

SEMiSTART

Antiparallel thyristors for softstart

SKKQ 1500

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.

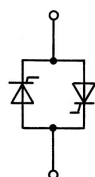
1) T_{vjmax} up to 150°C is allowable for overload conditions, max. time period for the overload condition is 20s.

Absolute Maximum Ratings

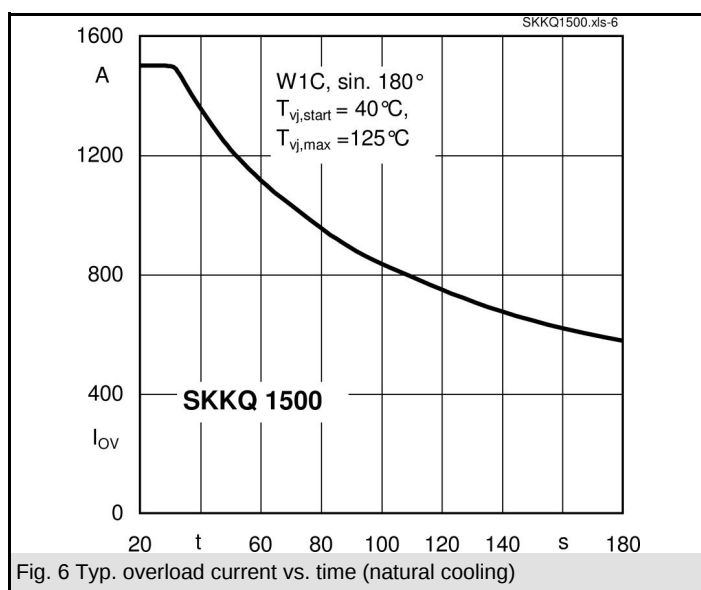
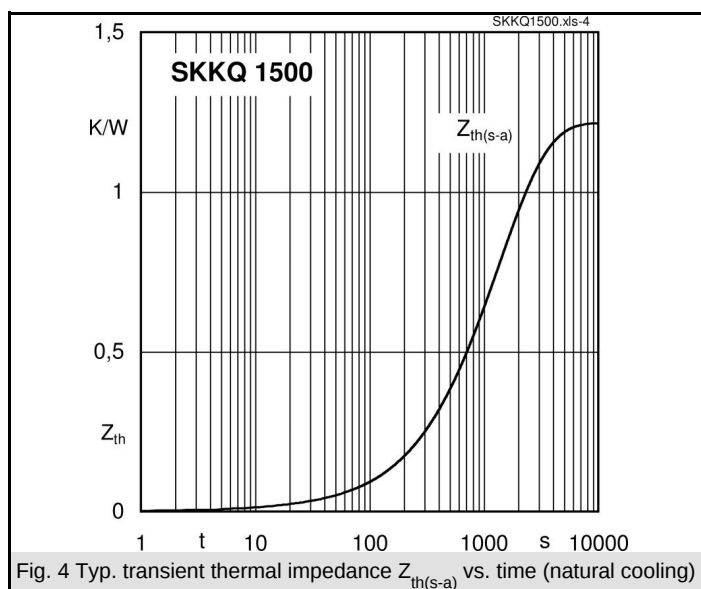
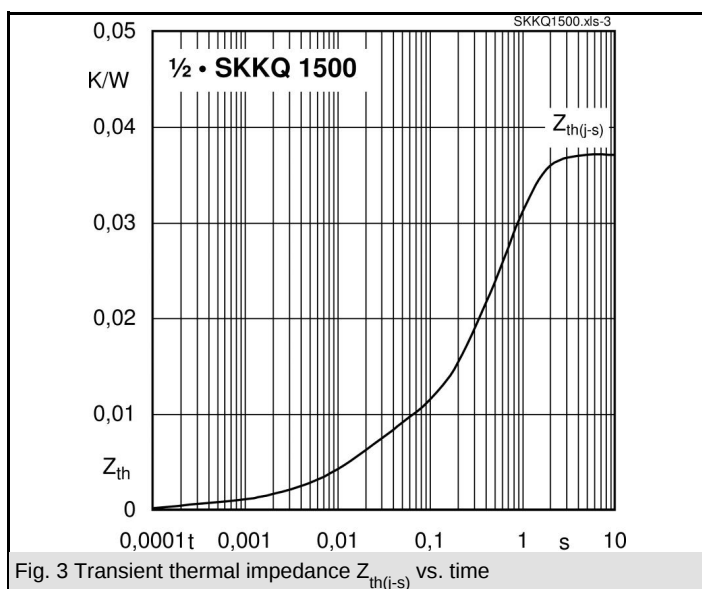
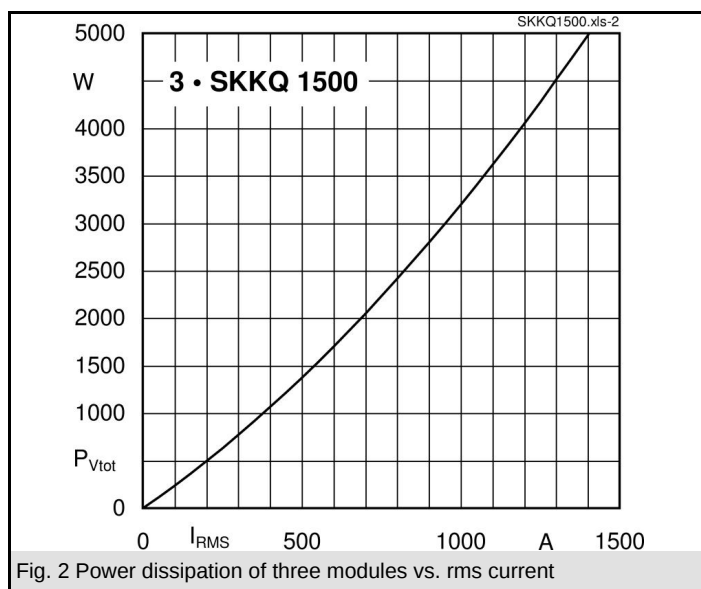
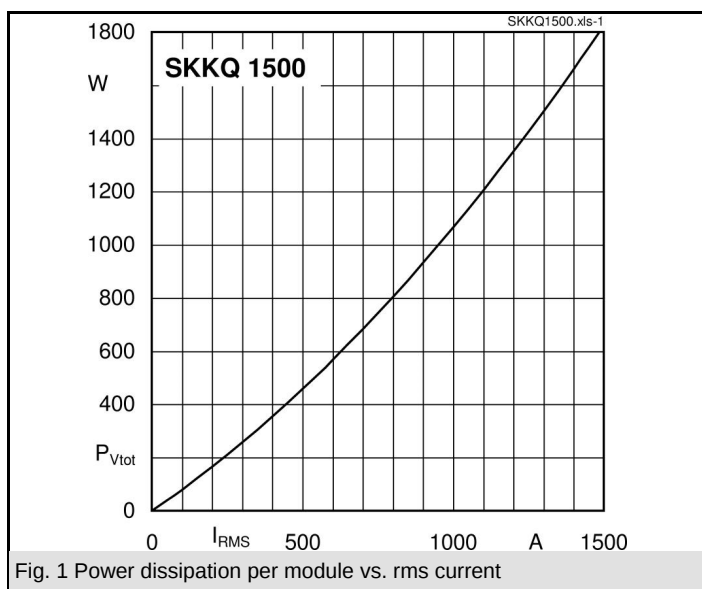
Symbol	Conditions	Values	Units
$I_{overload}$	W1C; sin. 180°; 20 sec.; $T_{vjmax} = 150^\circ\text{C}$; $T_{vjstart} = 40^\circ\text{C}$	1500	A
I_{TSM}	$T_{vj} = 25^\circ\text{C}$; 10 ms	17000	A
	$T_{vj} = 125^\circ\text{C}$; 10 ms	15000	A
I^2t	$T_{vj} = 25^\circ\text{C}$; 8,3 ... 10 ms	1445000	A ² s
	$T_{vj} = 125^\circ\text{C}$; 8,3 ... 10 ms	1125000	A ² s
SKKQ 1500/14			
V_{RSM}		1500	V
V_{RRM}, V_{DRM}		1400	V
SKKQ 1500/18			
V_{RSM}		1900	V
V_{RRM}, V_{DRM}		1800	V
T_{vj}		-40 ... +125 ¹⁾	°C
T_{stg}		-40 ... +125	°C

