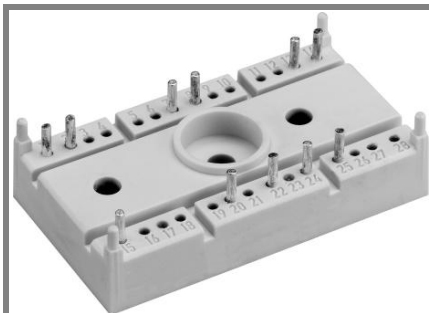


SK 74 DGL 063



SEMITOP® 3

3-phase bridge rectifier + brake chopper

SK 74 DGL 063

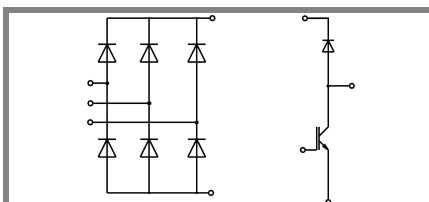
Preliminary Data

Features

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

Typical Applications

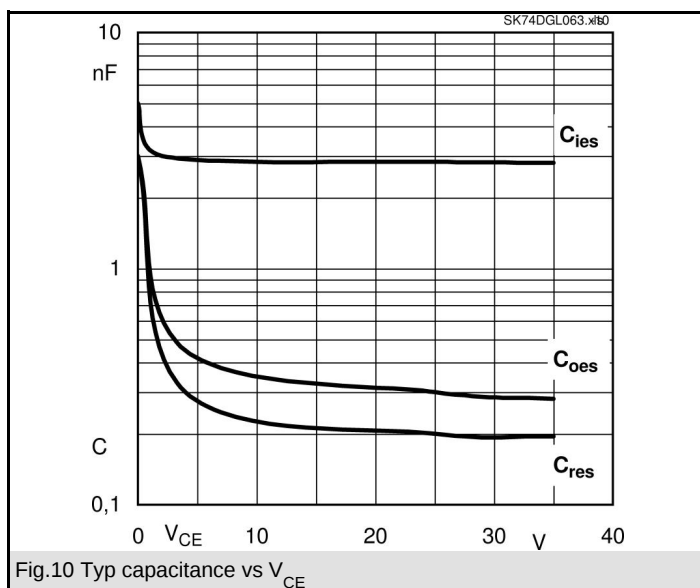
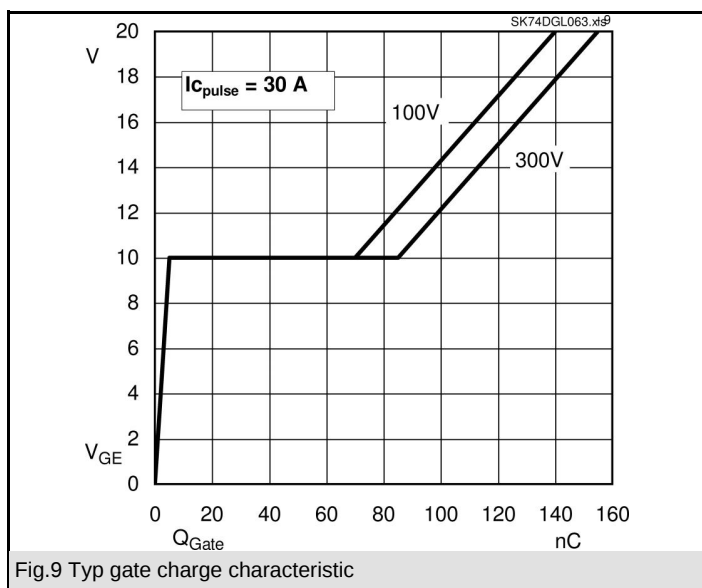
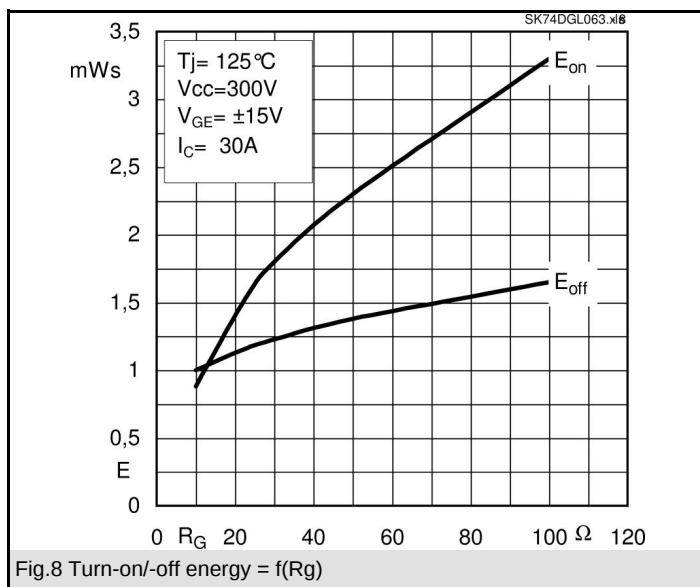
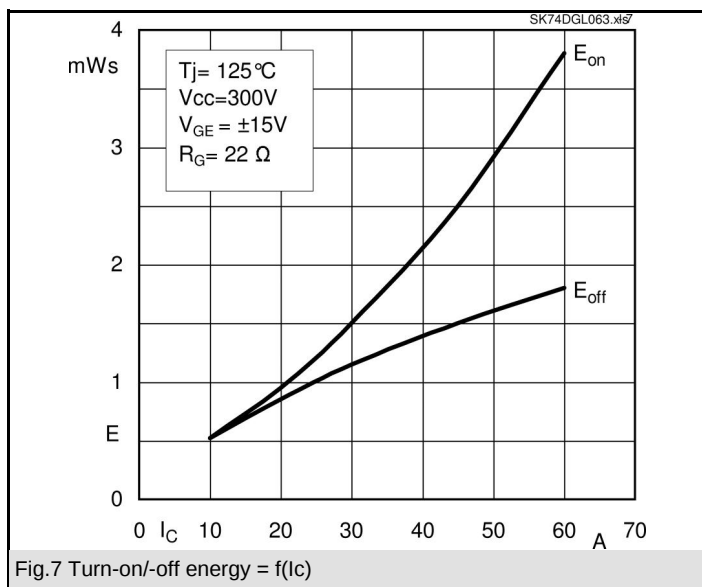
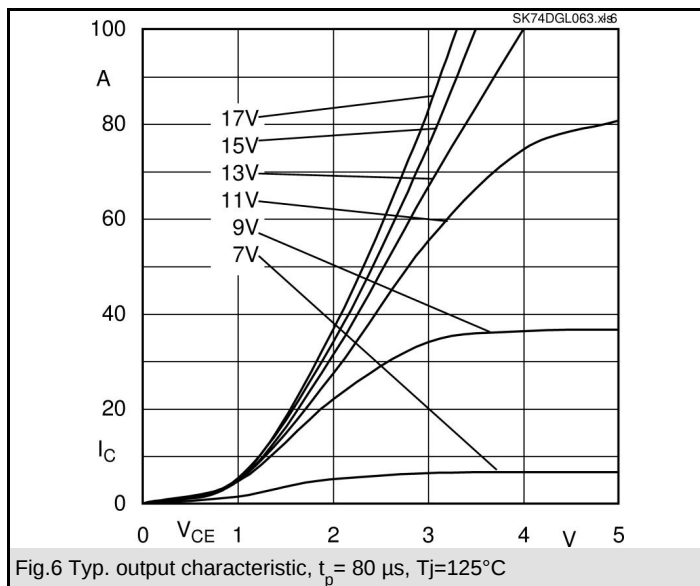
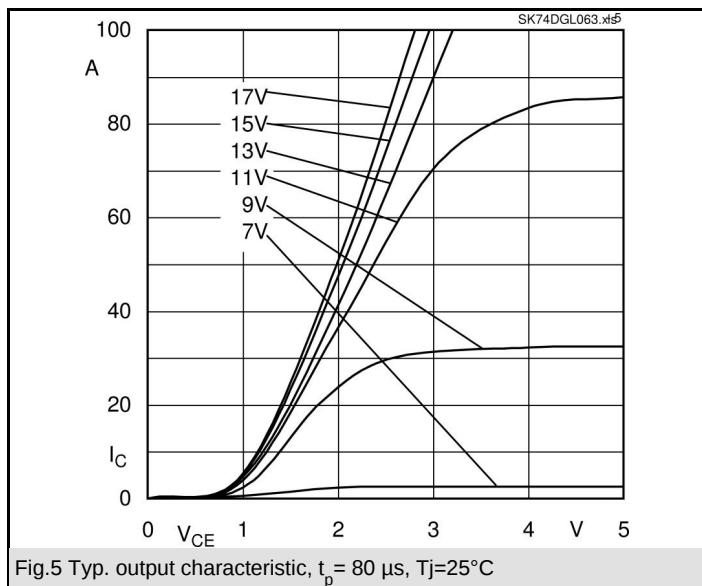
- Rectifier

