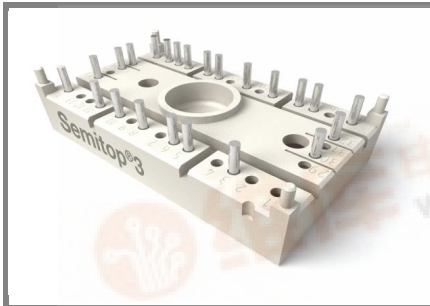


SK 95 DGL 126



SEMITOP® 3

3-phase bridge rectifier +
brake chopper

SK 95 DGL 126

Target Data

Features

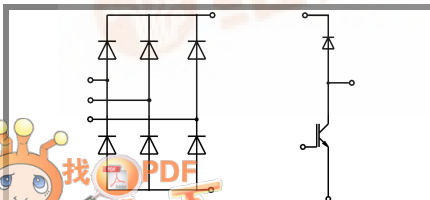
- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminum oxide ceramic (DCB)
- Trench IGBT technology
- CAL Technology FWD

Typical Applications

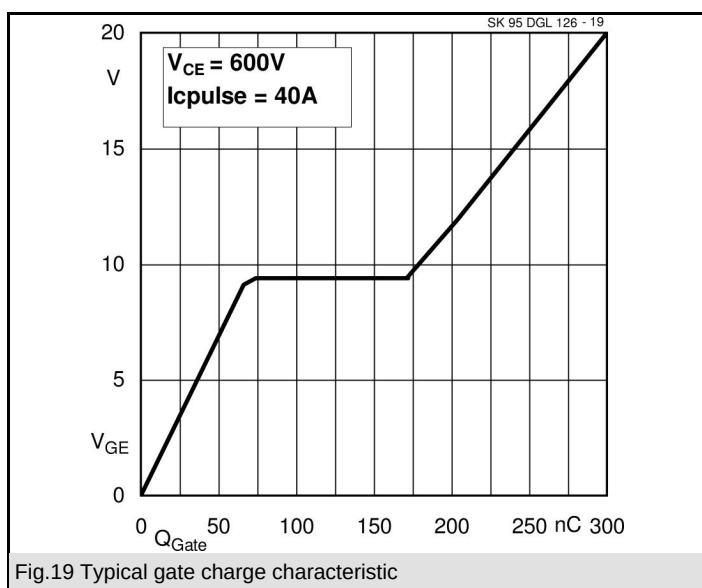
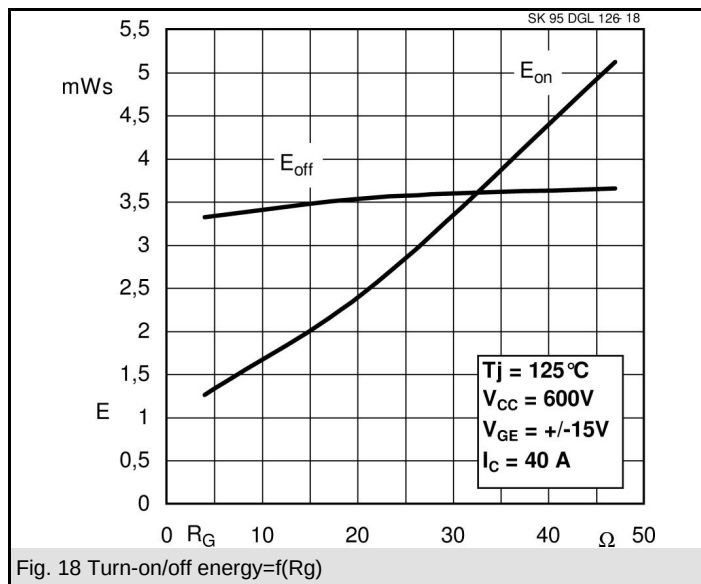
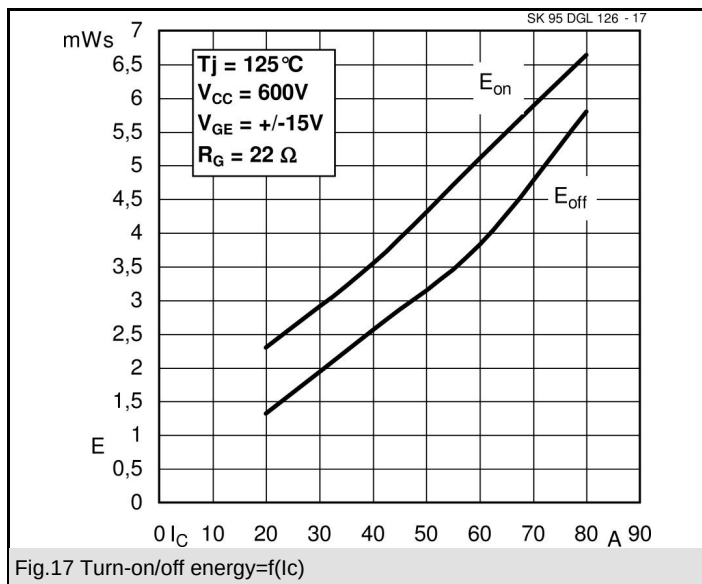
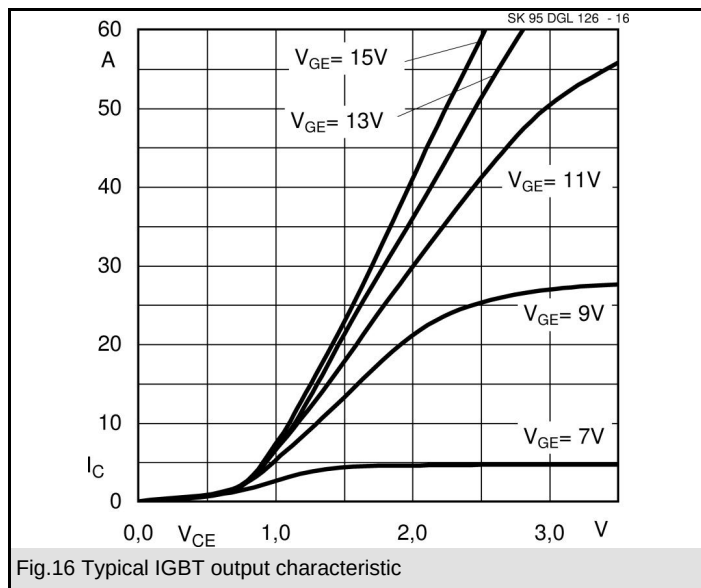
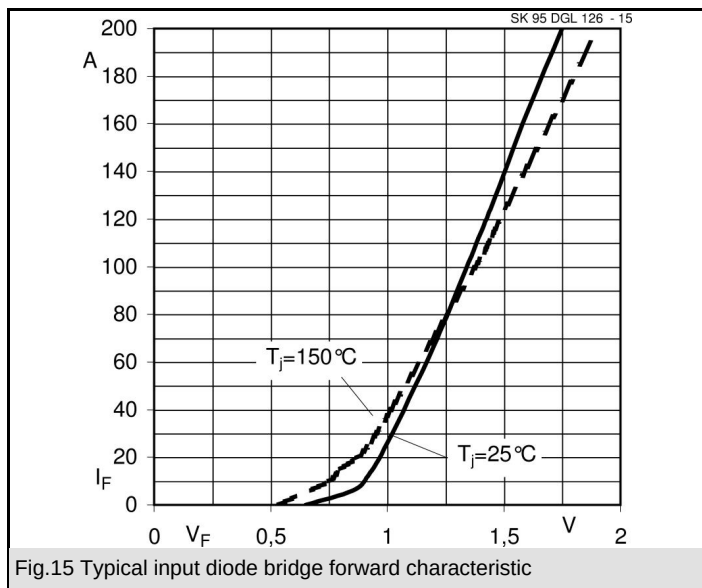
- Rectifier

