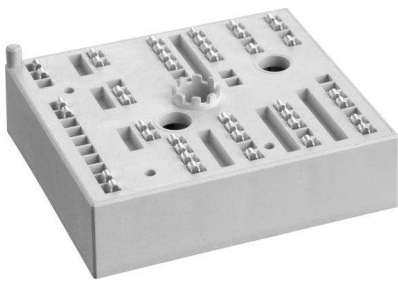


# SKiiP 28ANB16V10



MiniSKiiP® 2

3-phase bridge rectifier +  
brake chopper

SKiiP 28ANB16V10

Target Data

## Features

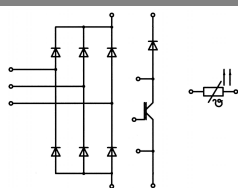
- Fast Trench IGBTs
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

## Typical Applications\*

- Input bridge for Inverter up to 39 kVA

## Remarks

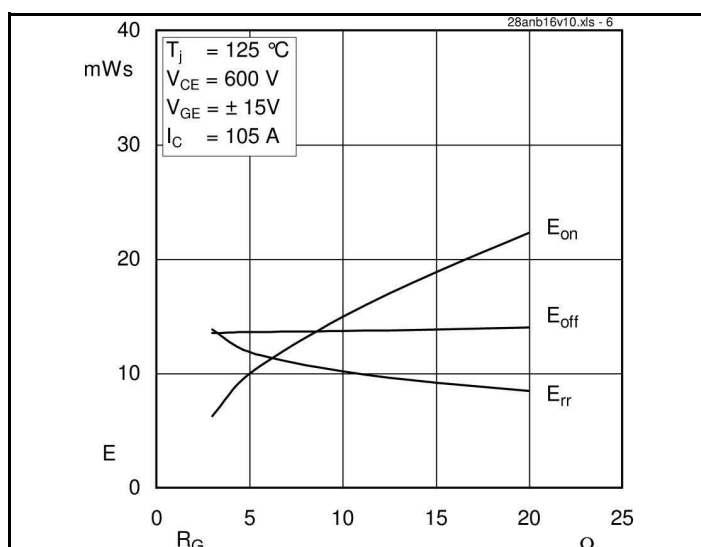
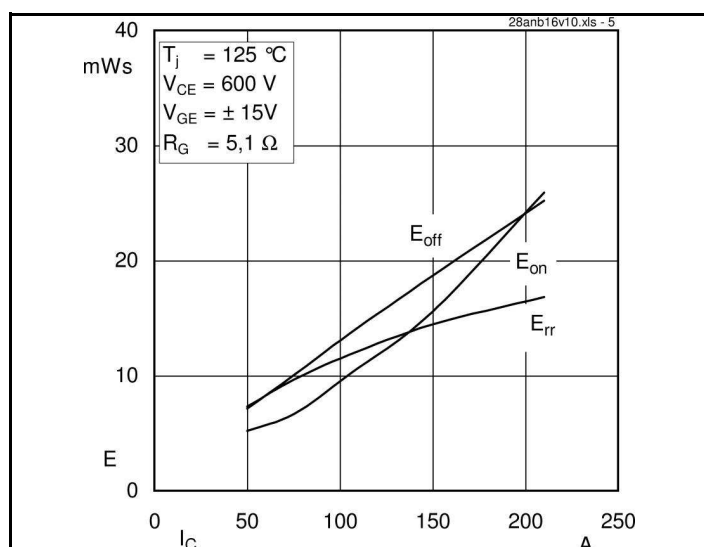
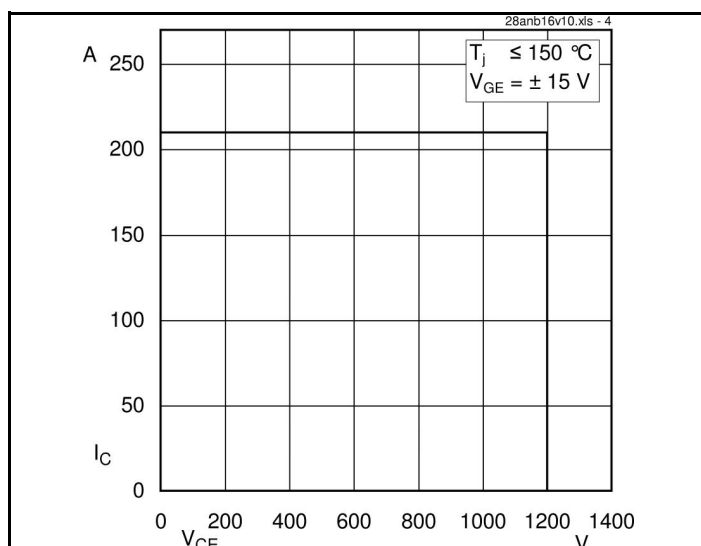
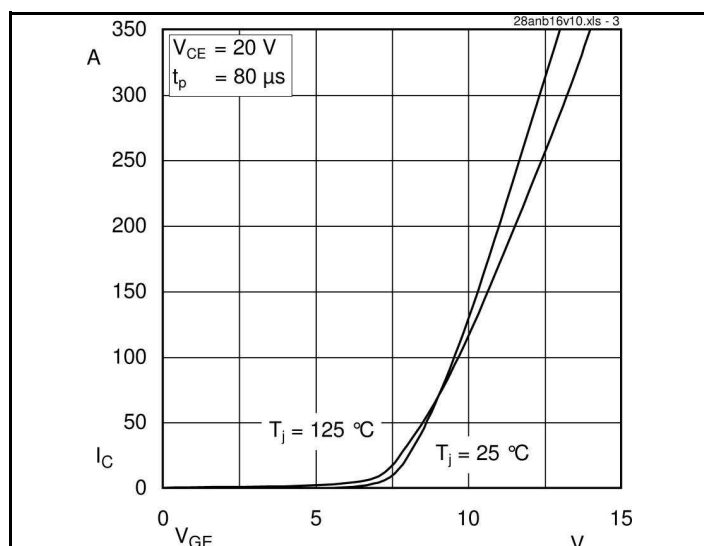
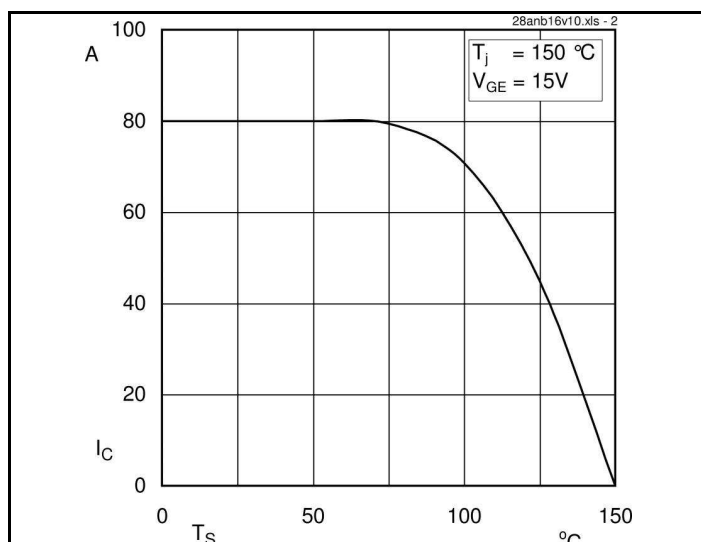
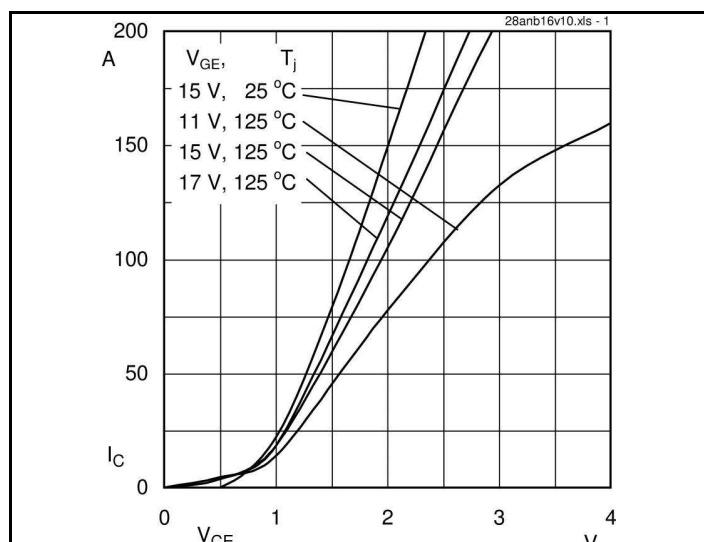
- $V_{CEsat}$ ,  $V_F$  = chip level value