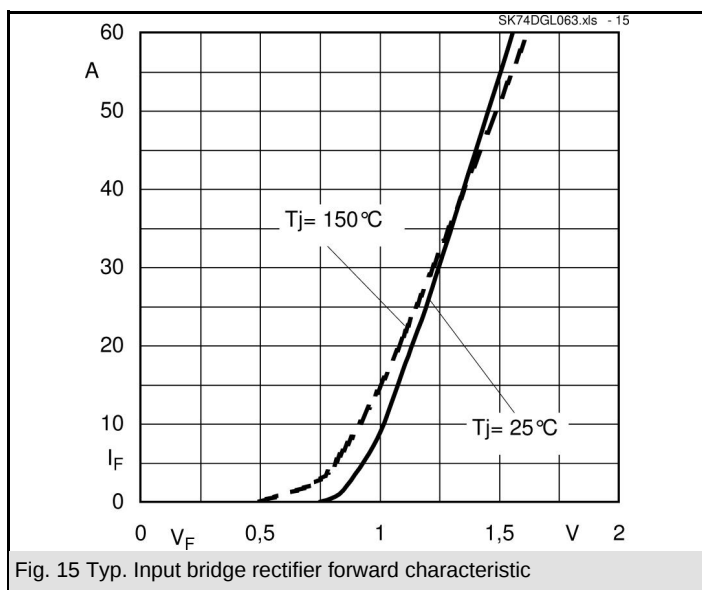
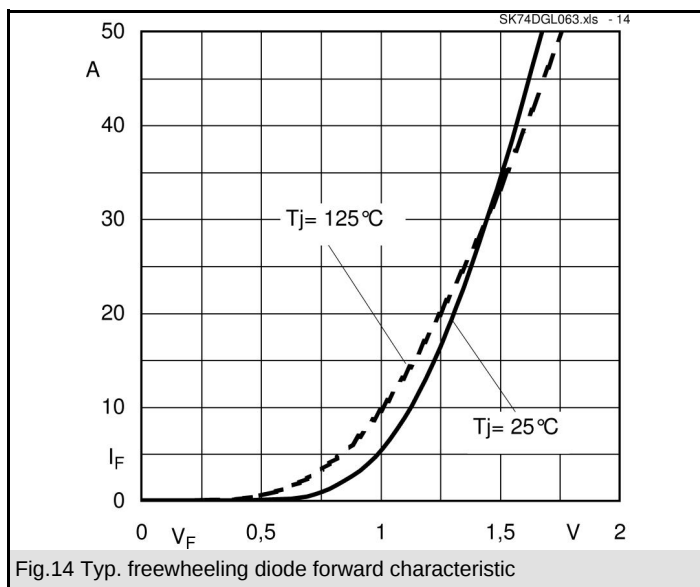
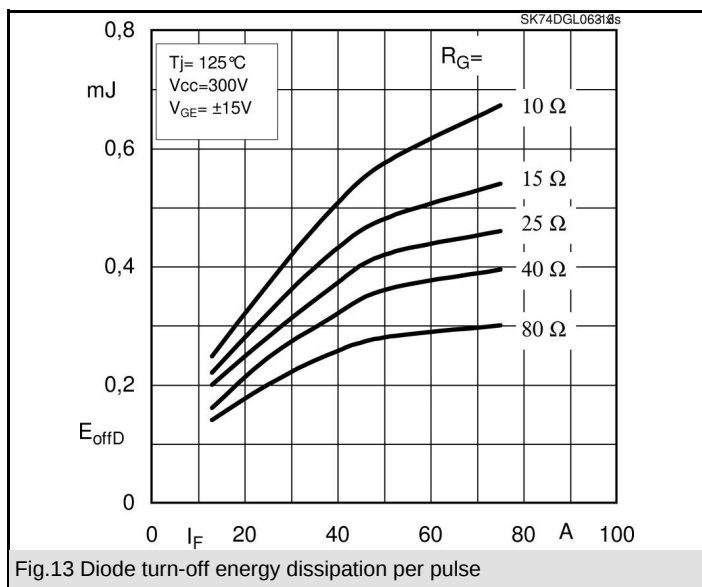