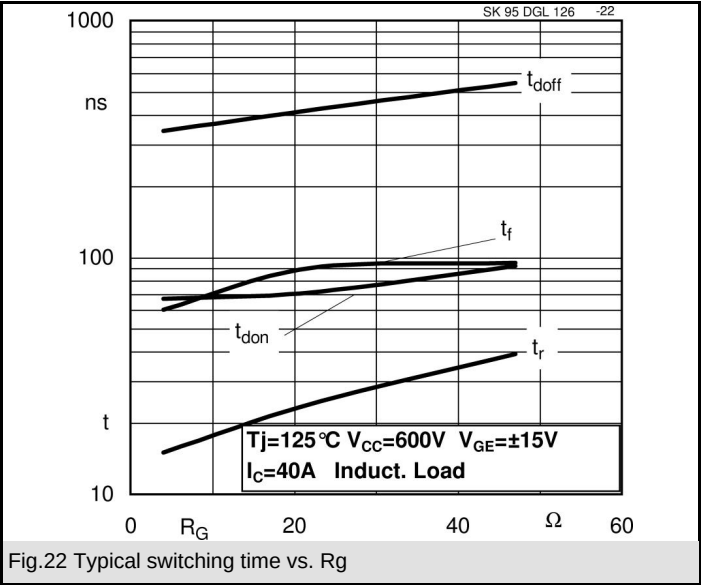
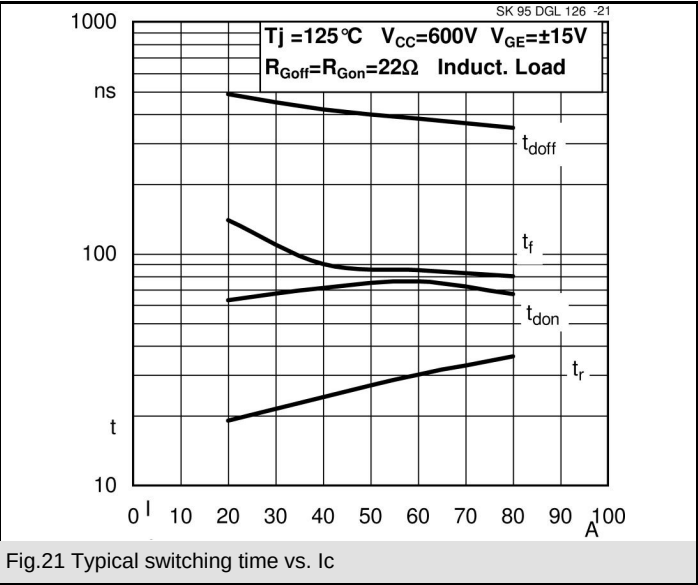
Absolute Maximum Ratings		$T_s = 25^\circ\text{C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Chopper			
V_{CES}		1200	V
I_C	$T_s = 25\ (80)^\circ\text{C}$	40 (32)	A
I_{CRM}	$I_{CRM} = 2 \times I_{Cnom}$, $t_p = 1\ \text{ms}$	70	A
V_{GES}		± 20	V
T_j		$-40 \dots +150$	$^\circ\text{C}$
Diode - Chopper			
I_F	$T_s = 25\ (80)^\circ\text{C}$	45 (35)	A
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$, $t_p = 1\ \text{ms}$	100	A
T_j		$-40 \dots +150$	$^\circ\text{C}$
Rectifier			
V_{RRM}		1600	V
I_D	$T_s = 80^\circ\text{C}$	96	A
I_{FSM} / I_{TSM}	$t_p = 10\ \text{ms}$, $\sin 180^\circ$, $T_j = 25^\circ\text{C}$	700	A
I_t^2	$t_p = 10\ \text{ms}$, $\sin 180^\circ$, $T_j = 25^\circ\text{C}$	2450	A^2s
T_j		$-40 \dots +150$	$^\circ\text{C}$
T_{sol}	Terminals, 10s	260	$^\circ\text{C}$
T_{stg}		$-40 \dots +125$	$^\circ\text{C}$
V_{isol}	AC, 1 min. / 1s	2500 / 3000	V

