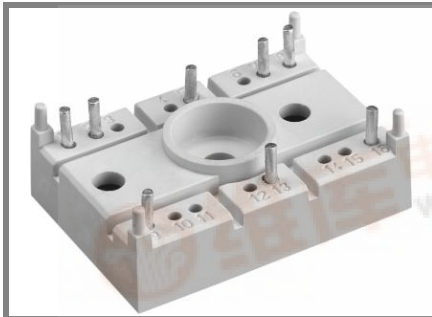


SK 8 BGD 065 E



SEMITOP® 2

1-phase bridge rectifier
+3-phase bridge inverter

SK 8 BGD 065 E

Target Data

Features

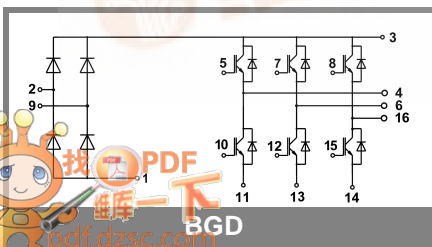
- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminum oxide ceramic (DCB)
- N-channel homogeneous silicon structure (NPT-Non punch-through IGBT)
- High short circuit capability
- Low tail current with low temperature dependance

Typical Applications

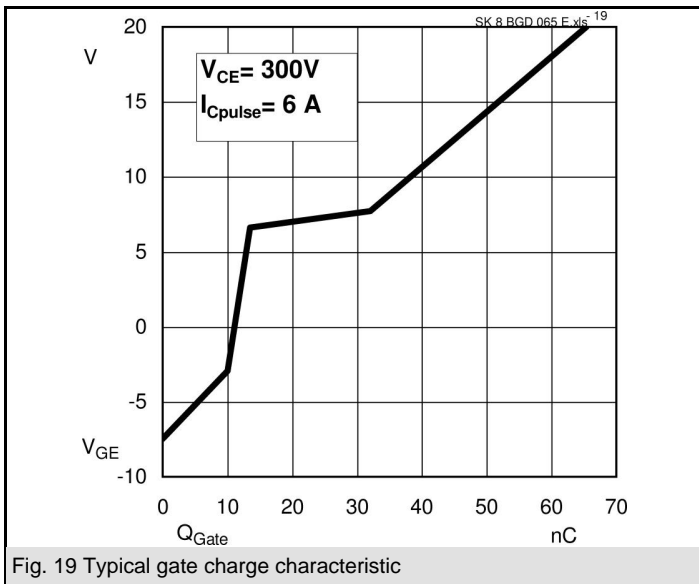
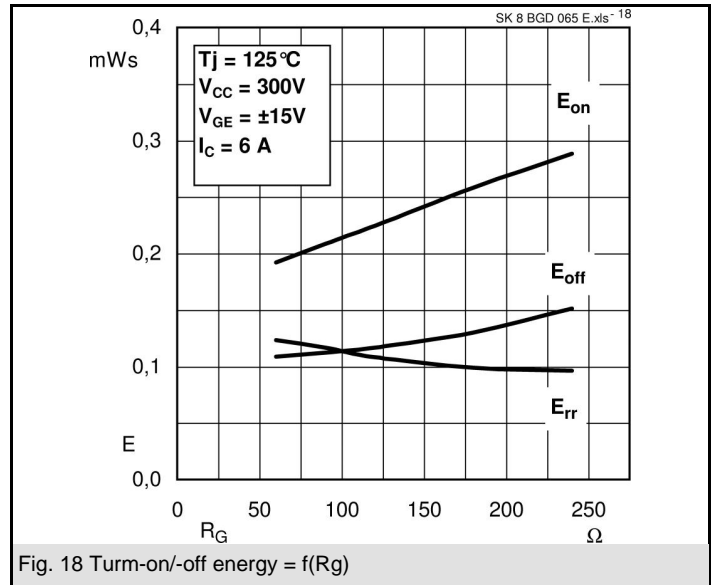
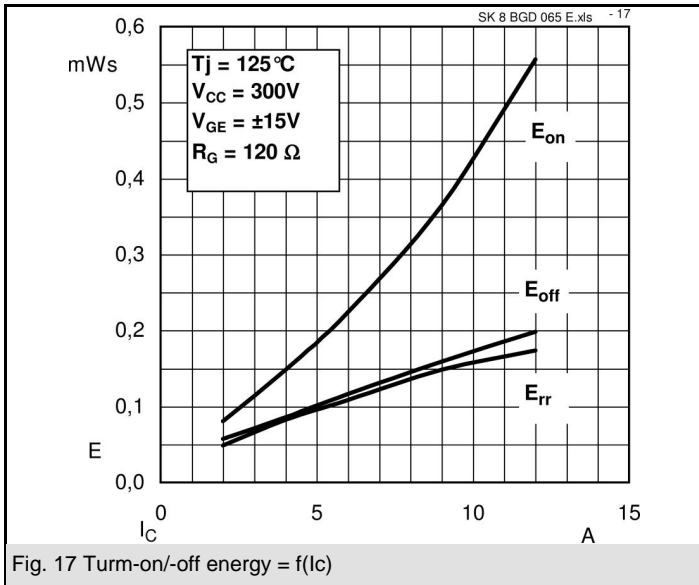
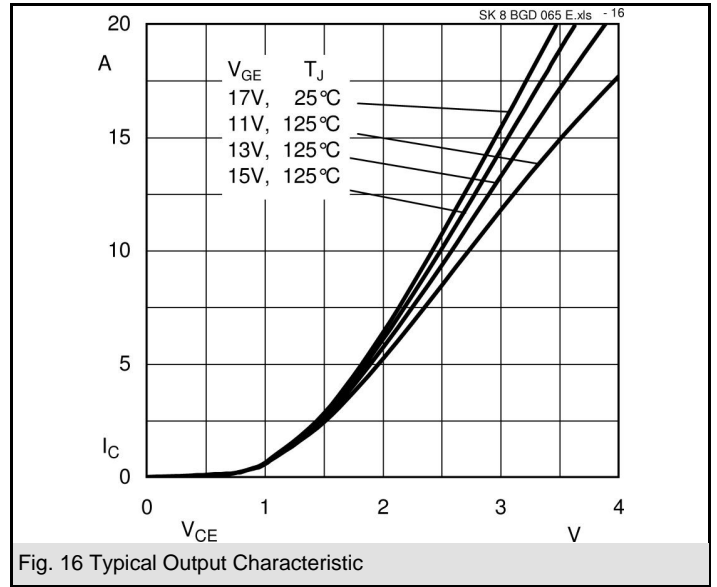
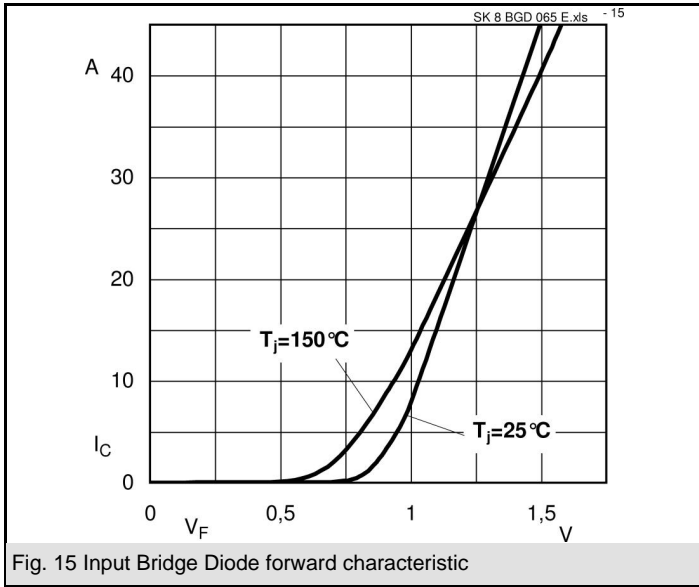
- Inverter
- Servo drives

Absolute Maximum Ratings		T _s = 25°C, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Inverter			
V _{CES}		600	V
I _C	T _s = 25 (80) °C	12 (8)	A
I _{CM}	T _s = 25 (80) °C, tp ≤ 1 ms	24 (16)	A
V _{GES}		±20	V
T _j		-40 ... +150	°C
Diode - Inverter			
I _F	T _s = 25 (80) °C	(13)	A
I _{FM} = -I _{CM}	T _s = 25 (80) °C, tp ≤ 1 ms	(26)	A
T _j		-40 ... +150	°C
Rectifier			
V _{RRM}		800	V
I _{FAV} / I _{TAV}	T _s = 80 °C	20	A
I _{FSM} / I _{TSM}	t _p = 10 ms, sin 180°, T _j = 125 °C	220	A
I _t ²	t _p = 10 ms, sin 180°, T _j = 125 °C	240	A ² s
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

