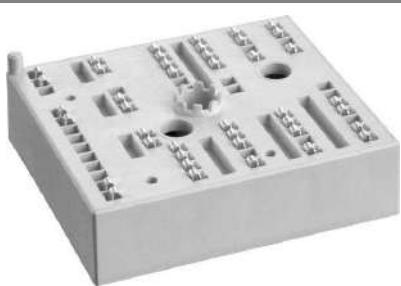


SKiiP 24NAB126V1



MiniSKiiP® 2

3-phase bridge rectifier +
brake chopper + 3-phase
bridge inverter
SKiiP 24NAB126V1

Features

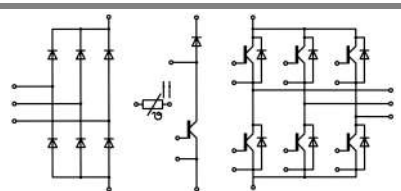
- Fast Trench IGBTs
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Typical Applications*

- Inverter up to 19 kVA
- Typical motor power 11 kW

Remarks

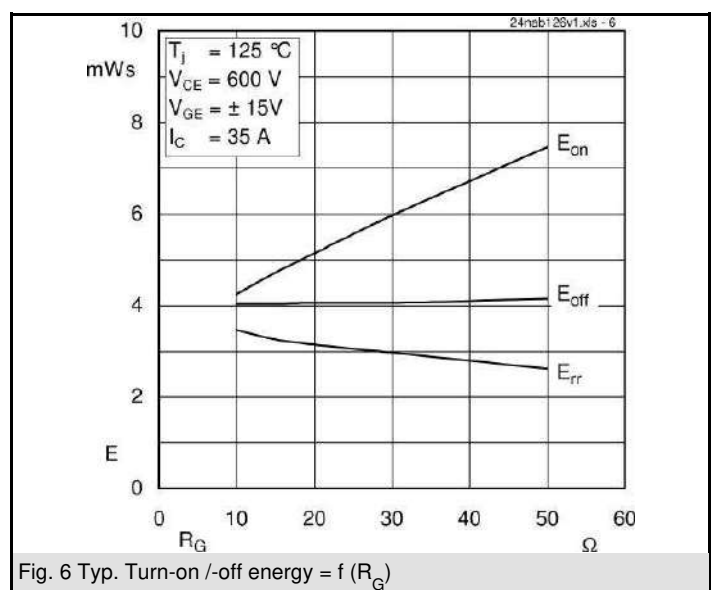
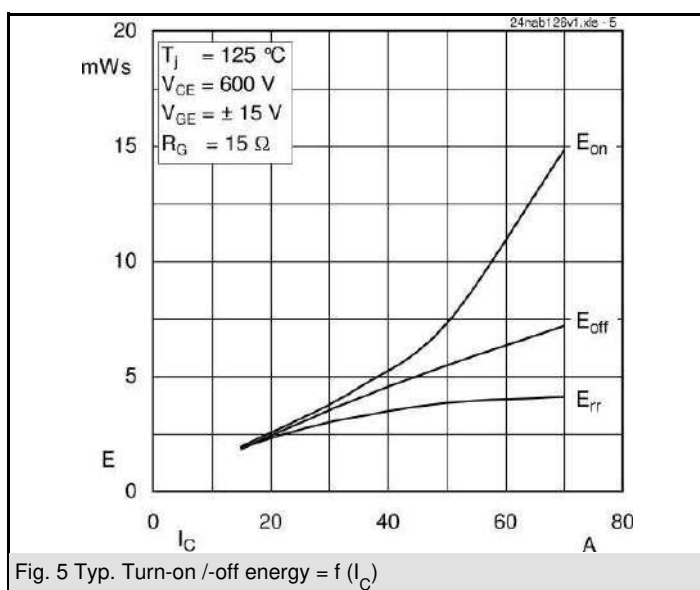
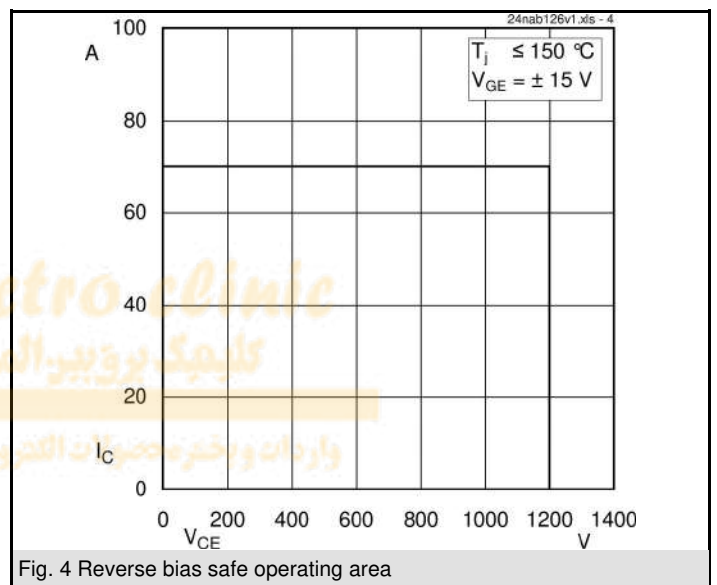
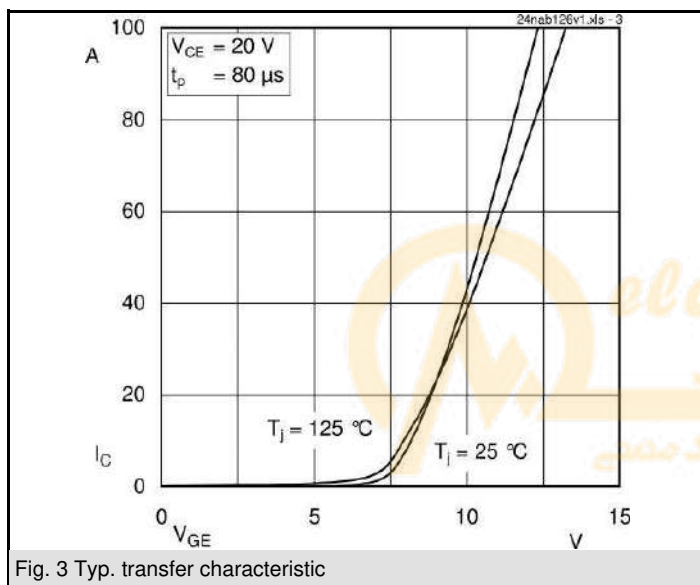
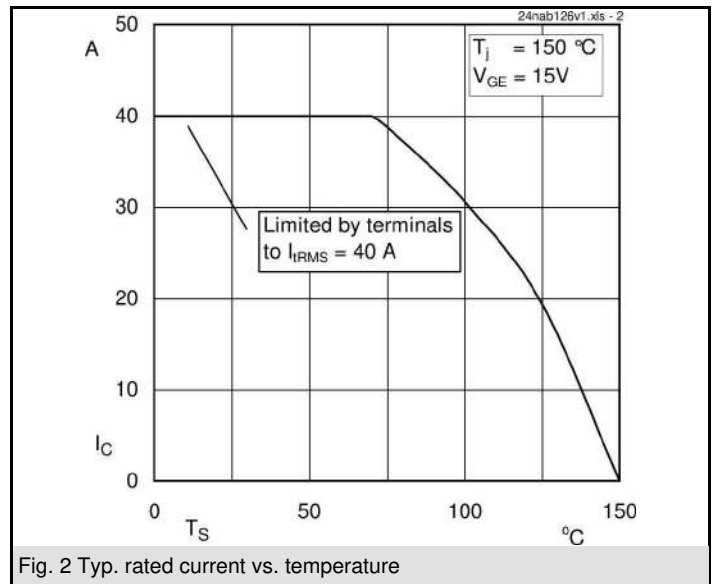
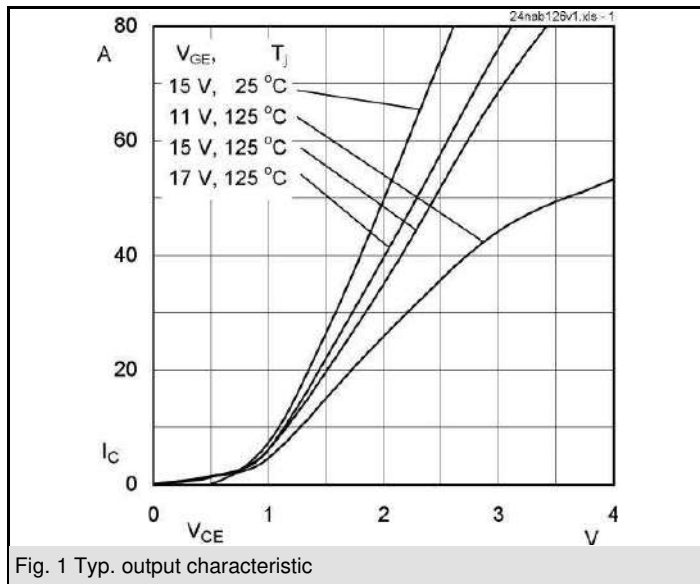
- V_{CEsat} , V_F = chip level value