Characteristics		$T_s = 25^\circ\text{C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Chopper					
V_{CEsat}	$I_C = 35\ \text{A}$, $T_j = 25\ (125)^\circ\text{C}$		1,7 (2)	2,1	V
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 1,5\ \text{mA}$	5	5,8	6,5	V
$V_{CE(TO)}$	$T_j = 25^\circ\text{C}\ (125)^\circ\text{C}$		1 (0,9)	1,2	V
r_T	$T_j = 25^\circ\text{C}\ (125)^\circ\text{C}$		20 (31)	26	$\text{m}\Omega$
C_{ies}	$V_{CE} = 25\ \text{V}$, $V_{GE} = 0\ \text{V}$, $f = 1\ \text{MHz}$		2,4		nF
C_{oes}	$V_{CE} = 25\ \text{V}$, $V_{GE} = 0\ \text{V}$, $f = 1\ \text{MHz}$		0,5		nF
C_{res}	$V_{CE} = 25\ \text{V}$, $V_{GE} = 0\ \text{V}$, $f = 1\ \text{MHz}$		0,4		nF
$R_{th(j-s)}$	per IGBT			1,05	K/W
$t_{d(on)}$	under following conditions		85		ns
t_r	$V_{CC} = 600\ \text{V}$, $V_{GE} = \pm 15\ \text{V}$		30		ns
$t_{d(off)}$	$I_C = 30\ \text{A}$, $T_j = 125^\circ\text{C}$		430		ns
t_f	$R_{Gon} = R_{Goff} = 22\ \Omega$		90		ns
E_{on}	inductive load		4,6		mJ
E_{off}			4,3		mJ
Diode - Chopper					
$V_F = V_{EC}$	$I_F = 45\ \text{A}$, $T_j = 25\ (125)^\circ\text{C}$		1,5 (1,5)	1,77 (1,77)	V
$V_{(TO)}$	$T_j = 125^\circ\text{C}$		(0,92)		V
r_T	$T_j = 125^\circ\text{C}$		(13,4)		$\text{m}\Omega$
$R_{th(j-s)}$	per diode			1,2	K/W
I_{RRM}	under following conditions		30		A
Q_{rr}	$I_F = 50\ \text{A}$, $V_R = 600\ \text{V}$		10		μC
E_{rr}	$V_{GE} = 0\ \text{V}$, $T_j = 125^\circ\text{C}$				mJ
	$di_F/dt = 500\ \text{A}/\mu\text{s}$				
Diode rectifier					
V_F	$I_F = 35\ \text{A}$, $T_j = 25^\circ\text{C}$			1,2	V
$V_{(TO)}$	$T_j = 150^\circ\text{C}$			0,8	V
r_T	$T_j = 150^\circ\text{C}$			11	$\text{m}\Omega$
$R_{th(j-s)}$	per diode			1,2	K/W
Temperatur sensor					
R_{ts}	%, $T_r = ()^\circ\text{C}$		()		Ω
Mechanical data					
w			30		g
M_s	Mounting torque			2,5	Nm