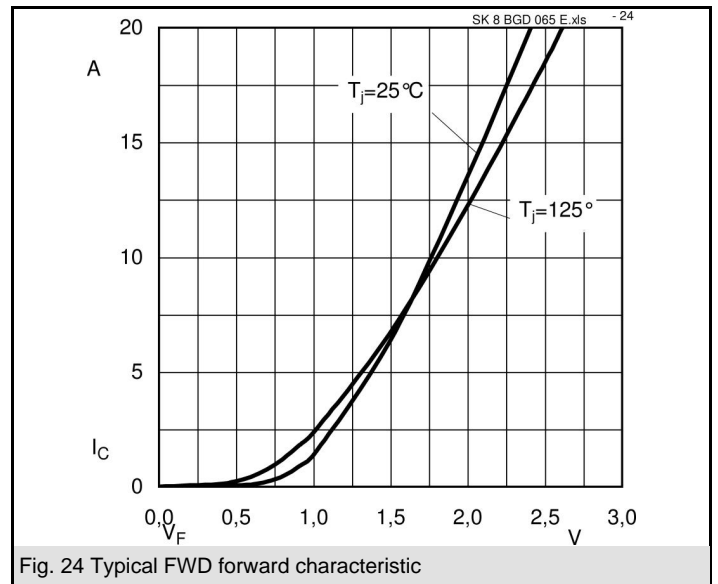
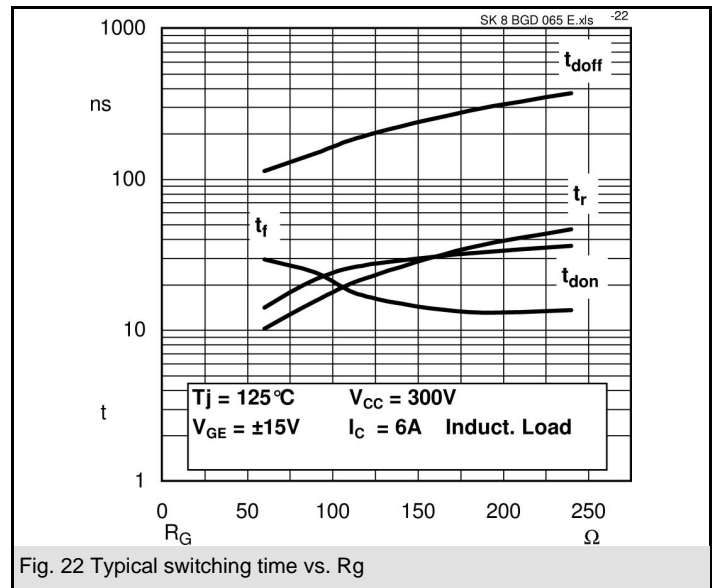
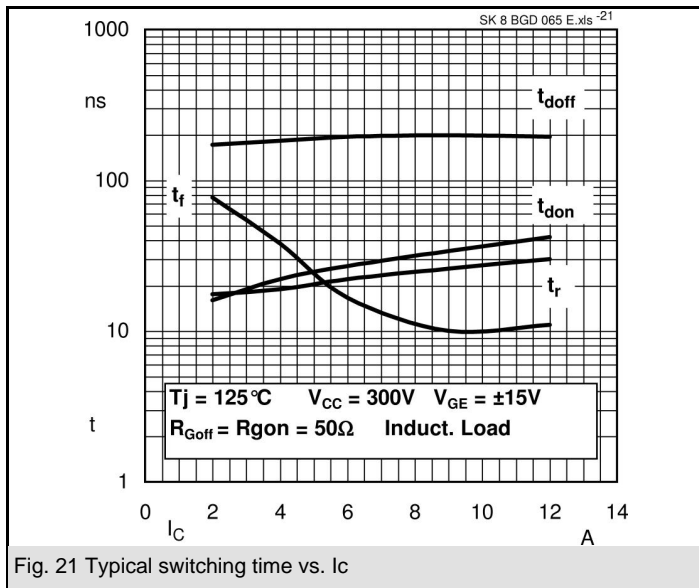
Characteristics		T _s = 25°C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Inverter					
V _{CEsat}	I _C = 6 A, T _j = 25 (125) °C		2 (2,2)		V
V _{GE(th)}	V _{CE} = V _{CE'} , I _C = 0,5 mA	3	4	5	V
V _{CE(TO)}	T _j = 25 °C (125) °C		1,2 (1,1)		V
r _T	T _j = 25 °C (125) °C		133 (183)		mΩ
C _{ies}	V _{CE} = V _{GE} = 0 V, f = 1 MHz		-		nF
C _{oes}	V _{CE} = V _{GE} = 0 V, f = 1 MHz		-		nF
C _{res}	V _{CE} = 25 V _{GE} = 0 V, f = 1 MHz		0,03		nF
R _{th(j-s)}	per IGBT			2,6	K/W
t _{d(on)}	under following conditions		20		ns
t _r	V _{CC} = 300 V, V _{GE} = ± 15 V		25		ns
t _{d(off)}	I _C = 6 A, T _j = 125 °C		145		ns
t _f	R _{Gon} = R _{Goff} = 120 Ω		25		ns
E _{on}	inductive load		0,22		mJ
E _{off}			0,12		mJ
Diode - Inverter					
V _F = V _{EC}	I _F = 8 A, T _j = 25 (125) °C		1,35		V
V _(TO)	T _j = °C (125) °C		(0,8)	(0,9)	V
r _T	T _j = °C (125) °C		(44)		mΩ
R _{th(j-s)}	per diode			2,7	K/W
I _{RRM}	under following conditions		4,2		A
Q _{rr}	I _F = 8 A, V _R = 300 V		0,65		μC
E _{rr}	V _{GE} = 0 V, T _j = 125 °C				mJ
	di _{F/dt} = -120 A/μs				
Diode rectifier					
V _F	I _F = 20 A, T _j = 25 °C		1,1		V
V _(TO)	T _j = 150 °C		0,85		V
r _T	T _j = 150 °C		15		mΩ
R _{th(j-s)}	per diode			2,15	K/W
Temperatur sensor					
R _{ts}	%, T _r = () °C		()		Ω
Mechanical data					
w			19		g
M _s	Mounting torque			2	Nm