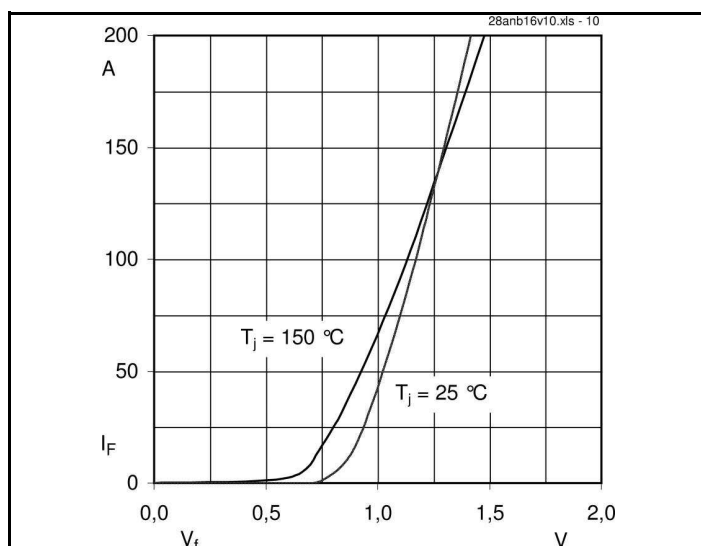
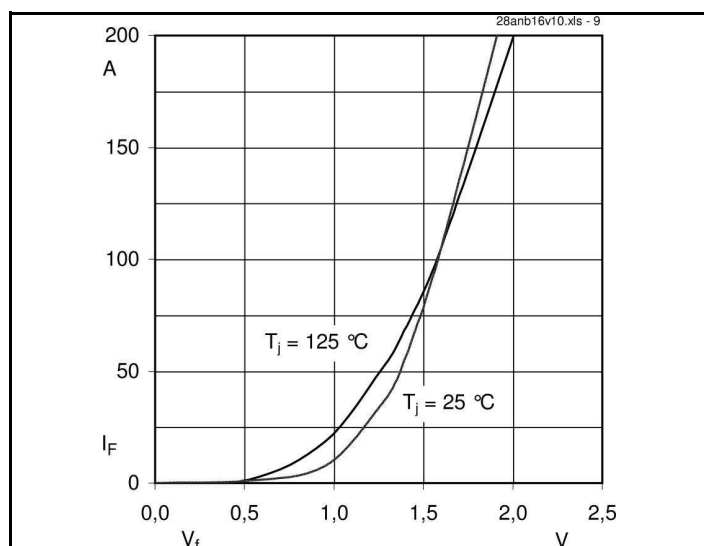
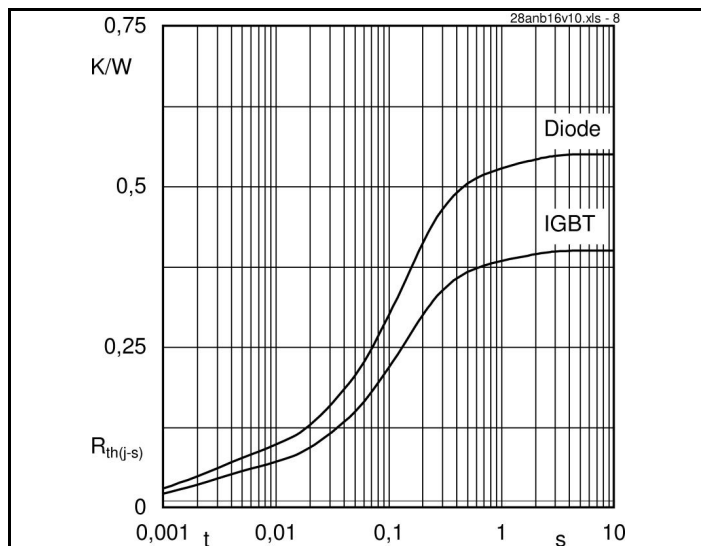
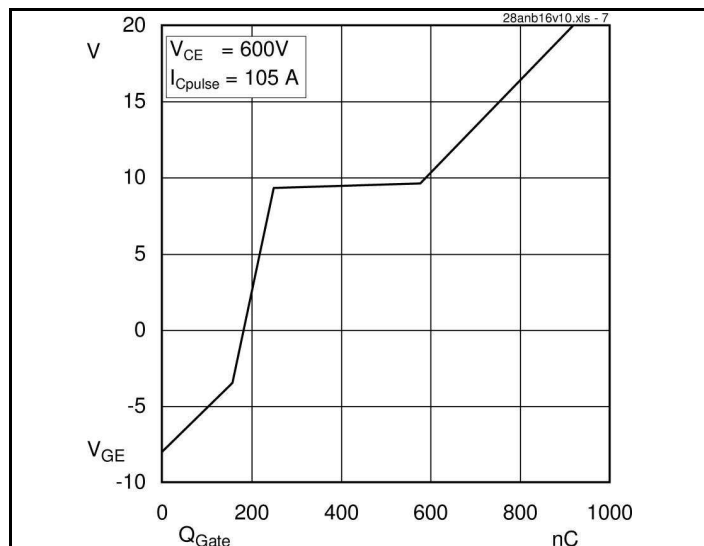


