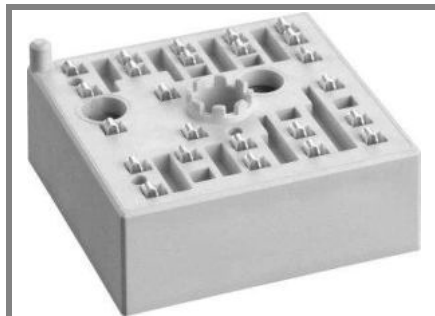




MiniSKiiP[®] 1

3-phase bridge rectifier +
brake chopper + 3-phase
bridge inverter
SKiiP 12NAB126V1

Features

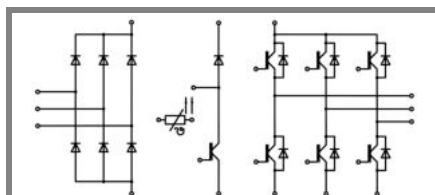
- Fast Trench IGBTs
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Typical Applications*

- Inverter up to 10 kVA
- Typical motor power 5,5 kW

Remarks

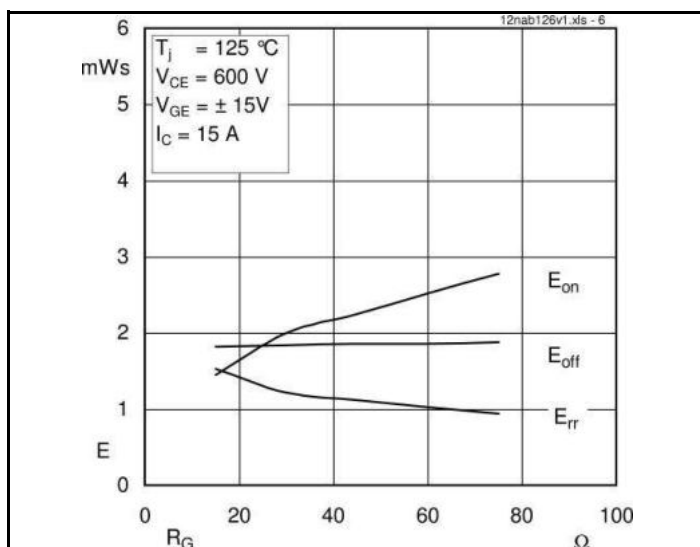
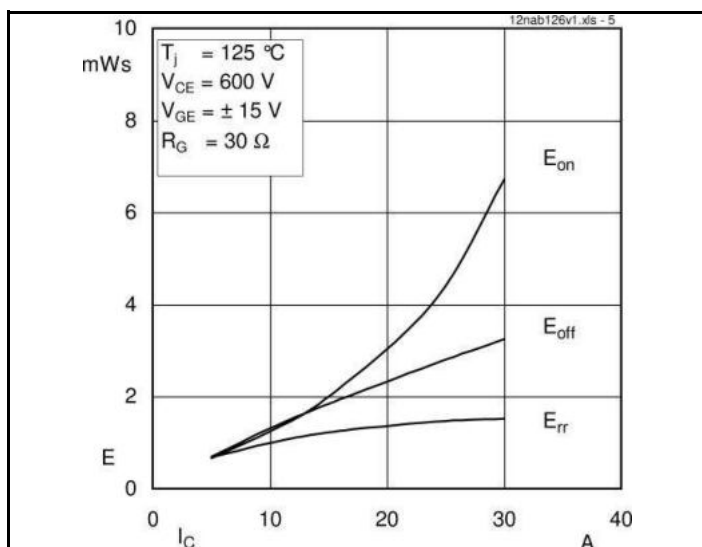
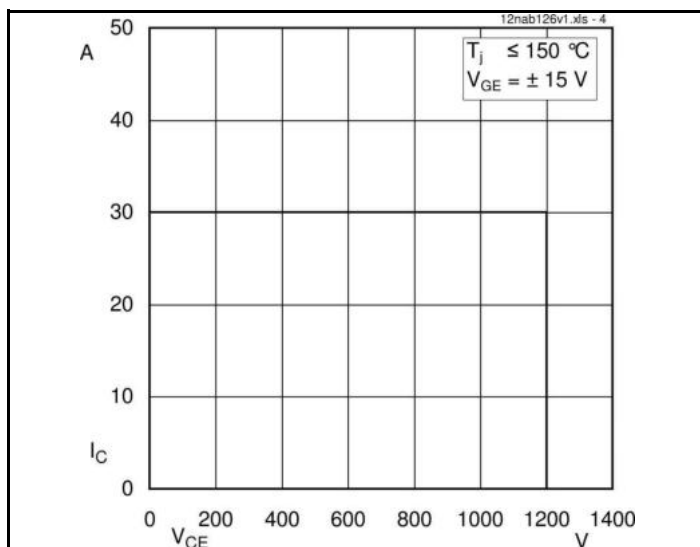
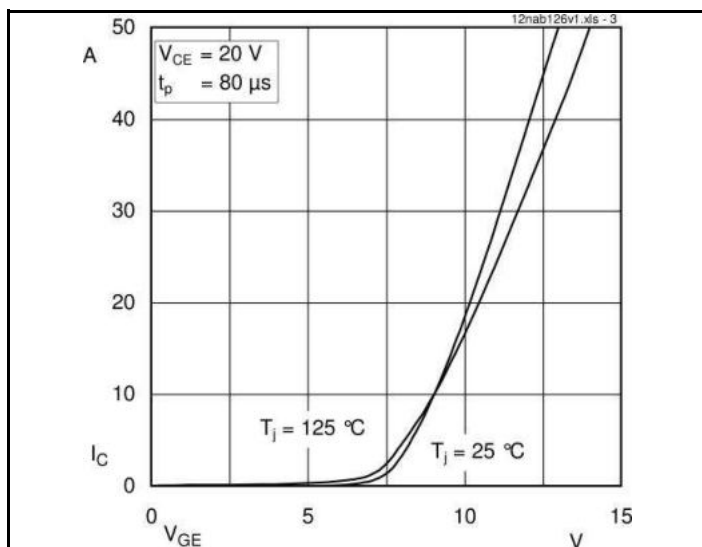
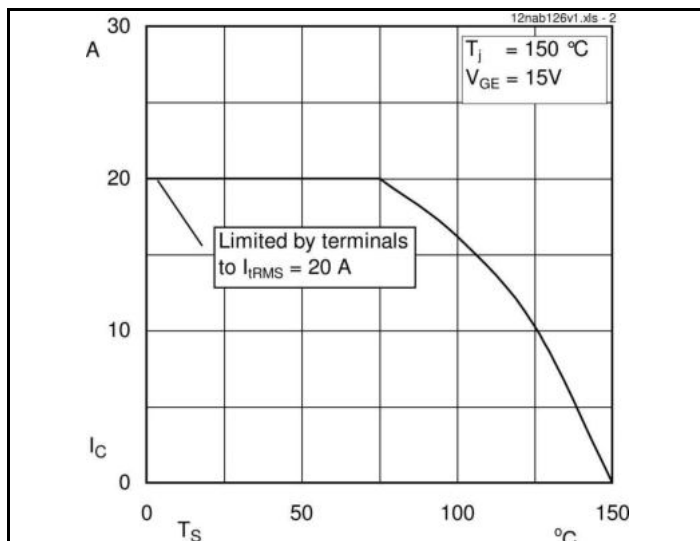
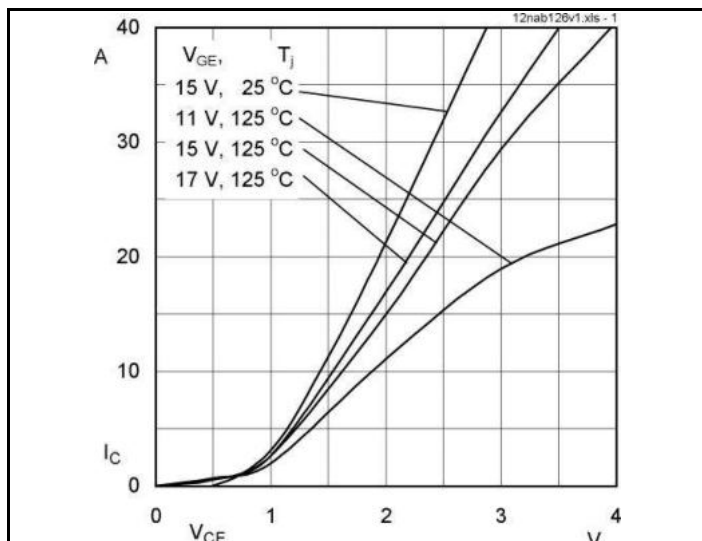
- V_{CEsat} , V_F = chip level value

