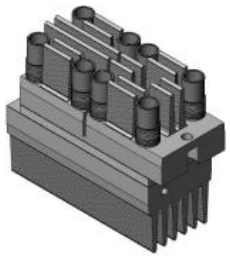
SKKQ 3000 THYRISTOR BRIDGE,SCR,BRIDGE



SEMiSTART

Antiparallel thyristors for softstart

SKKQ 3000

Preliminary Data

Features

- Compact design
- Thyristor with amplifying gate
- Pressure contact technology

Typical Applications

- Soft Starters

Remarks

- Please note: This module has no soft mold protection around the chip. It is therefore susceptible to environmental influences (dust, humidity, etc.). The humidity test according to IEC60068-2-67 is not passed by this product.
- Recommendation: The devices should be installed in control cabinets of IP54 degree of protection.

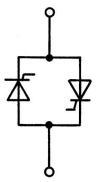
1) T_{vjmax} up to 150°C is allowable for overload conditions, max. time period for the overload condition is 20s.

Absolute Maximum Ratings

Symbol	Conditions	Values	Units
$I_{overload}$	W1C; sin. 180°; 20 sec.; $T_{vjmax.}$ = 150 °C; $T_{vjstart}$ = 40°C	3080	A
I_{TSM}	T_{vj} = 25°C; 10 ms	30000	A
	T_{vj} = 125°C; 10 ms	25500	A
I^2t	T_{vj} = 25°C; 8,3 ... 10 ms	4500000	A²s
	T_{vj} = 125°C; 8,3 ... 10 ms	3250000	A²s
SKKQ 3000/14			
V_{RSM}		1500	V
V_{RRM},V_{DRM}		1400	V
SKKQ 3000/18			
V_{RSM}		1900	V
V_{RRM},V_{DRM}		1800	V
T_{vj}		-40 ... +125[1)]	°C
T_{stg}		-40 ... +125	°C

Characteristics

Symbol	Conditions	min.	typ.	max.	Units
V_T	T_{vj} = 25°C; I_T = 3600 A			1,65	V
$V_{T(TO)}$	T_{vj} = 125°C			0,95	V
r_T	T_{vj} = 125°C			0,18	mΩ
I_{DD};I_{RD}	T_{vj} = 125°C; V_{RD} = V_{RRM}; per module			240	mA
t_{gd}	T_{vj} = 25°C; I_G = 1A; di_G/dt = 1A/µs		1		µs
t_{gr}	V_D = 0,67 * V_{DRM}		2		µs
$(dv/dt)_{cr}$	T_{vj} = 125°C		1000		V/µs
$(di/dt)_{cr}$	T_{vj} = 125°C; f = 50 ... 60 Hz		125		A/µs
t_q	T_{vj} = 125°C		250		µs
I_H	T_{vj} = 25°C		250	500	mA
I_L	T_{vj} = 25°C; R_G = 33 Ω		500	2000	mA
V_{GT}	T_{vj} = 25°C; d.c.	3			V
I_{GT}	T_{vj} = 25°C; d.c.	250			mA
V_{GD}	T_{vj} = 125°C; d.c.			0,25	V
I_{GD}	T_{vj} = 125°C; d.c.			10	mA
$R_{th(j-s)}$	cont.; per thyristor			0,026	K/W
M_t			5 ±15%		Nm
m	approx.		3300		g
Case			C 13		



W1C

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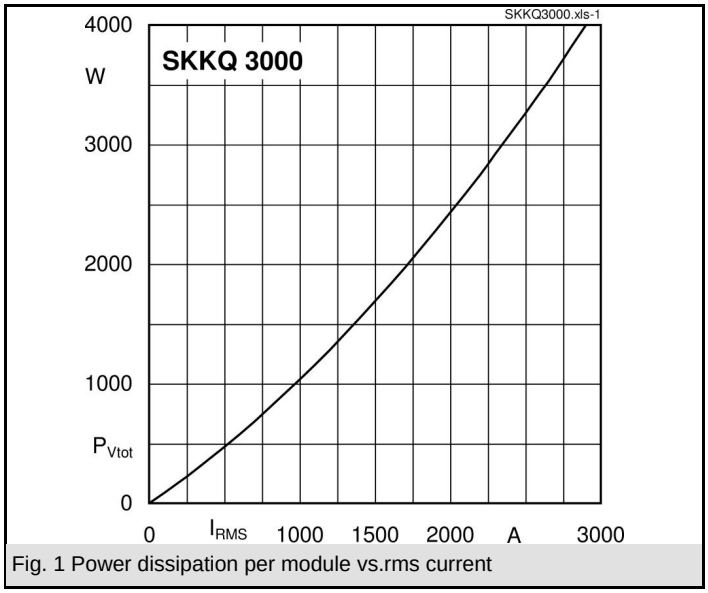


