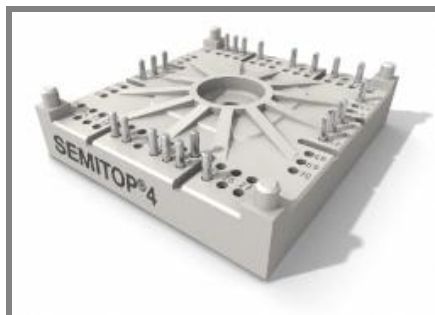


SK 50 GD 126 T



SEMITOP®4

**3-phase bridge rectifier +
brake chopper + 3-phase
bridge inverter**
SK 50 GD 126 T

Target Data

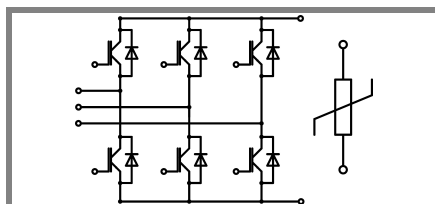
Features

- One screw mounting module
- Fully compatible with SEMITOP®1,2,3
- Improved thermal performances by aluminium oxide substrate
- Trench IGBT technology
- CAL technology FWD
- Integrated NTC temperature sensor

Typical Applications

- Inverter up to 28 kVA
- Typ. motor power 15 kW

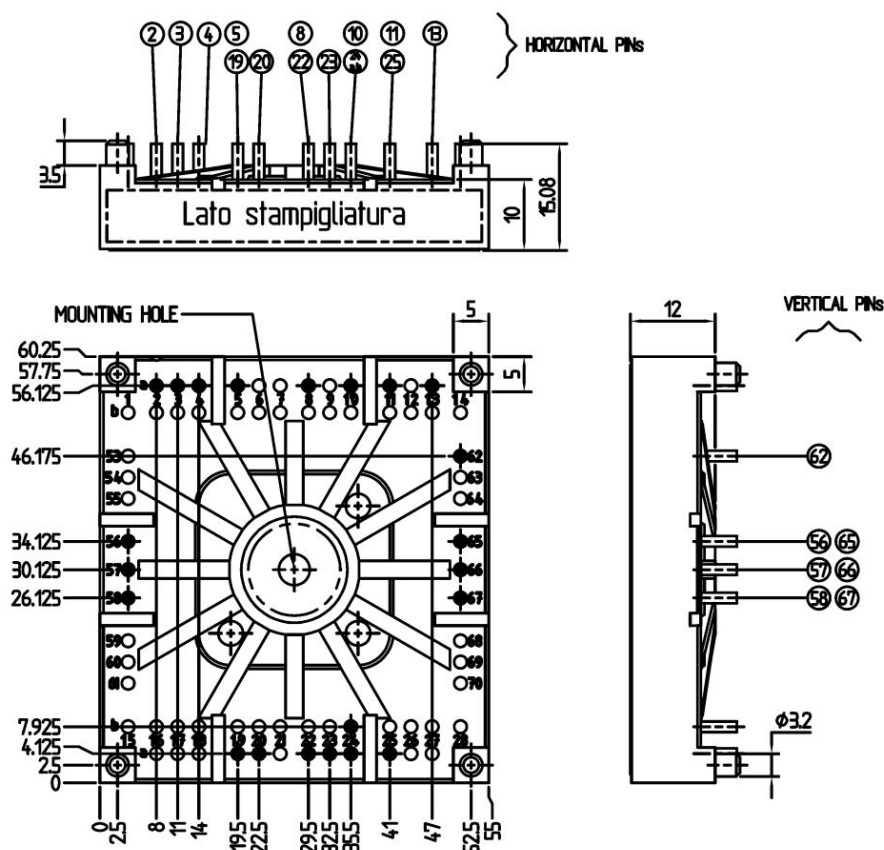
1) $V_{CE,sat}$, V_F = chip level value



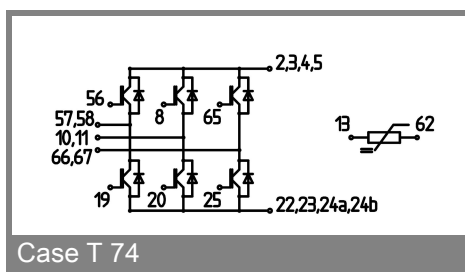
GD - T

Absolute Maximum Ratings		Ts = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Inverter			
V_{CES}		1200	V
I_C	$T_s = 25$ (70) °C	68 (52)	A
I_{CM}	$T_s = 25$ (70) °C, $t_p \leq 1$ ms	136 (104)	A
V_{GES}		± 20	V
T_j		-40 ... +150	°C
Diode - Inverter			
I_F	$T_s = 25$ (70) °C	62 (46)	A
$I_{FM} = -I_{CM}$	$T_s = 25$ (70) °C, $t_p \leq 1$ ms	124 (92)	A
T_j		-40 ... +150	°C
Rectifier			
V_{RRM}			V
I_F	$T_s =$ °C		A
I_{FSM} / I_{TSM}	$t_p =$ ms, $\sin$ °, $T_j =$ °C		A
I_t^2	$t_p =$ ms, $\sin$ °, $T_j =$ °C		A²s
T_j			°C
T_{sol}	Terminals, 10 s	260	°C
T_{stg}		-40 ... +125	°C
V_{isol}	AC, 1 min. / 1 s	2500 / 3000	V

Characteristics		Ts = 25 °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Inverter					
V_{CEsat}	$I_C = 50$ A, $T_j = 25$ (125) °C		1,7 (2)	2,15 (2,45)	V
