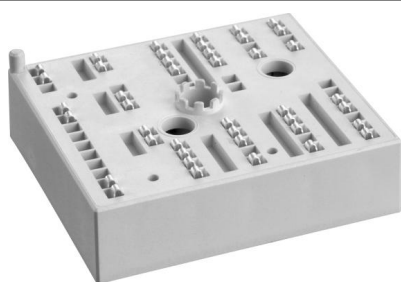


# SKiiP 24AC126V1



MiniSKiiP® 2

## 3-phase bridge inverter

### SKiiP 24AC126V1

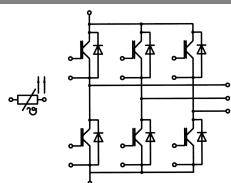
#### Target Data

#### 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

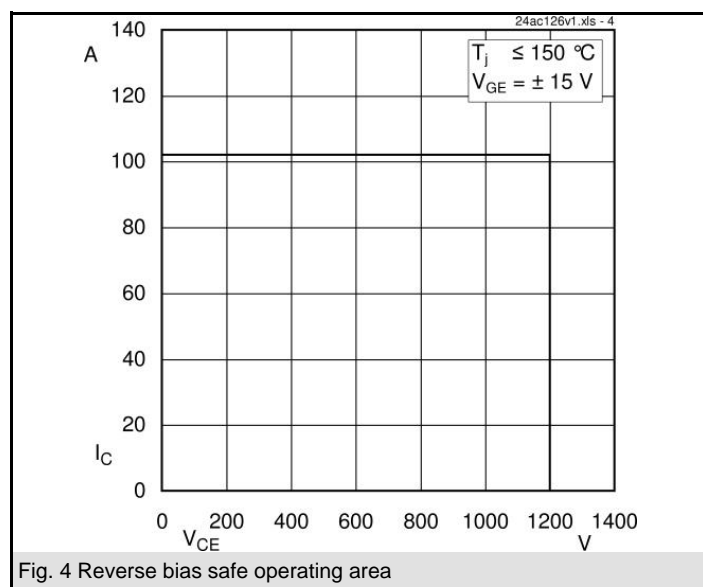
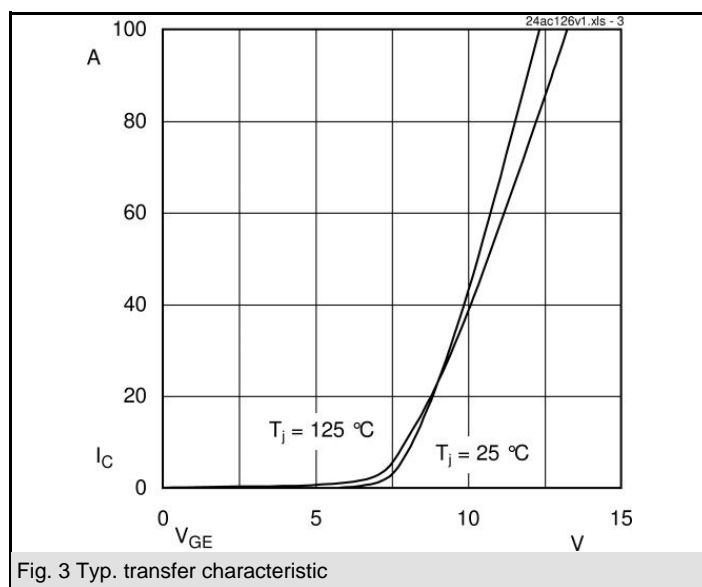
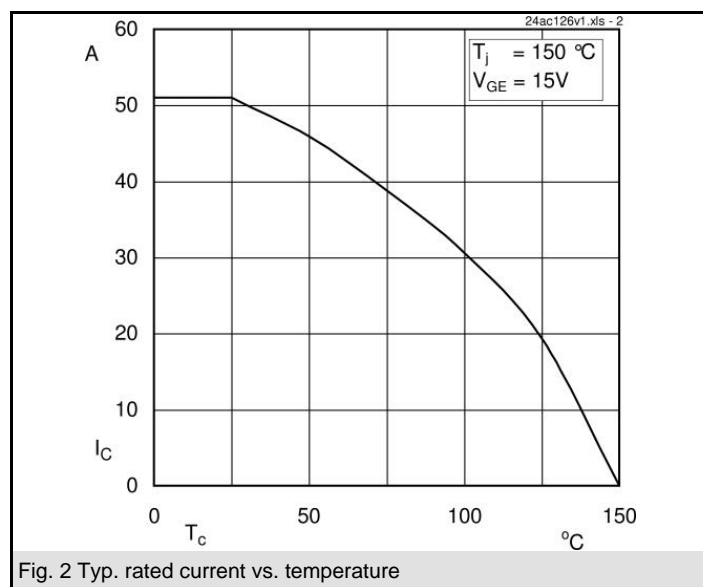
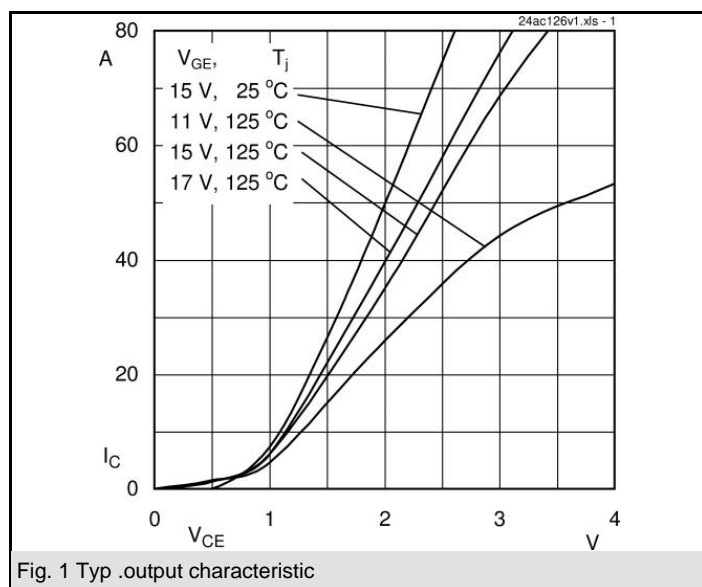
- Inverter up to 19 kVA
- Typical motor power 11 kW

