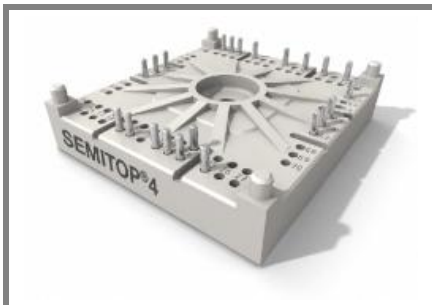


SK 150 GD 066 T



SEMITOP®4

3-phase bridge inverter

SK 150 GD 066 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

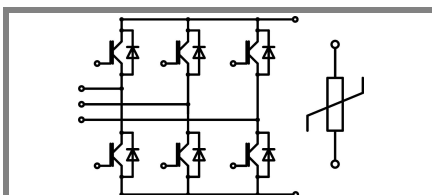
- Inverter up to 32 kVA
- Typ. motor power 15 kW

Remarks

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

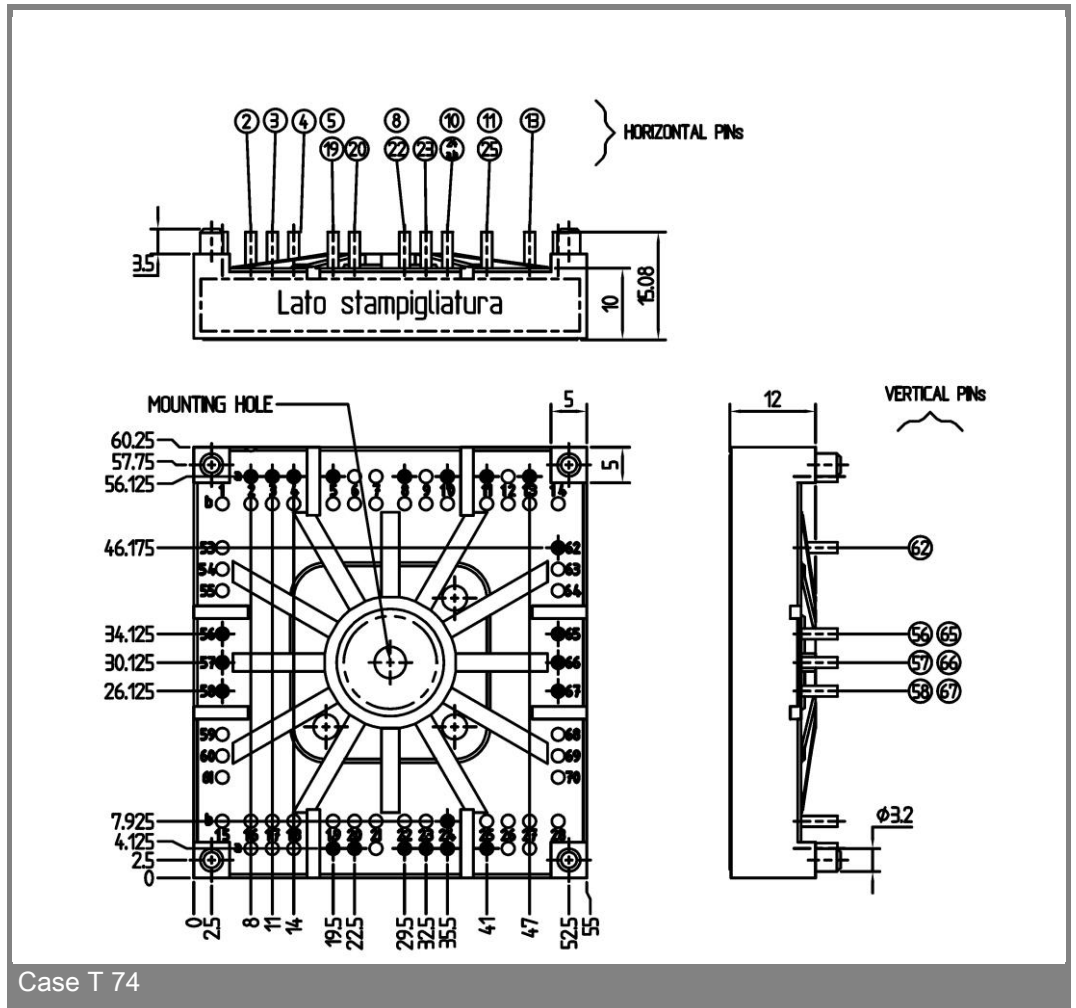
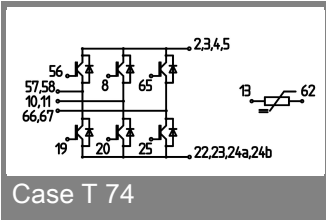
Absolute Maximum Ratings		$T_s = 25^\circ\text{C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Inverter			
V_{CES}		600	V
I_C	$T_s = 25 (70)^\circ\text{C}$, $T_j = 150^\circ\text{C}$	137 (103)	A
I_C	$T_s = 25 (70)^\circ\text{C}$, $T_j = 175^\circ\text{C}$	151 (121)	A
I_{CRM}	$t_p = 1 \text{ ms}$	300	A
V_{GES}		± 20	V
T_j		-40 ... + 175	$^\circ\text{C}$
Diode - Inverter			
I_F	$T_s = 25 (70)^\circ\text{C}$, $T_j = 150^\circ\text{C}$	173 (124)	A
I_F	$T_s = 25 (70)^\circ\text{C}$, $T_j = 175^\circ\text{C}$	198 (152)	A
I_{FRM}	$I_{FRM} = 2xI_{Fnom}$, $t_p = \text{ms}$		
T_j		-40 ... + 175	$^\circ\text{C}$
T_{sol}	Terminals, 10 s	260	$^\circ\text{C}$
T_{stg}		-40 ... + 125	$^\circ\text{C}$
V_{isol}	AC, 1 min.	2500	V

