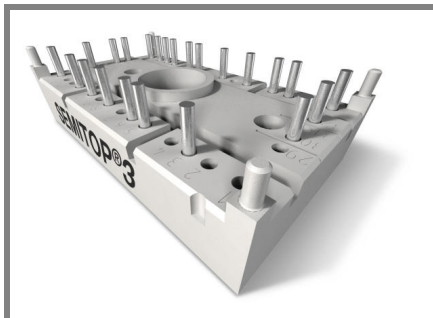


SK 9 BGD 065 ET



SEMITOP[®] 3

1-phase bridge rectifier
+3-phase bridge inverter

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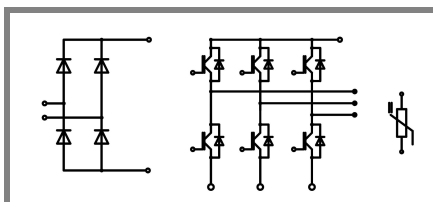
Preliminary Data

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 dependence

Typical Applications*

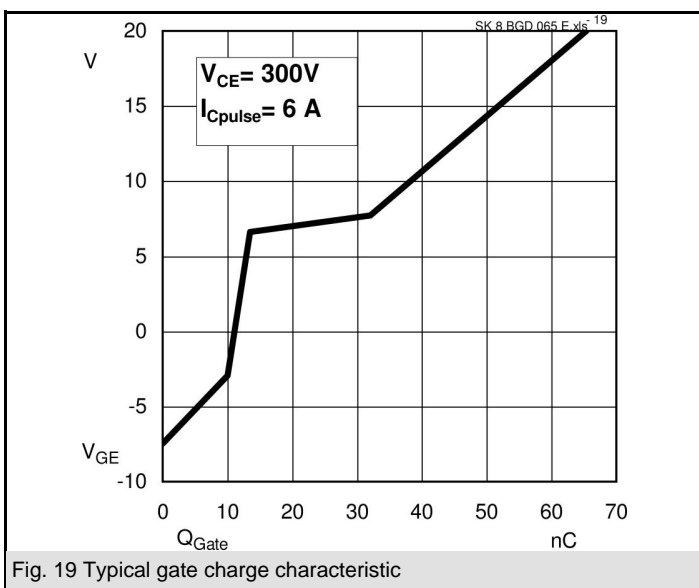
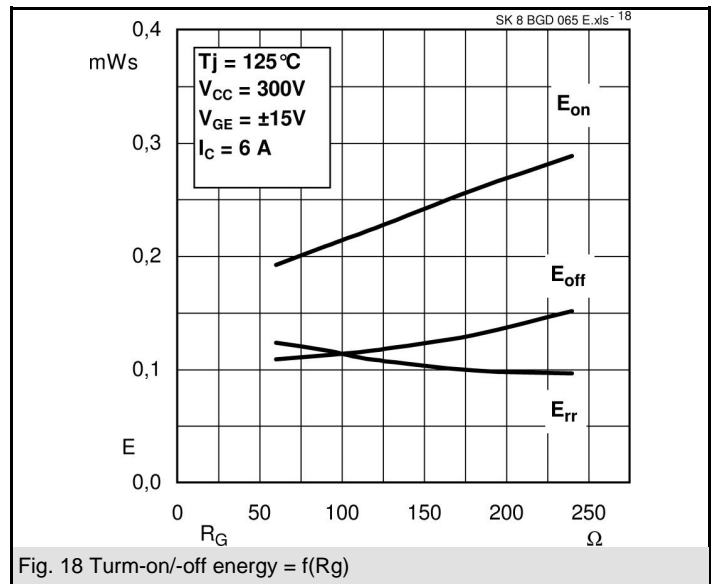
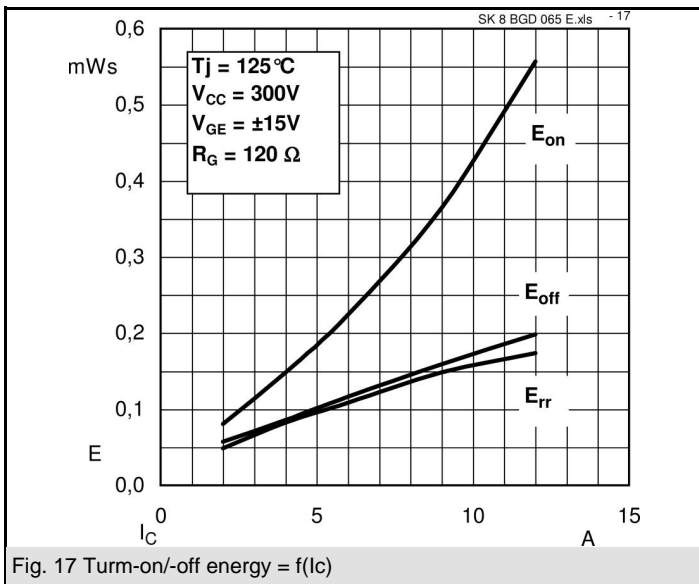
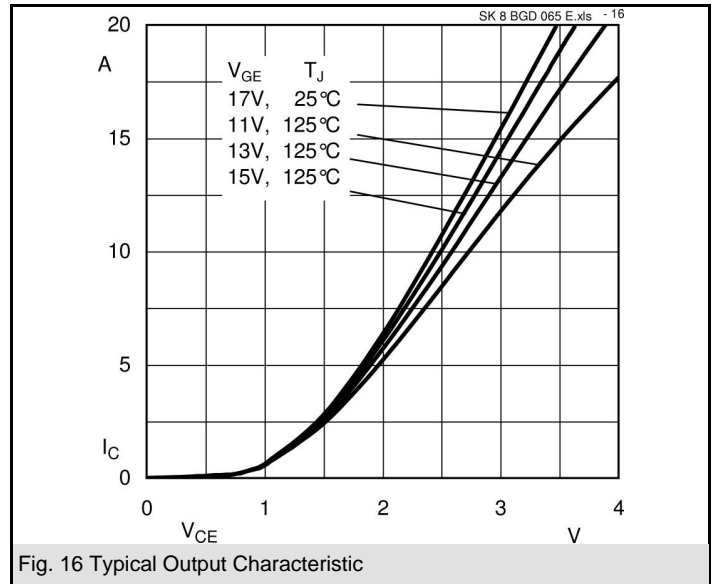
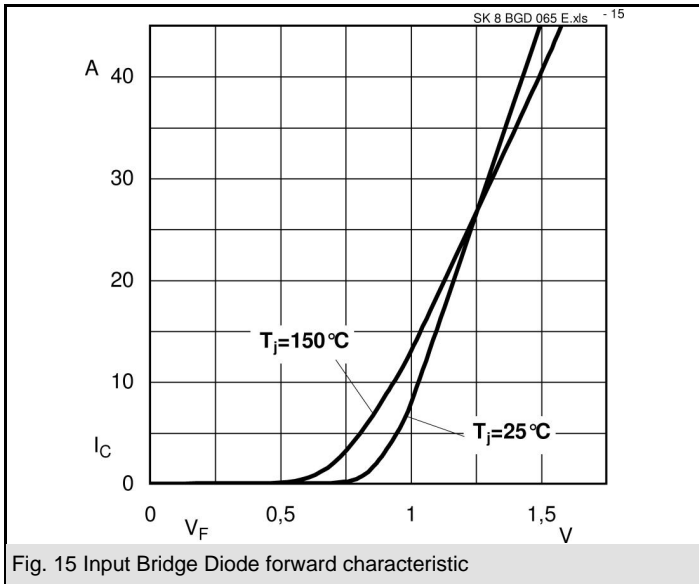
- Inverter
- Servo drives