Fig. 1 Power dissipation per module vs.rms current

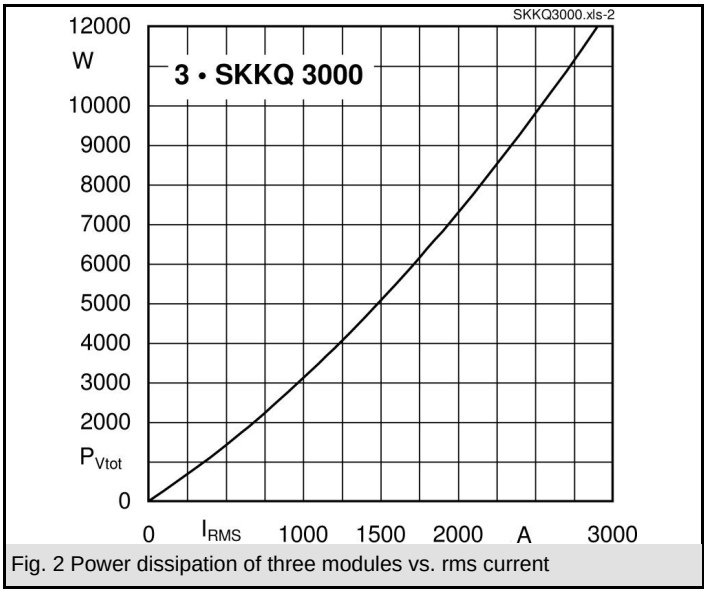


Fig. 2 Power dissipation of three modules vs. rms current

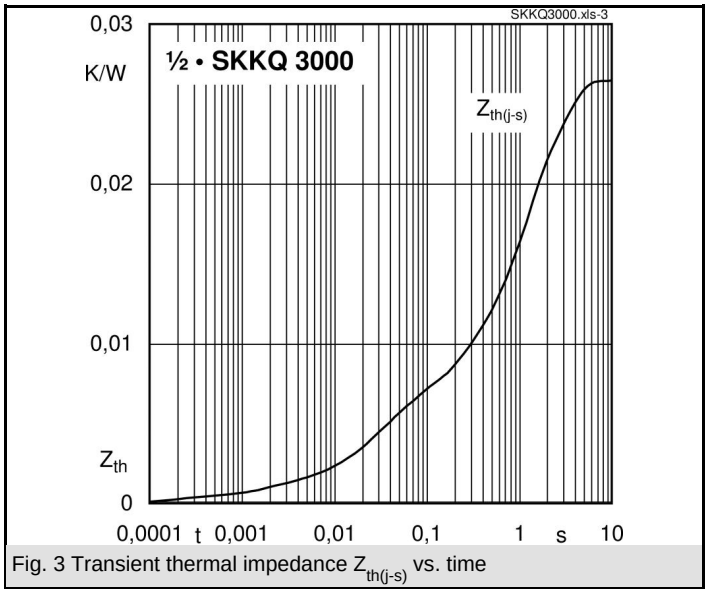


Fig. 3 Transient thermal impedance $Z_{th(j-s)}$ vs. time

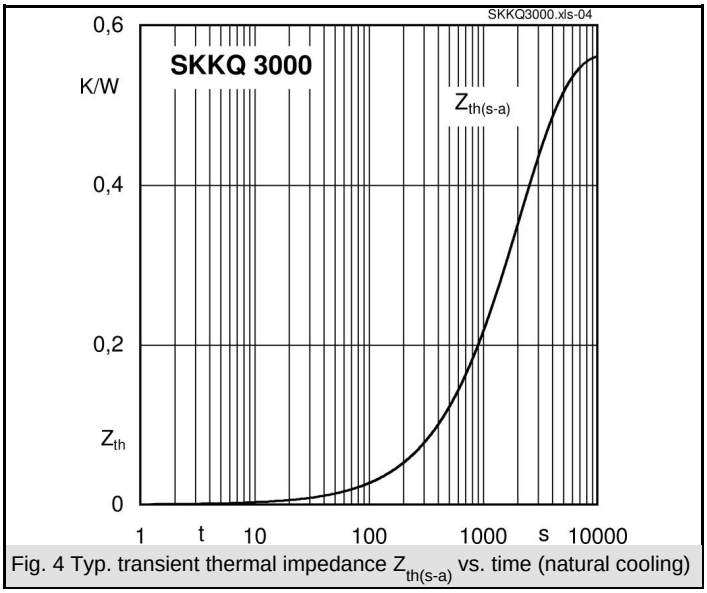


Fig. 4 Typ. transient thermal impedance $Z_{th(s-a)}$ vs. time (natural cooling)