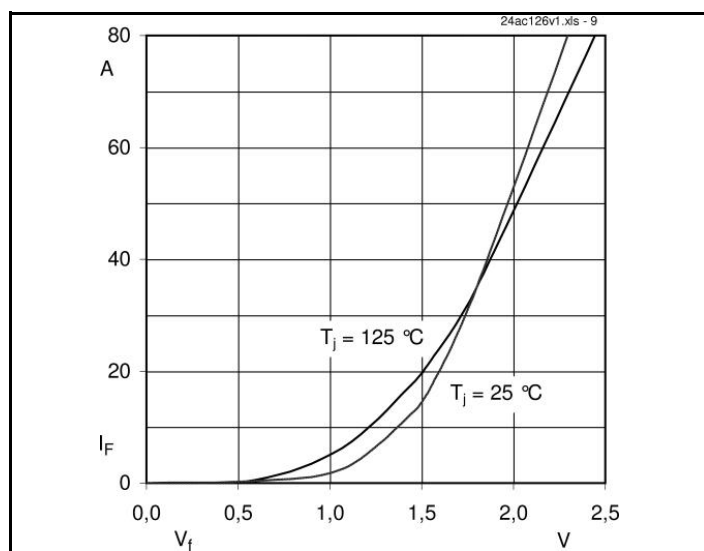
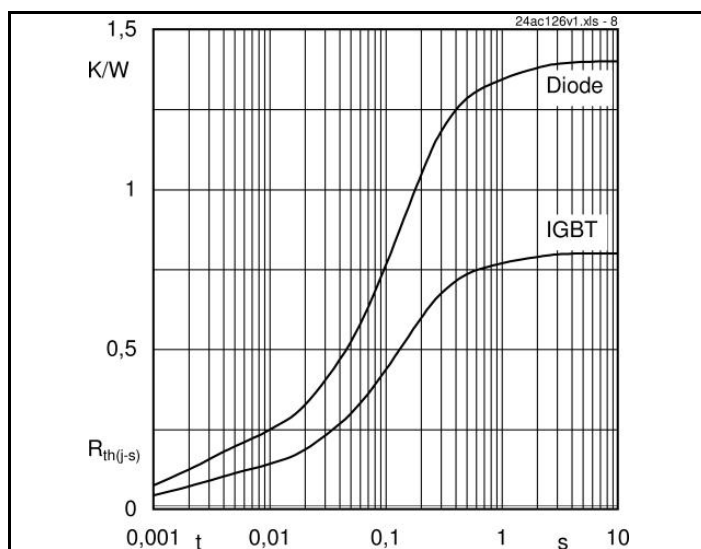
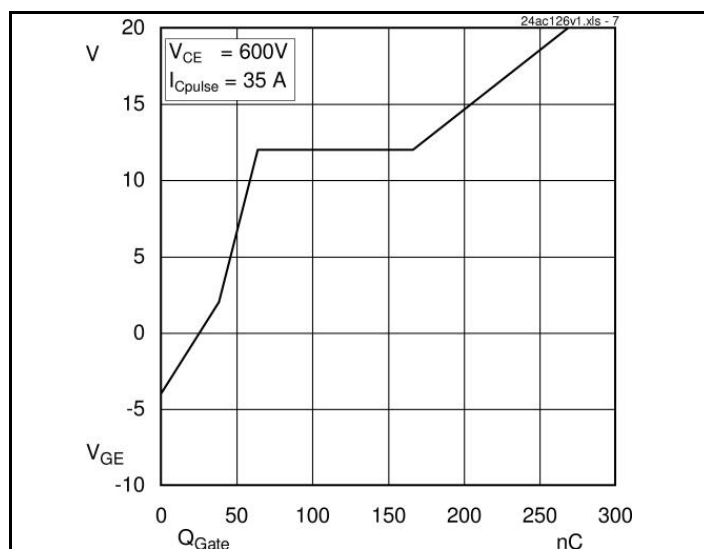