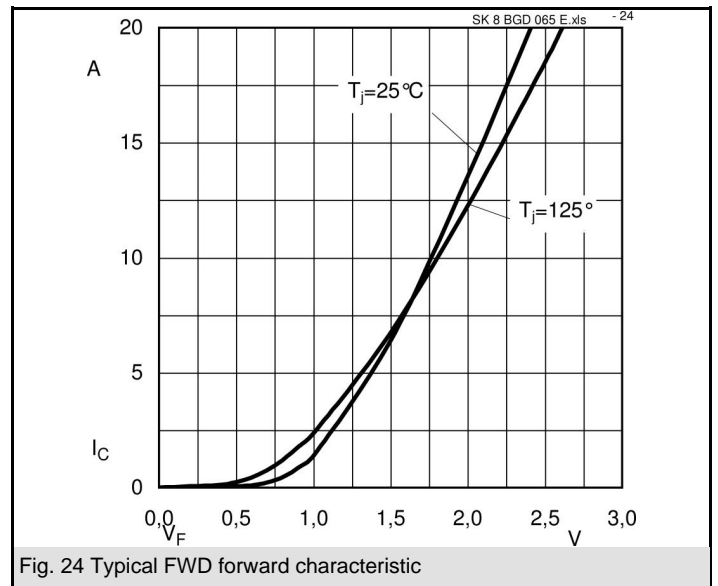
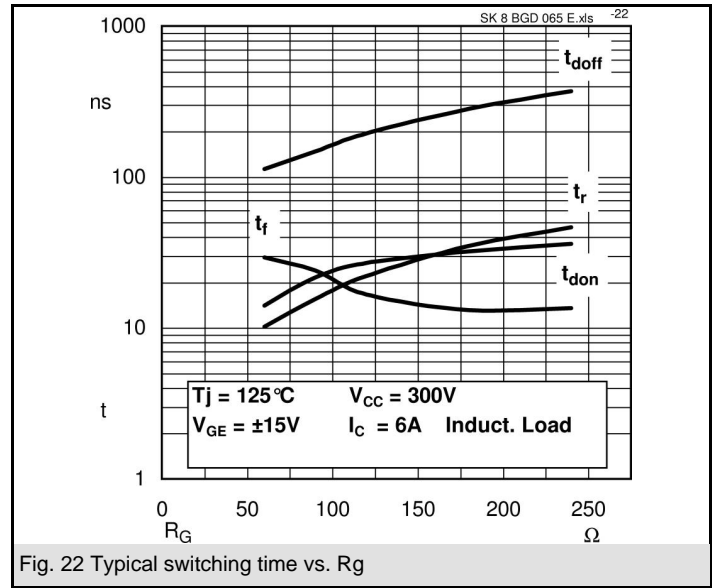
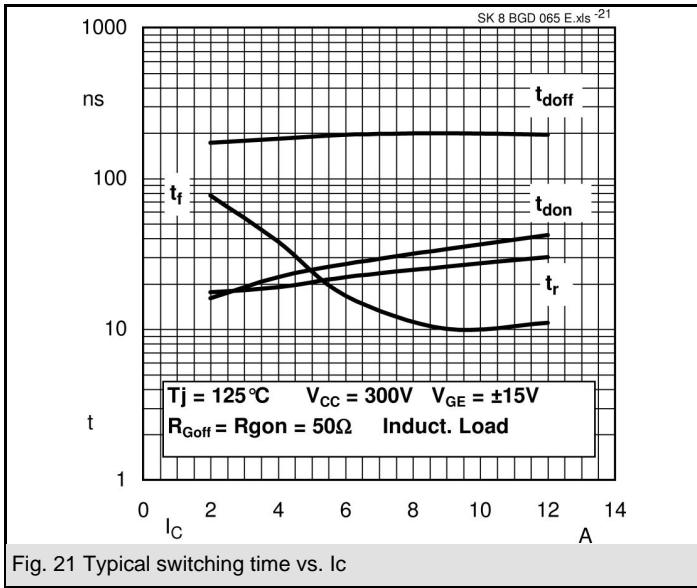


BGD - ET

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 _{CRM}	I _{CRM} = 2 × I _{Cnom} , t _p = 1 ms	12	A
V _{GES}		±20	V
T _j		-40 ... +150	°C
Diode - Inverter			
I _F	T _s = 25 (80) °C	(13)	A
I _{FRM}	I _{FRM} = 2 × I _{Fnom} , t _p = 1 ms	16	A
T _j		-40 ... +150	°C
Rectifier			
V _{RRM}		800	V
I _F	T _s = 80 °C	25	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