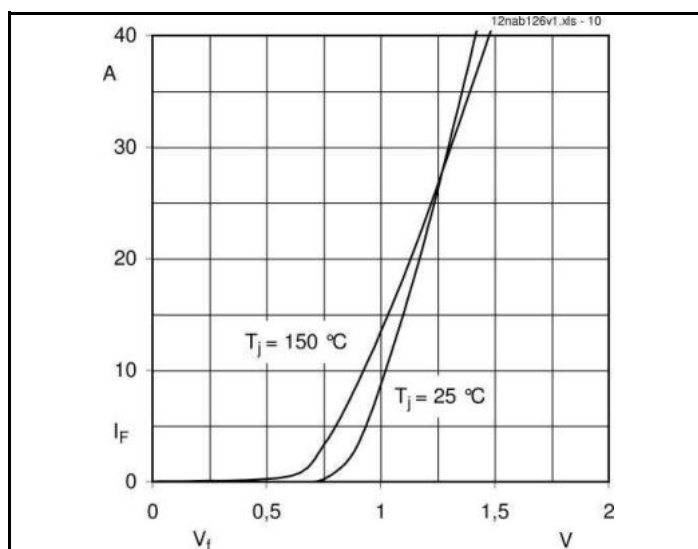
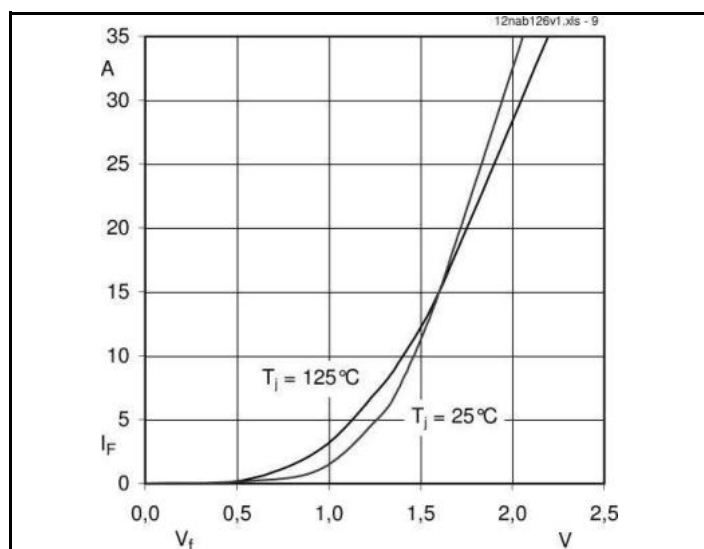
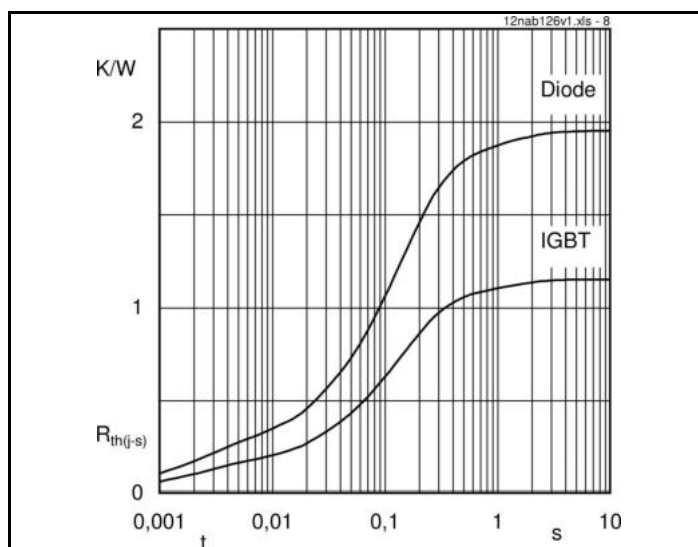
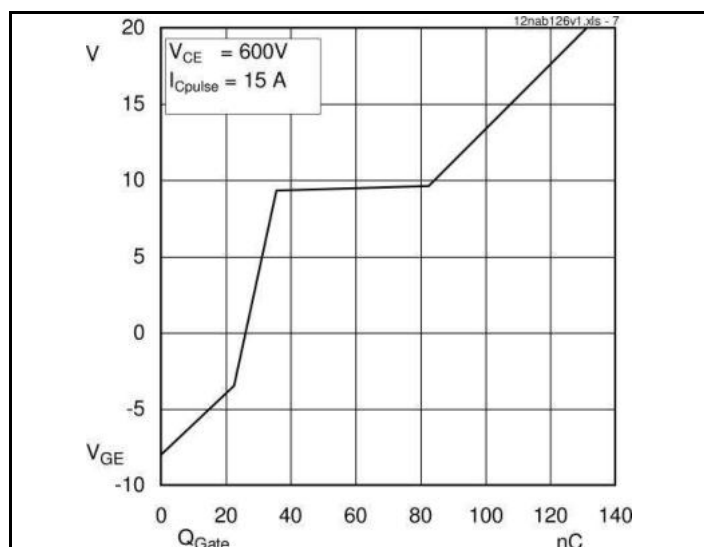