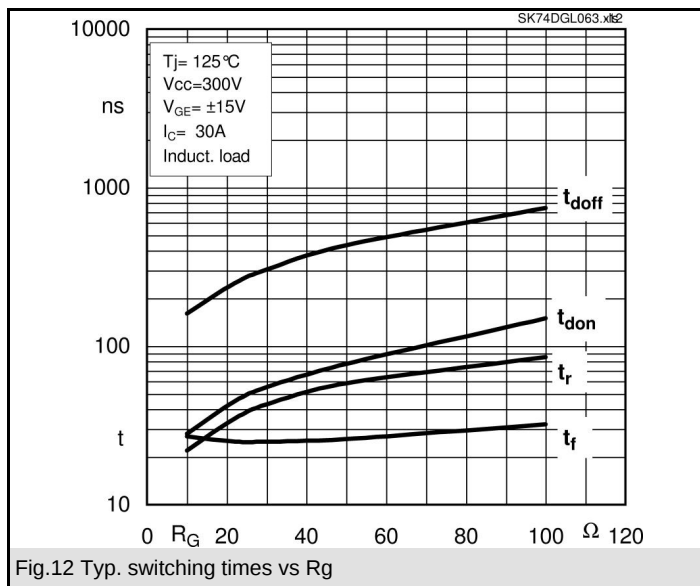
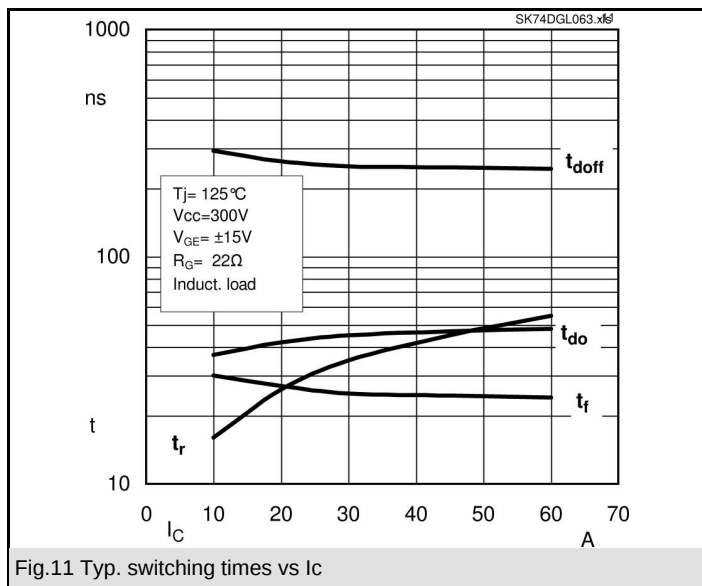