AC

Absolute Maximum Ratings		$T_s = 25\text{ °C}$ , unless otherwise specified	
Symbol	Conditions	Values	Units
<b>IGBT - Inverter</b>			
$V_{CES}$		1200	V
$I_C$	$T_s = 25\text{ (70) °C}$	51 (38)	A
$I_{CRM}$	$T_s = 25\text{ (70) °C}$ , $t_p \leq 1\text{ ms}$	102 (76)	A
$V_{GES}$		$\pm 20$	V
$T_j$		- 40 ... + 150	°C
<b>Diode - Inverter</b>			
$I_F$	$T_s = 25\text{ (70) °C}$	38 (29)	A
$I_{FRM}$	$T_s = 25\text{ (70) °C}$ , $t_p \leq 1\text{ ms}$	76 (58)	A
$T_j$		- 40 ... + 150	°C
$I_{tRMS}$	per power terminal (20 A / spring)	100	A
$T_{stg}$	$T_{op} \leq T_{stg}$	- 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
<b>IGBT - Inverter</b>					
$V_{CEsat}$	$I_C = 35\text{ A}$ , $T_j = 25\text{ (125) °C}$		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
$C_{res}$	$V_{CE} = 25\text{ V}$ , $V_{GE} = 0\text{ V}$ , $f = 1\text{ MHz}$		0,4		nF
$R_{th(j-s)}$	per IGBT		0,8		K/W
$t_{d(on)}$	under following conditions		85		ns
$t_r$	$V_{CC} = 600\text{ V}$ , $V_{GE} = \pm 15\text{ V}$		30		ns
$t_{d(off)}$	$I_C = 35\text{ A}$ , $T_j = 125\text{ °C}$		430		ns
$t_f$	$R_{Gon} = R_{Goff} = 15\text{ Ω}$		90		ns
$E_{on}$	inductive load		4,6		mJ
$E_{off}$			4,3		mJ
<b>Diode - Inverter</b>					
$V_F = V_{EC}$	$I_F = 35\text{ A}$ , $T_j = 25\text{ (125) °C}$		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		1,4		K/W
$I_{RRM}$	under following conditions		43		A
$Q_{rr}$	$I_F = 35\text{ A}$ , $V_R = 600\text{ V}$		7		μC
$E_{rr}$	$V_{GE} = 0\text{ V}$ , $T_j = 125\text{ °C}$		2,9		mJ
	$di_F/dt = 1330\text{ A/μs}$				
<b>Temperature Sensor</b>					
$R_{ts}$	3 %, $T_r = 25\text{ (100) °C}$		1000(1670)		Ω
<b>Mechanical Data</b>					
m			65		g
$M_s$	Mounting torque	2		2,5	Nm







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