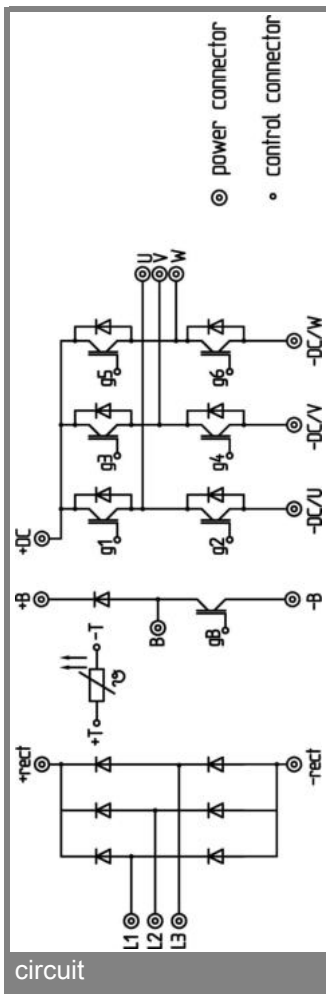
NAB

Absolute Maximum Ratings		T _s = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Inverter, Chopper			
V _{CES}	T _s = 25 (70) °C	1200	V
I _C		28 (22)	A
I _{CRM}		30	A
V _{GES}		± 20	V
T _j		- 40 ... + 150	°C
Diode - Inverter, Chopper			
I _F	T _s = 25 (70) °C	26 (20)	A
I _{FRM}		30	A
T _j		- 40 ... + 150	°C
Diode - Rectifier			
V _{RRM}	T _s = 70 °C	1600	V
I _F		35	A
I _{FSM}		220	A
i ² t		240	A ² s
T _j		- 40 ... + 150	°C
Module			
I _{tRMS}	per power terminal (20 A / spring)	20	A
T _{stg}		- 40 ... + 125	°C
V _{isol}	AC, 1 min.	2500	V