ANB

Absolute Maximum Ratings		T <sub>s</sub> = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Chopper			
V <sub>CES</sub>	T <sub>s</sub> = 25 (70) °C	1200	V
I <sub>C</sub>		118 (88)	A
I <sub>CRM</sub>		210	A
V <sub>GES</sub>		± 20	V
T <sub>j</sub>		- 40 ... + 150	°C
Diode - Chopper			
I <sub>F</sub>	T <sub>s</sub> = 25 (70) °C	118 (88)	A
I <sub>FRM</sub>		210	A
T <sub>j</sub>		- 40 ... + 150	°C
Diode - Rectifier			
V <sub>RRM</sub>	T <sub>s</sub> = 70 °C	1600	V
I <sub>F</sub>		83	A
I <sub>FSM</sub>		1000	A
i <sup>2</sup> t		6600	A <sup>2</sup> s
T <sub>j</sub>		- 40 ... + 150	°C
Module			
I <sub>tRMS</sub>	per power terminal (20 A / spring)	80	A
T <sub>stg</sub>		- 40 ... + 125	°C
V <sub>isol</sub>	AC, 1 min.	2500	V

Characteristics		T <sub>s</sub> = 25 °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Chopper					
V <sub>CEsat</sub>	I <sub>Cnom</sub> = 105 A, T <sub>j</sub> = 25 (125) °C	5	1,7 (2)	2,1 (2,4)	V
V <sub>GE(th)</sub>	V <sub>GE</sub> = V <sub>CE</sub> , I <sub>C</sub> = 3 mA		5,8	6,5	V
V <sub>CE(TO)</sub>	T <sub>j</sub> = 25 (125) °C		1 (0,9)	1,2 (1,1)	V
r <sub>T</sub>	T <sub>j</sub> = 25 (125) °C		6,7 (10)	8,6 (12)	mΩ
C <sub>ies</sub>	V <sub>CE</sub> = 25 V, V <sub>GE</sub> = 0 V, f = 1 MHz		8,4		nF
C <sub>oes</sub>	V <sub>CE</sub> = 25 V, V <sub>GE</sub> = 0 V, f = 1 MHz		1,5		nF
C <sub>res</sub>	V <sub>CE</sub> = 25 V, V <sub>GE</sub> = 0 V, f = 1 MHz		1,1		nF
R <sub>th(j-s)</sub>	per IGBT		0,4		K/W
t <sub>d(on)</sub>	under following conditions		65		ns
t <sub>r</sub>	V <sub>CC</sub> = 600 V, V <sub>GE</sub> = ± 15 V		30		ns
t <sub>d(off)</sub>	I <sub>Cnom</sub> = 105 A, T <sub>j</sub> = 125°C		465		ns
t <sub>f</sub>	R <sub>Gon</sub> = R <sub>Goff</sub> = 5,1 Ω		95		ns
E <sub>on</sub>	inductive load		10,1		mJ
E <sub>off</sub>			13,6		mJ
Diode - Chopper					
V <sub>F</sub> = V <sub>EC</sub>	I <sub>Fnom</sub> = 105 A, T <sub>j</sub> = 25 (125) °C		1,6 (1,6)	1,8 (1,8)	V
V <sub>(TO)</sub>	T <sub>j</sub> = 25 (125) °C		1 (0,8)	1,1 (0,9)	V
r <sub>T</sub>	T <sub>j</sub> = 25 (125) °C		5,7 (7,6)	6,7 (8,6)	mΩ
R <sub>th(j-s)</sub>	per diode		0,55		K/W
I <sub>RRM</sub>	under following conditions		180		A
Q <sub>rr</sub>	I <sub>Fnom</sub> = 105 A, V <sub>R</sub> = 600 V		26		μC
E <sub>rr</sub>	V <sub>GE</sub> = 0 V, T <sub>j</sub> = 125 °C		11,8		mJ
	di <sub>F</sub> /dt = 4350 A/μs				
Diode - Rectifier					
V <sub>F</sub>	I <sub>Fnom</sub> = 75 A, T <sub>j</sub> = 25 °C		1,2		V
V <sub>(TO)</sub>	T <sub>j</sub> = 150 °C		0,8		V
r <sub>T</sub>	T <sub>j</sub> = 150 °C		7		mΩ
R <sub>th(j-s)</sub>	per diode		0,7		K/W
Temperature Sensor					
R <sub>ts</sub>	3 %, T <sub>r</sub> = 25 (100) °C		1000(1670)		Ω
Mechanical Data					
w			65		g
M <sub>s</sub>	Mounting torque	2		2,5	Nm







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\* 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.