Characteristics		$T_s = 25^\circ\text{C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Inverter					
$V_{CE(sat)}$	$I_{Cnom} = 150 \text{ A}$, $T_j = 25 (125)^\circ\text{C}$		1,45 (1,65)	1,85 (2,05)	V
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 2,4 \text{ mA}$	5	5,8	6,5	V
$V_{CE(TO)}$	$T_j = 25 (150)^\circ\text{C}$		0,8 (0,7)	1,1 (1)	V
r_{CE}	$T_j = 25 (150)^\circ\text{C}$		4 (6,5)	5 (7)	m Ω
C_{ies}	$V_{CE} = 25 \text{ V}$, $V_{GE} = 0 \text{ V}$, $f = 1 \text{ MHz}$		-	-	nF
C_{oes}	$V_{CE} = 25 \text{ V}$, $V_{GE} = 0 \text{ V}$, $f = 1 \text{ MHz}$		-	-	nF
C_{res}	$V_{CE} = 25 \text{ V}$, $V_{GE} = 0 \text{ V}$, $f = 1 \text{ MHz}$		-	-	nF
$R_{th(j-s)}$	per IGBT		0,55		K/W
$t_{d(on)}$	under following conditions		-		ns
t_r	$V_{CC} = 600 \text{ V}$, $V_{GE} = \pm 15 \text{ V}$		-		ns
$t_{d(off)}$	$I_{Cnom} = 150 \text{ A}$, $T_j = 150^\circ\text{C}$		-		ns
t_f	$R_{Gon} = R_{Goff} = 4 \Omega$		-		ns
$E_{on} (E_{off})$	inductive load		5,4 (6)		mJ
Diode - Inverter					
$V_F = V_{EC}$	$I_F = 150 \text{ A}$, $T_j = 25 (150)^\circ\text{C}$		1,3 (1,2)		V
$V_{(TO)}$	$T_j = 25 (150)^\circ\text{C}$		0,85 (0,9)		V
r_T	$T_j = 25 (150)^\circ\text{C}$		3 (2)		m Ω
$R_{th(j-s)}$	per diode		0,54		K/W
I_{RRM}	under following conditions		-		A
Q_{rr}	$I_{Fnom} = \text{A}$, $V_R = \text{V}$		-		μC
E_{rr}	$V_{GE} = 0 \text{ V}$, $T_j = ^\circ\text{C}$ $di_F/dt = - \text{A}/\mu\text{s}$		-		mJ
Temperature Sensor					
R_{ts}	5 %, $T_r = 25 (100)^\circ\text{C}$		5000(493)		Ω
Mechanical Data					
w			60		g
M_s	Mounting torque		3,5		Nm



GD-T

SK 150 GD 066 T



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.