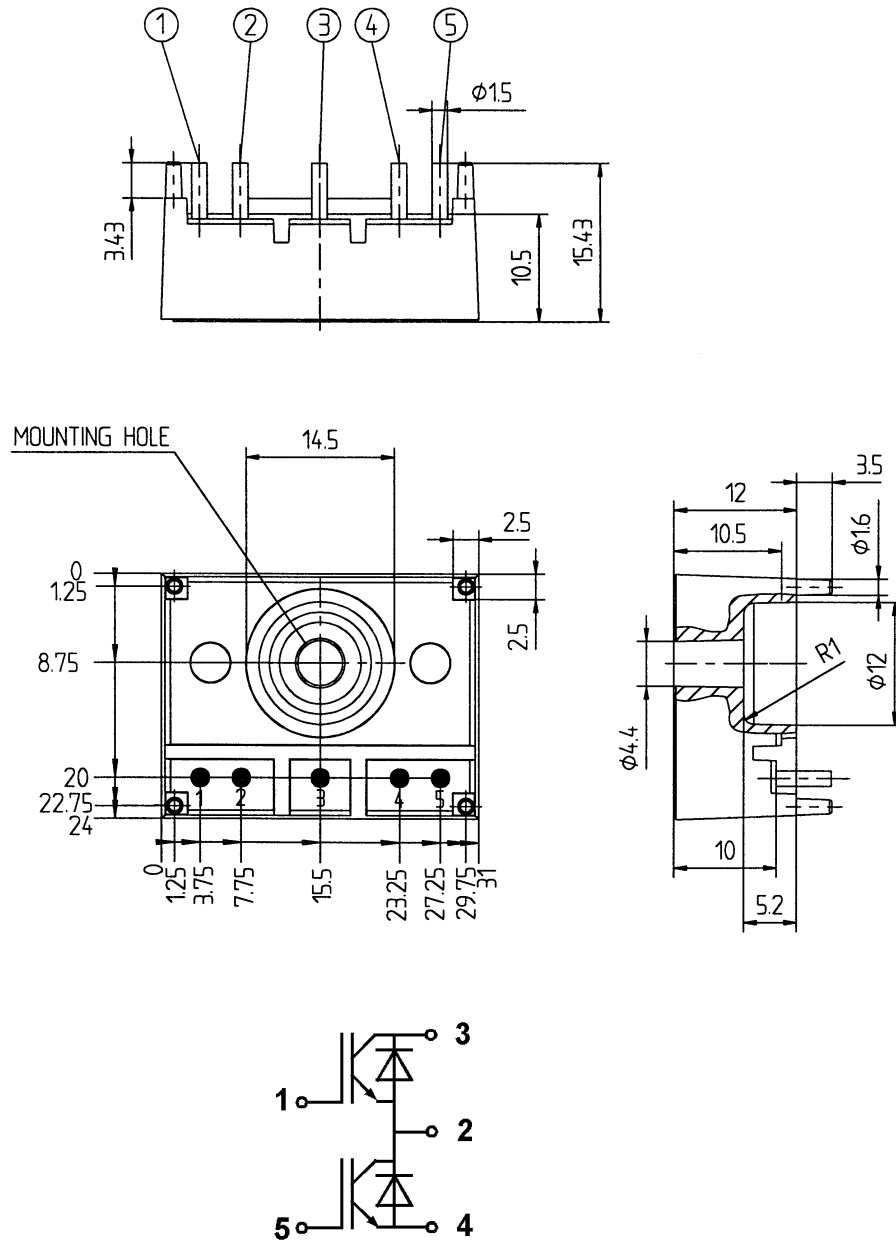
¹⁾ $T_h = 25\text{ °C}$, unless otherwise specified

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

Case → B 17 – 9

SEMITOP® 1
SK 25 GB 063

Case T 3



Dimensions in mm