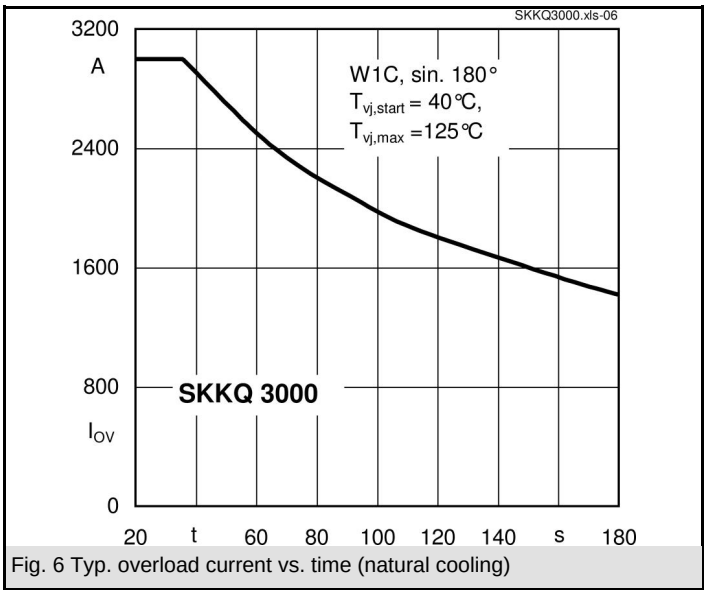


Fig. 6 Typ. overload current vs. time (natural cooling)

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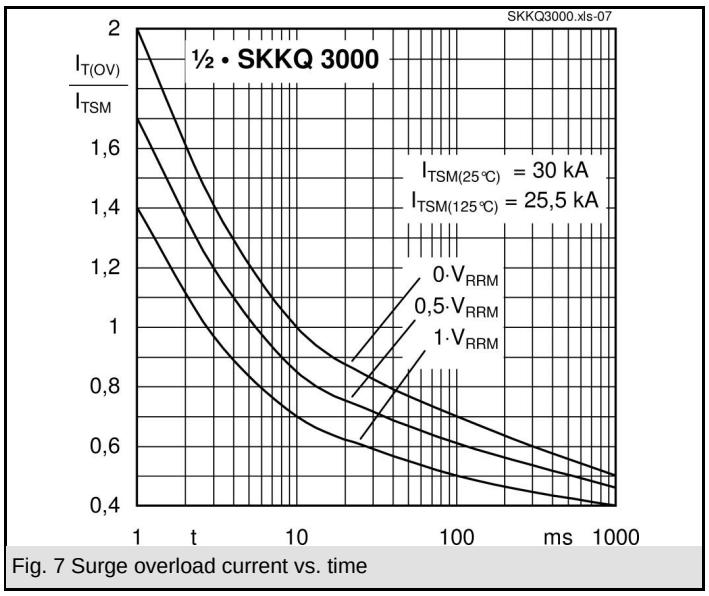