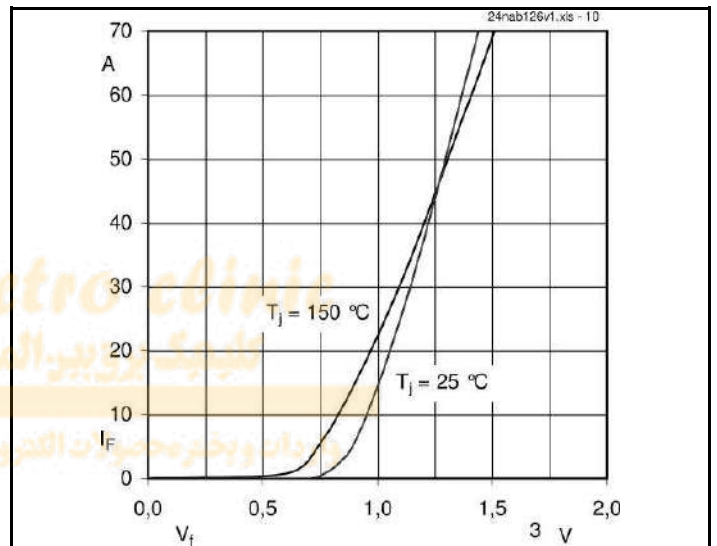
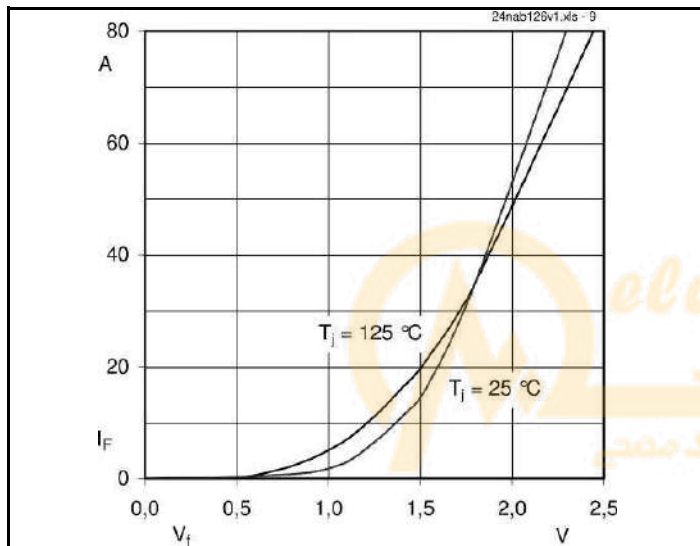
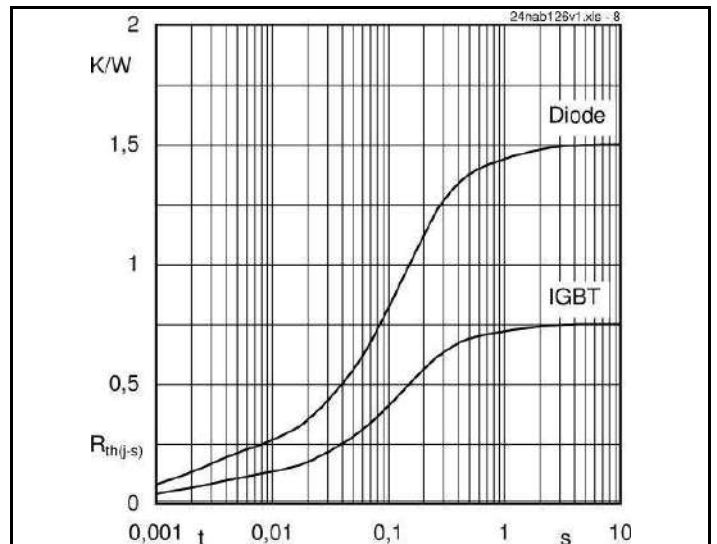
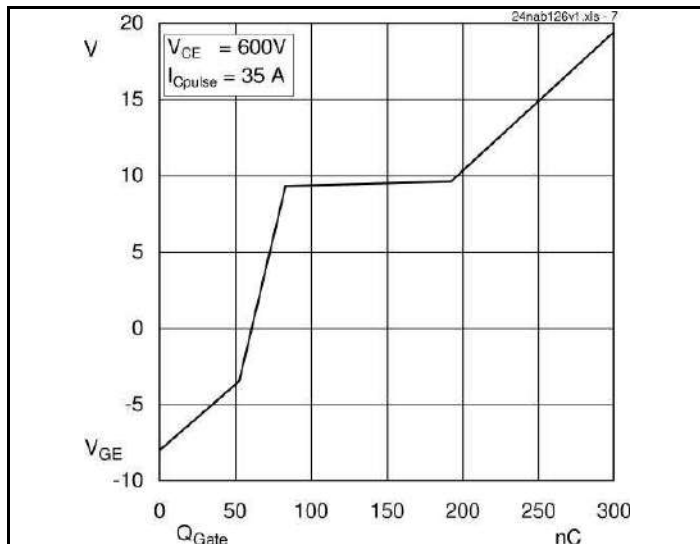


