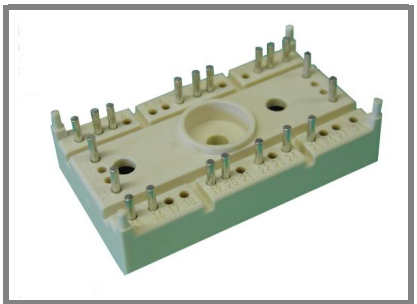
SK 55 DGL 126



SEMITOP® 3

3-phase bridge rectifier + brake chopper

SK 55 DGL 126

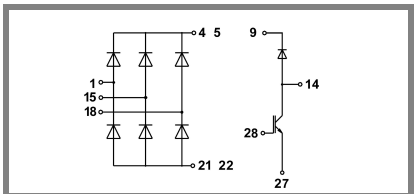
Target Data

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded alumium oxide ceramic (DCB)
- Trench IGBT technology
- CAL Technology FWD

Typical Applications

- Rectifier

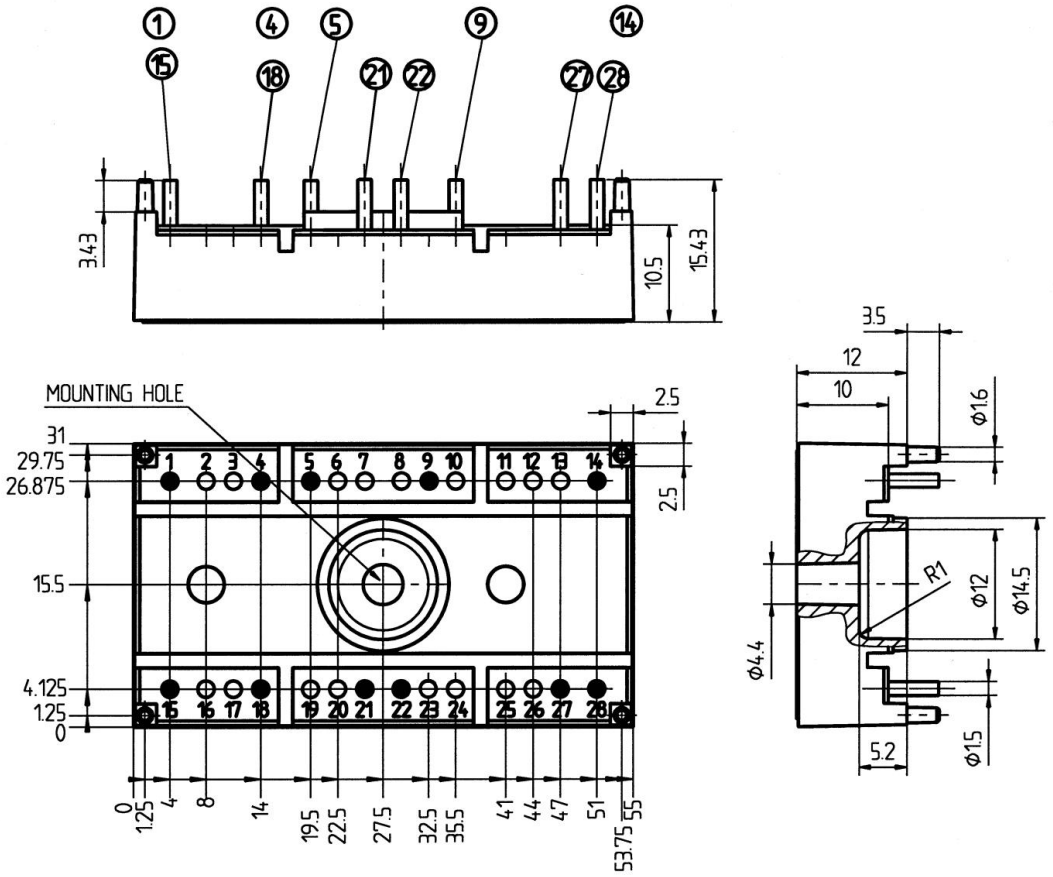


DGL

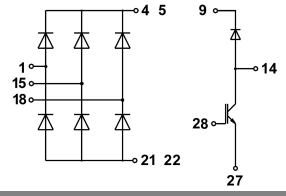
Absolute Maximum Ratings		T_s= 25°C, unless otherwise specified	
Symbol	**Conditions**	**Values**	**Units**
IGBT - Chopper			
V_{CES}		1200	V
I_C	T_s = 25 (80) °C	40 (32)	A
I_{CM}	T_s = 25 (80) °C , tp ≤ 1 ms	80 (64)	A
V_{GES}		±20	V
T_j		-40 ... +150	°C
Diode - Chopper			
I_F	T_s = 25 (80) °C	45 (35)	A
I_{FM} = -I_{CM}	T_s = 25 (80) °C,tp ≤ 1 ms	90 (70)	A
T_j		-40 ... +150	°C
Rectifier			
V_{RRM}		1600	V
I_{FAV} / I_{TAV}	T_s = 80 °C	20	A
I_{FSM} / I_{TSM}	t_p = 10 ms , sin 180 ° ,T_j = 25 °C	370	A
I^2t	t_p = 10 ms , sin 180 ° ,T_j = 25 °C	685	A²s
T_j		-40 ... +150	°C
T_{sol}	Terminals, 10s	260	°C
T_{stg}		-40 ... +125	°C
V_{isol}	AC, 1 min. / 1s	2500 / 3000	V

Characteristics		T_s= 25°C, unless otherwise specified			
Symbol	**Conditions**	**min.**	**typ.**	**max.**	**Units**
IGBT - Chopper					
V_{CEsat}	I_C = 35 A, T_j = 25 (125) °C		1,7 (2)	2,1	V
$V_{GE(th)}$	V_{GE} = V_{CE}, I_C = 1,5 mA	5	5,8	6,5	V