Fig. 7 Surge overload current vs. time

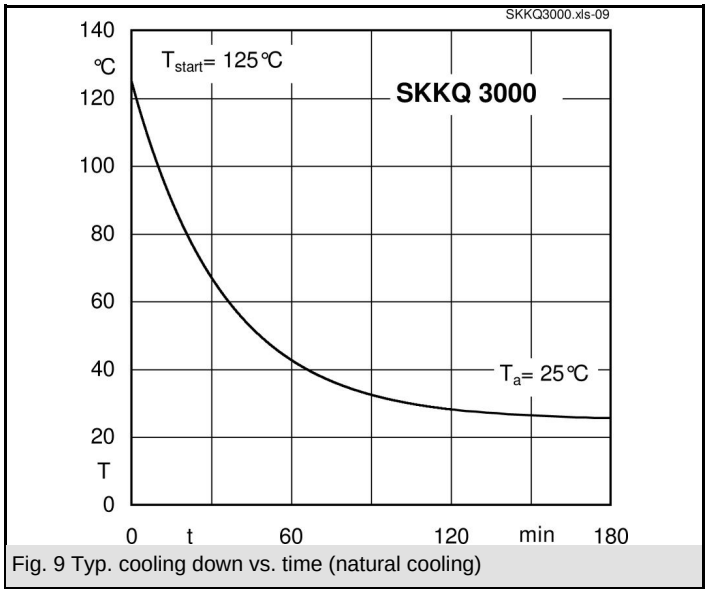
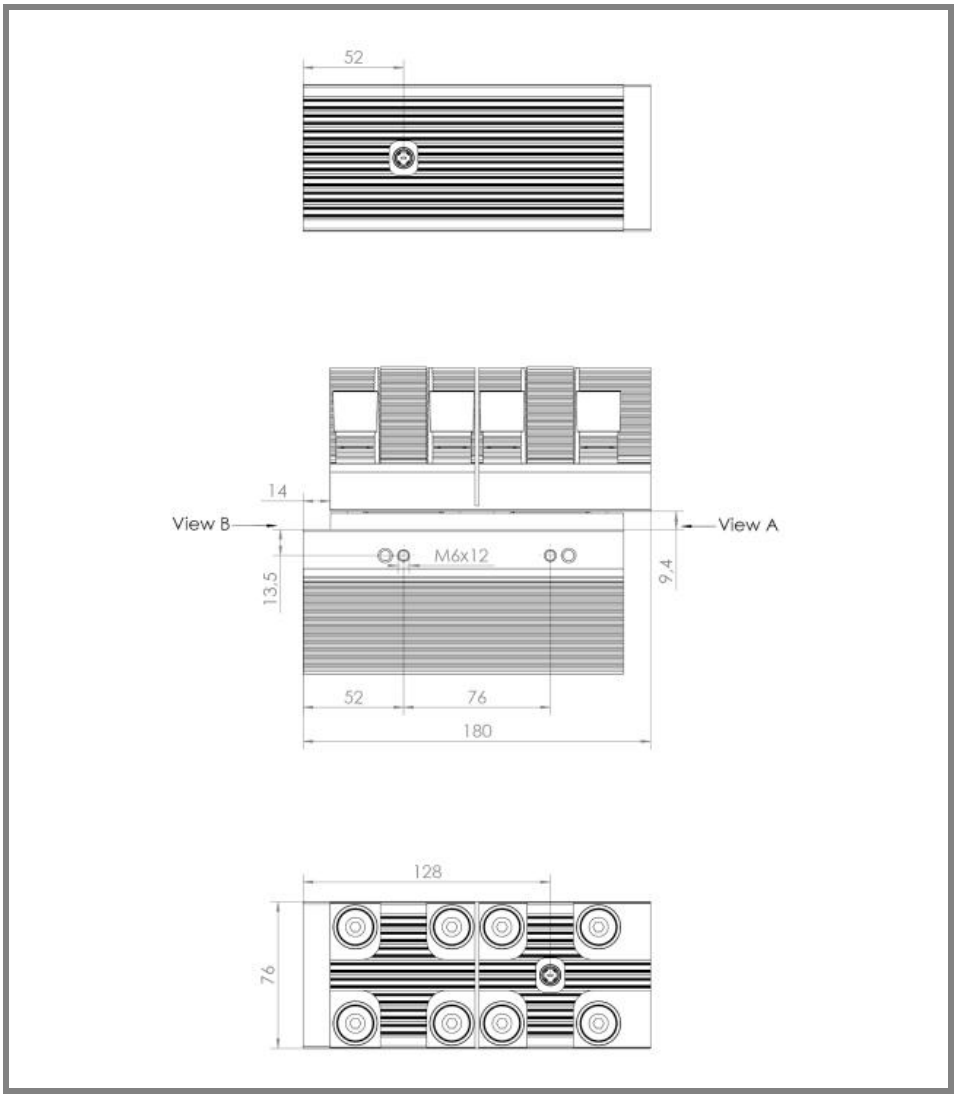
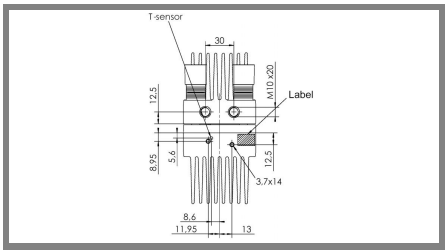


Fig. 9 Typ. cooling down vs. time (natural cooling)

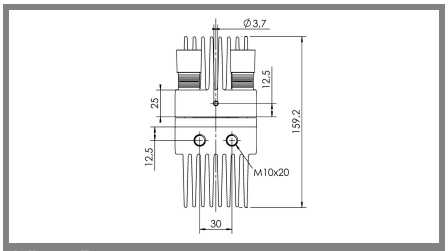
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View A



View B

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