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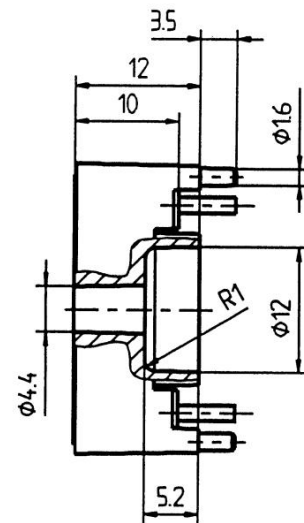
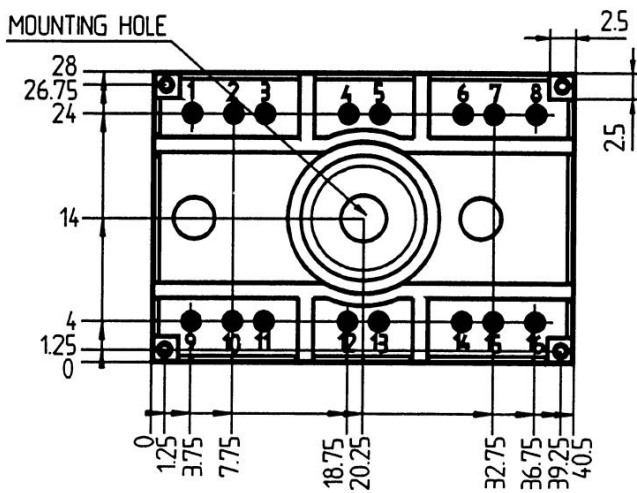
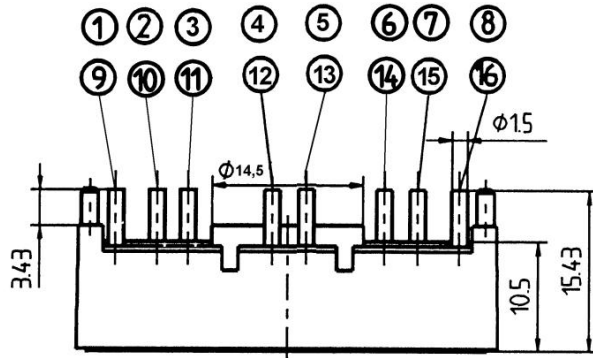


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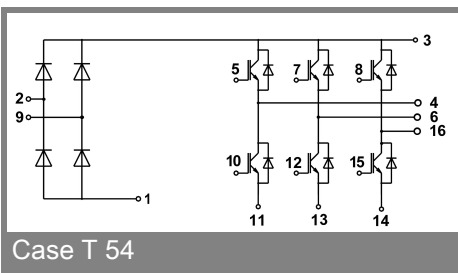


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Dimensions in mm



Case T 54 (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.

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