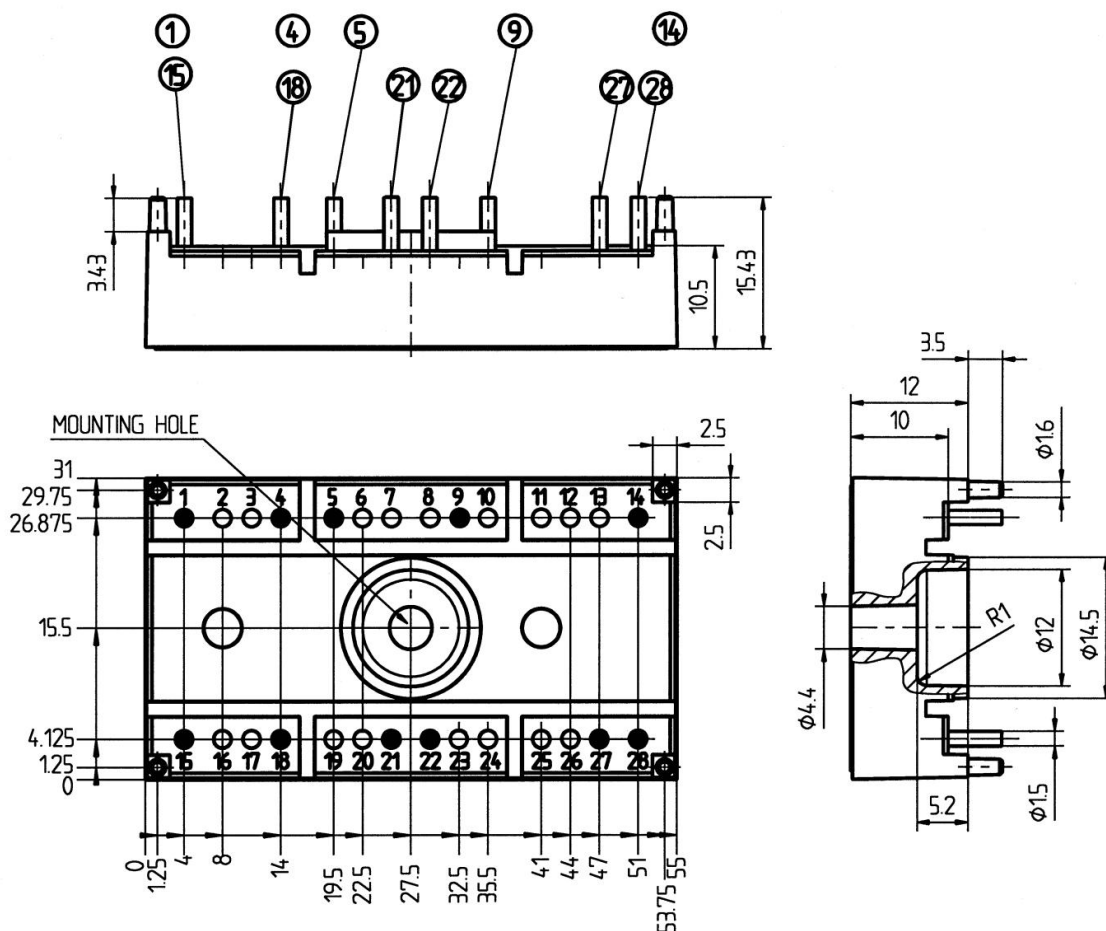
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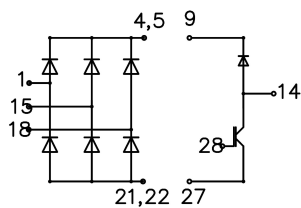


SK 95 DGL 126

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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