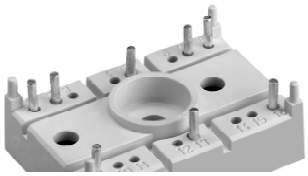
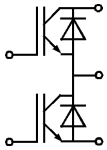
SEMITOP® 2
IGBT Module

SK 45 GB 063

Preliminary Data





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Absolute Maximum Ratings			
Symbol	**Conditions** [1]	**Values**	**Units**
V_{CES}		600	V
V_{GES}		± 20	V
I_C	T_h = 25/80 °C	45 / 30	A
I_{CM}	t_p < 1 ms; T_h = 25/80 °C	90 / 60	A
$I_F = -I_C$	T_h = 25/80 °C	57 / 38	A
$I_{FM} = -I_{CM}$	t_p < 1 ms; T_h = 25/80 °C	114 / 76	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 = 30 A; T_j = 25 (125) °C	–	1,8(2,0)	–	V
$t_{d(on)}$	V_{CC} = 300 V; V_{GE} = ± 15 V	–	45	–	ns
t_r	I_C = 30 A, T_j = 125 °C	–	30	120	ns
$t_{d(off)}$	$R_{Gon} = R_{Goff}$ = 22 Ω	–	300	450	ns
t_f	inductive load	–	32	750	ns
$E_{on} + E_{off}$		–	2,5	–	mJ
C_{ies}		–	2,8	–	nF
R_{thjh}		–	–	1,0	K/W
Inverse Diode [2]					
$V_F = V_{EC}$	I_F = 30 A; T_j = 25 (125) °C	–	1,3(1,2)	1,5(1,45)	V
V_{TO}	T_j = 125 °C	–	0,85	0,9	V
r_T	T_j = 125 °C	–	8	16	mΩ
I_{RRM}	I_F = 30 A; V_R = 300 V	–	30	–	A
Q_{rr}	di_F/dt = - 500 A/µs	–	3,0	–	µC
E_{off}	V_{GE} = 0 V; T_j = 125 °C	–	0,9	–	mJ
R_{thjh}	per Diode	–	–	1,2	K/W
Mechanical Data					
M_1	case to heatsink, SI units	–	–	2	Nm
w				19	g
Case			T 4		

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 °C, unless otherwise specified
[2] CAL = Controlled Axial Lifetime Technology (soft and fast recovery)

Case → B 17 – 12

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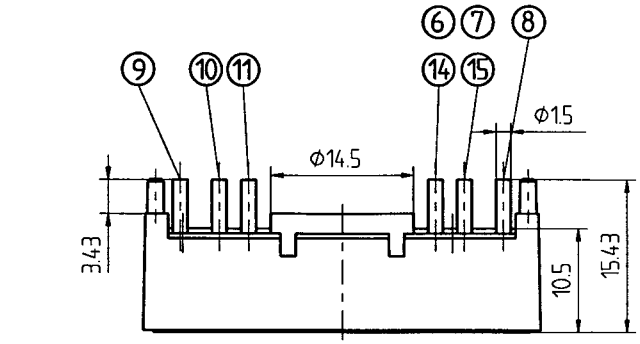
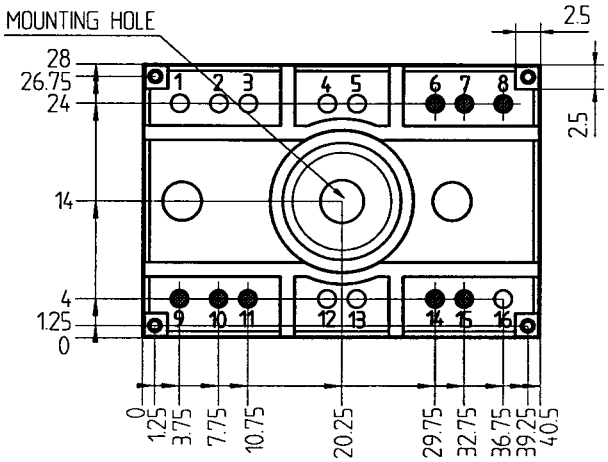
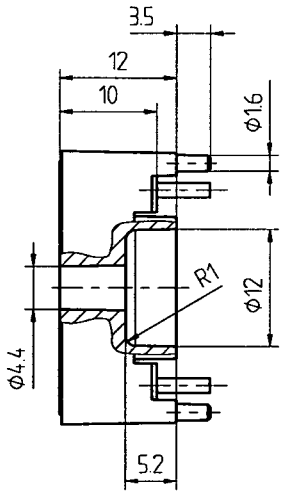
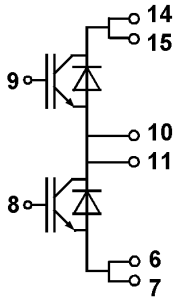
Case T 4









Dimensions in mm