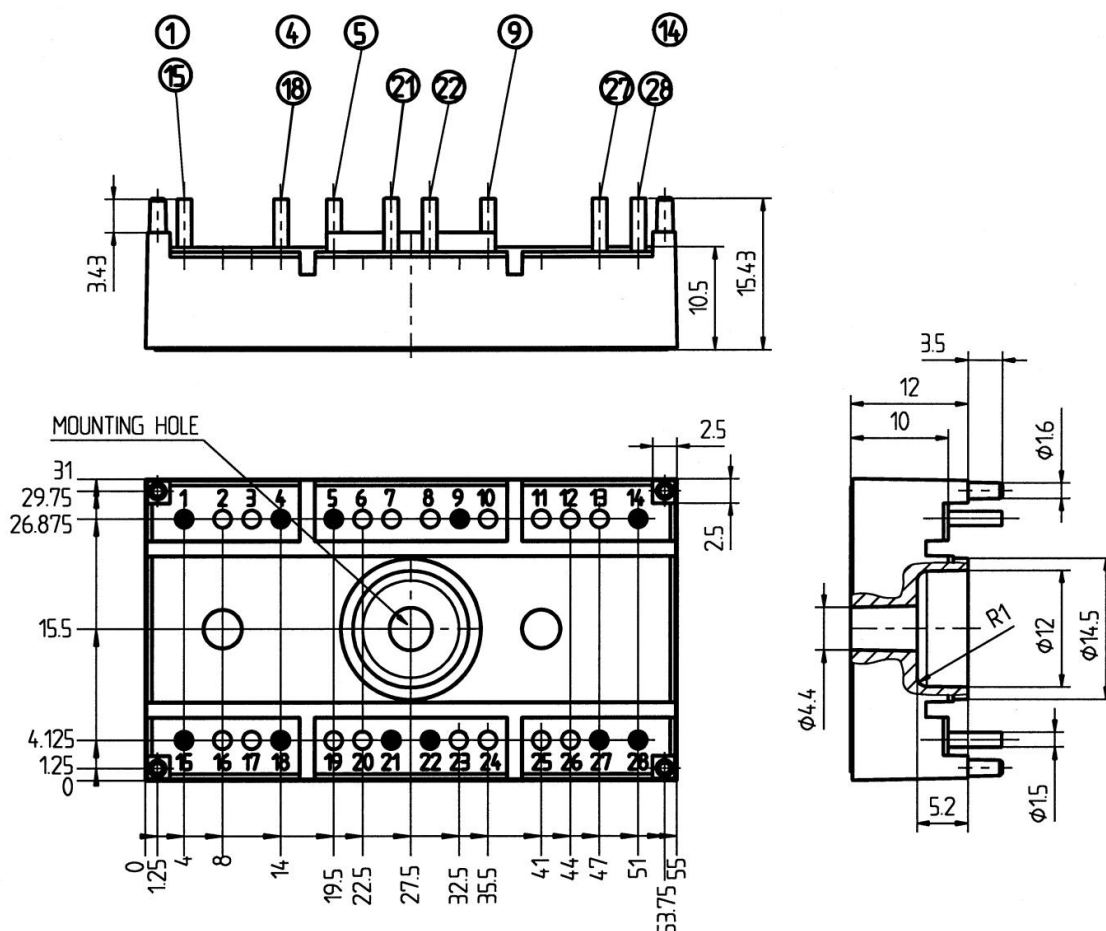
DGL

Absolute Maximum Ratings		$T_s = 25^\circ\text{C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Chopper			
V_{CES}	$T_s = 25 (80)^\circ\text{C}$	600	V
I_C	$I_{CRM} = 2 \times I_{Cnom}$, $t_p = 1 \text{ ms}$	45 (32)	A
I_{CRM}		100	A
V_{GES}		± 20	V
T_j		-40 ... +150	$^\circ\text{C}$
Diode - Chopper			
I_F	$T_s = 25 (80)^\circ\text{C}$	36 (24)	A
I_{FRM}	$I_{FRM} = 2 \times I_{Fnom}$, $t_p = 1 \text{ ms}$	70	A
T_j		-40 ... +150	$^\circ\text{C}$
Rectifier			
V_{RRM}	$T_s = 80^\circ\text{C}$	800	V
I_D	$t_p = 10 \text{ ms}$, $\sin 180^\circ$, $T_j = 25^\circ\text{C}$	74	A
I_{FSM} / I_{TSM}	$t_p = 10 \text{ ms}$, $\sin 180^\circ$, $T_j = 25^\circ\text{C}$	370	A
I_t^2		685	A^2s
T_j		-40 ... +150	$^\circ\text{C}$
T_{sol}	Terminals, 10s	260	$^\circ\text{C}$
T_{stg}		-40 ... +125	$^\circ\text{C}$
V_{isol}	AC, 1 min. / 1s	2500 / 3000	V

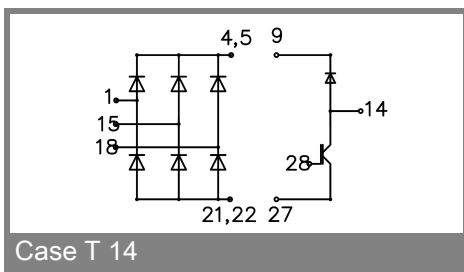
Characteristics		T _s = 25°C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Chopper					
V _{CEsat}	I _C = 30 A, T _j = () °C		1,8 (2)	2,1 (2,3)	V
V _{GE(th)}	V _{GE} = V _{CE} , I _C = 0,5 mA	3	4	5	V
V _{CE(TO)}	T _j = 25 °C (125) °C		0,85 (0,9)		V