$V_{CE(TO)}$	T_j = 25 °C (125) °C		1 (0,9)	1,2	V
r_T	T_j = 25 °C (125) °C		20 (31)	26	mΩ
C_{ies}	V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz		2,4		nF
C_{oes}	V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz		0,5		nF
C_{res}	V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz		0,4		nF
$R_{th(j-s)}$	per IGBT			1,05	K/W
$t_{d(on)}$	under following conditions		85		ns
t_r	V_{CC} = 300 V, V_{GE} = ± 15 V		30		ns
$t_{d(off)}$	I_C = 30 A, T_j = 125 °C		430		ns
t_f	R_{Gon} = R_{Goff} = 22 Ω		90		ns
E_{on}	inductive load		4,6		mJ
E_{off}			4,3		mJ
Diode - Chopper					
V_F = V_{EC}	I_F = 45 A, T_j = 25 (125) °C		1,5 (1,5)	1,77 (1,77)	V
$V_{(TO)}$	T_j = °C (125) °C		(0,92)		V
r_T	T_j = °C (125) °C		(13,4)		mΩ
$R_{th(j-s)}$	per diode			1,2	K/W
I_{RRM}	under following conditions		30		A
Q_{rr}	I_F = 50 A, V_R = 600 V		10		µC
E_{rr}	V_{GE} = 0 V, T_j = 125 °C				mJ
	$di_{F/dt}$ = 500 A/µs				
Diode rectifier					
V_F	I_F = 25 A, T_j = 25 °C			1,25	V
$V_{(TO)}$	T_j = 150 °C		0,8		V
r_T	T_j = 150 °C		13		mΩ
$R_{th(j-s)}$	per diode		2		K/W
Temperatur sensor					
R_{ts}	%, T_r = ( ) °C		()		Ω
Mechanical data					
w			30		g
M_s	Mounting torque			2,5	Nm

Dimensions in mm



Case T 14 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



Case T 14

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

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