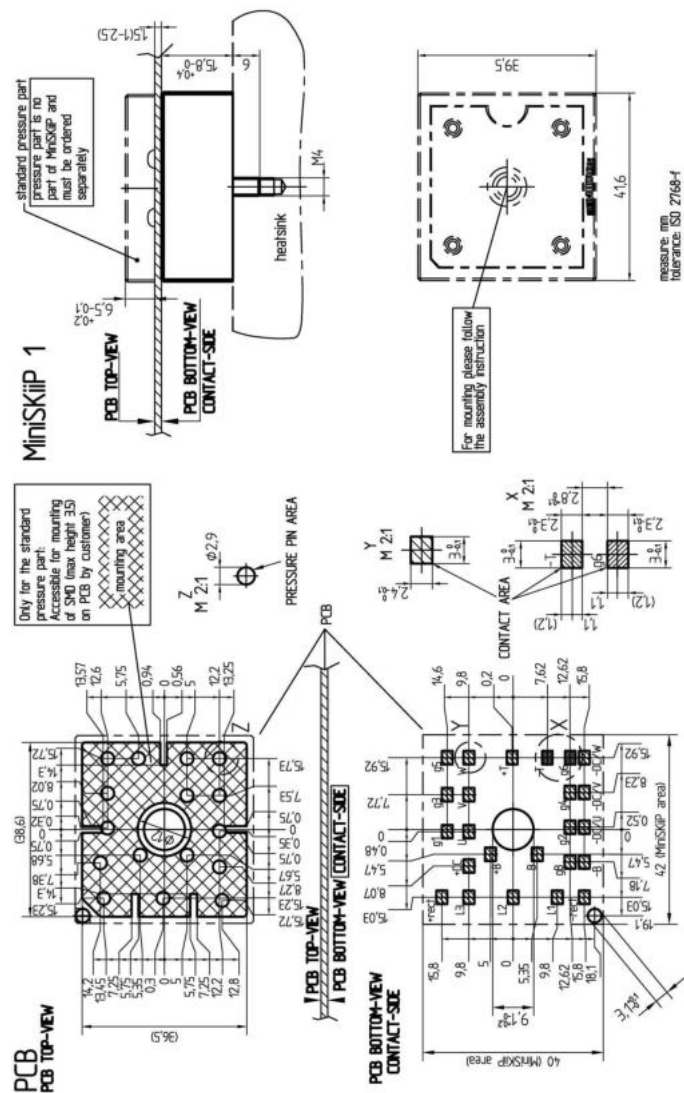
Characteristics		$T_s = 25\text{ °C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Inverter, Chopper					
V_{CEsat}	$I_{Cnom} = 15\text{ A}$, $T_j = 25\text{ (125) °C}$		1,7 (2)	2,1 (2,4)	V
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 0,6\text{ mA}$	5	5,8	6,5	V
$V_{CE(TO)}$	$T_j = 25\text{ (125) °C}$		1 (0,9)	1,2 (1,1)	V
r_T	$T_j = 25\text{ (125) °C}$		47 (73)	60 (87)	mΩ
C_{ies}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		1		nF
C_{oes}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		0,1		nF
C_{res}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		0,1		nF
$R_{th(j-s)}$	per IGBT		1,15		K/W
$t_{d(on)}$	under following conditions		25		ns
t_r	$V_{CC} = 600\text{ V}$, $V_{GE} = \pm 15\text{ V}$		25		ns
$t_{d(off)}$	$I_{Cnom} = 15\text{ A}$, $T_j = 125\text{ °C}$		385		ns
t_f	$R_{Gon} = R_{Goff} = 30\text{ Ω}$		90		ns
E_{on}	inductive load		2		mJ
E_{off}			1,9		mJ
Diode - Inverter, Chopper					
$V_F = V_{EC}$	$I_{Fnom} = 15\text{ A}$, $T_j = 25\text{ (125) °C}$		1,6 (1,6)	1,8 (1,8)	V
$V_{(TO)}$	$T_j = 25\text{ (125) °C}$		1 (0,8)	1,1 (0,9)	V
r_T	$T_j = 25\text{ (125) °C}$		40 (53)	47 (60)	mΩ
$R_{th(j-s)}$	per diode		1,95		K/W
I_{RRM}	under following conditions		25		A
Q_{rr}	$I_{Fnom} = 15\text{ A}$, $V_R = 600\text{ V}$		3		μC
E_{rr}	$V_{GE} = 0\text{ V}$, $T_j = 125\text{ °C}$		1,3		mJ
	$di_F/dt = 900\text{ A/μs}$				
Diode - Rectifier					
V_F	$I_{Fnom} = 15\text{ A}$, $T_j = 25\text{ °C}$		1,1		V
$V_{(TO)}$	$T_j = 150\text{ °C}$		0,8		V
r_T	$T_j = 150\text{ °C}$		20		mΩ
$R_{th(j-s)}$	per diode		1,5		K/W
Temperature Sensor					
R_{ts}	3 %, $T_r = 25\text{ (100) °C}$		1000(1670)		Ω
Mechanical Data					
w			35		g
M_s	Mounting torque	2		2,5	Nm







pinout, dimensions



These documents are Semkron property. Semkron reserves all copyrights. All copying and transmitting of this information requires written permission. For the case of industrial property rights, Semkron reserves all rights.