r _T	T _j = 25 °C (125) °C		19 (22)		mΩ
C _{ies}	V _{CE} = 25 V, V _{GE} = 0 V, f = 1 MHz		2,6		nF
C _{oes}	V _{CE} = V _{GE} = 0 V, f = 1 MHz		-		nF
C _{res}	V _{CE} = V _{GE} = 0 V, f = 1 MHz		-		nF
R _{th(j-s)}	per IGBT			1	K/W
t _{d(on)}	under following conditions		45		ns
t _r	V _{CC} = 300 V, V _{GE} = ± 15 V		40		ns
t _{d(off)}	I _C = 30 A, T _j = °C		250		ns
t _f	R _{Gon} = R _{Goff} = 22 Ω		30		ns
E _{on}	inductive load		1,45		mJ
E _{off}			1,2		mJ
Diode - Chopper					
V _F = V _{EC}	I _F = 30 A, T _j = () °C		1,45 (1,4)	1,7 (1,75)	V
V _(TO)	T _j = °C (125) °C		(0,85)	(0,9)	V
r _T	T _j = °C (125) °C		(22)	(16)	mΩ
R _{th(j-s)}	per diode			1,7	K/W
I _{RRM}	under following conditions		16		A
Q _{rr}	I _F = 25 A, V _R = 300 V		2		μC
E _{rr}	V _{GE} = 0 V, T _j = °C		25		mJ
	di _F /dt = 500 A/μs				
Diode rectifier					
V _F	I _F = 30 A, T _j = () °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			1,7	K/W
Temperatur sensor					
R _{ts}	%, T _r = () °C		()		Ω
Mechanical data					
w			30		g
M _s	Mounting torque	2,25		2,5	Nm







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



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.