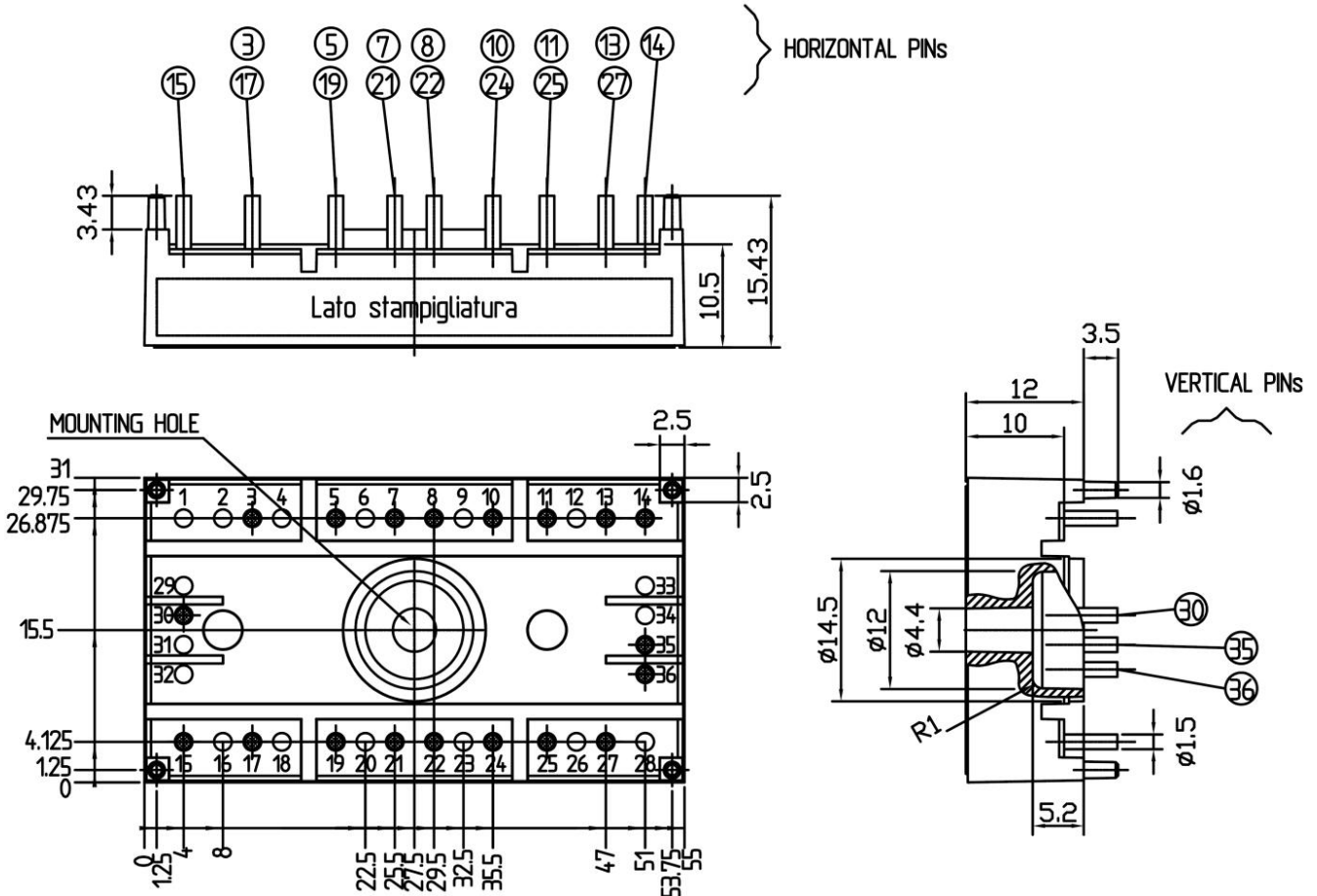
Characteristics		T _s = 25°C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Inverter					
V _{CEsat}	I _C = 6 A, T _j = 25 (125) °C		2 (2,2)		V
V _{GE(th)}	V _{GE} = V _{CE} , I _C = 0,5 mA	3	4	5	V
V _{CE(TO)}	T _j = 25 °C (125) °C		1,2 (1,1)		V
r _T	T _j = 25 °C (125) °C		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, 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			31		g
M _s	Mounting torque	2,3		2,5	Nm



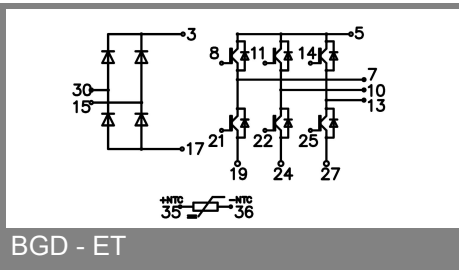


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Dimensions in mm



(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.

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.