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 2$ mA	5	5,8	6,5	V
$V_{CE(TO)}$	$T_j = 25$ °C (125) °C		1 (0,9)	1,2 (1,1)	V
r_T	$T_j = 25$ °C (125) °C		14 (22)	19 (27)	mΩ
C_{ies}	$V_{CE} = 25$ V, $V_{GE} = 0$ V, $f = 1$ MHz		-		nF
C_{oes}	$V_{CE} = 25$ V, $V_{GE} = 0$ V, $f = 1$ MHz		-		nF
C_{res}	$V_{CE} = 25$ V, $V_{GE} = 0$ V, $f = 1$ MHz		-		nF
$R_{th(j-s)}$	per IGBT		0,6		K/W
$t_{d(on)}$	under following conditions		-		ns
t_r	$V_{CC} = 600$ V, $V_{GE} = \pm 15$ V		-		ns
$t_{d(off)}$	$I_C = 50$ A, $T_j = 125$ °C		-		ns
t_f	$R_{Gon} = R_{Goff} = 12$ Ω		-		ns
E_{on}	inductive load		5,6		mJ
E_{off}			6,5		mJ
Diode - Inverter					
$V_F = V_{EC}$	$I_F = 50$ A, $T_j = 25$ (125) °C		1,35 (1,35)		V
$V_{(TO)}$	$T_j = 25$ °C (125) °C		0,95 (0,85)		V
r_T	$T_j = 25$ °C (125) °C		8 (10)		mΩ
$R_{th(j-s)}$	per diode		1		K/W
I_{RRM}	under following conditions		-		A
Q_{rr}	$I_F = A$, $V_R = V$		-		μC
E_{rr}	$V_{GE} = 0$ V, $T_j = 125$ °C		-		mJ
	$di_F/dt = - A/\mu s$				
Diode rectifier					
V_F	$I_F = A$, $T_j = 25$ °C				V
$V_{(TO)}$	$T_j =$ °C				V
r_T	$T_j =$ °C				mΩ
$R_{th(j-s)}$	per diode				K/W
Temperatur sensor					
R_{ts}	5 %, $T_r = 25$ (100) °C		5000(493)		Ω
Mechanical data					
w			60		g
M_s	Mounting torque		3,5		Nm



Case T 74



Case T 74

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

This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.