NAB

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		52 (40)	A
I _{CRM}		70	A
V _{GES}		± 20	V
T _j		- 40 ... + 150	°C
Diode - Inverter, Chopper			
I _F	T _s = 25 (70) °C	38 (29)	A
I _{FRM}		70	A
T _j		- 40 ... + 150	°C
Diode - Rectifier			
V _{RRM}	T _s = 70 °C	1600	V
I _F		46	A
I _{FSM}		370	A
i ² t		680	A ² s
T _j		- 40 ... + 150	°C
Module			
I _{tRMS}	per power terminal (20 A / spring)	40	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}	$I_{Cnom} = 35\text{ A}$, $T_j = 25\text{ (125) °C}$		1,7 (2)	2,1 (2,4)	V
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 1,5\text{ mA}$	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	$T_j = 25\text{ (125) °C}$		20 (31)	26 (37)	mΩ
C_{ies}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		2,4		nF
C_{oes}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		0,5		nF
C_{res}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		0,3		nF
$R_{th(j-s)}$	per IGBT		0,75		K/W
$t_{d(on)}$	under following conditions		80		ns
t_r	$V_{CC} = 600\text{ V}$, $V_{GE} = \pm 15\text{ V}$		30		ns
$t_{d(off)}$	$I_{Cnom} = 35\text{ A}$, $T_j = 125\text{ °C}$		410		ns
t_f	$R_{Gon} = R_{Goff} = 15\text{ Ω}$		120		ns
E_{on}	inductive load		4,6		mJ
E_{off}			4		mJ
Diode - Inverter, Chopper					
$V_F = V_{EC}$	$I_{Fnom} = 35\text{ A}$, $T_j = 25\text{ (125) °C}$		1,8 (1,8)	2,1 (2,2)	V
$V_{(TO)}$	$T_j = 25\text{ (125) °C}$		1 (0,8)	1,1 (0,9)	V
r_T	$T_j = 25\text{ (125) °C}$		23 (31)	29 (37)	mΩ
$R_{th(j-s)}$	per diode		1,5		K/W
I_{RRM}	under following conditions		43		A
Q_{rr}	$I_{Fnom} = 35\text{ A}$, $V_R = 600\text{ V}$		7		μC
E_{rr}	$V_{GE} = 0\text{ V}$, $T_j = 125\text{ °C}$ $di_F/dt = 1450\text{ A/μs}$		3,3		mJ
Diode - Rectifier					
V_F	$I_{Fnom} = 25\text{ A}$, $T_j = 25\text{ °C}$		1,1		V
$V_{(TO)}$	$T_j = 150\text{ °C}$		0,8		V
r_T	$T_j = 150\text{ °C}$		13		mΩ
$R_{th(j-s)}$	per diode		1,25		K/W
Temperature Sensor					
R_{ts}	3 %, $T_r = 25\text{ (100) °C}$		1000(1670)		Ω
Mechanical Data					
w			65		g
M_s	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.