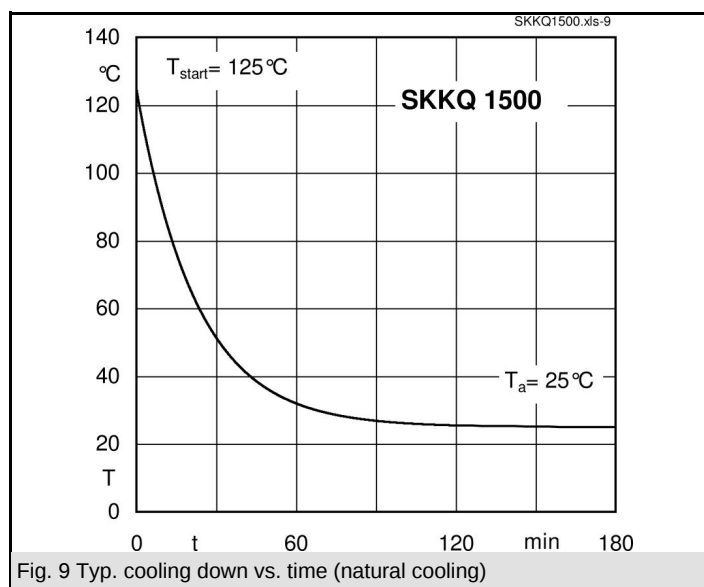
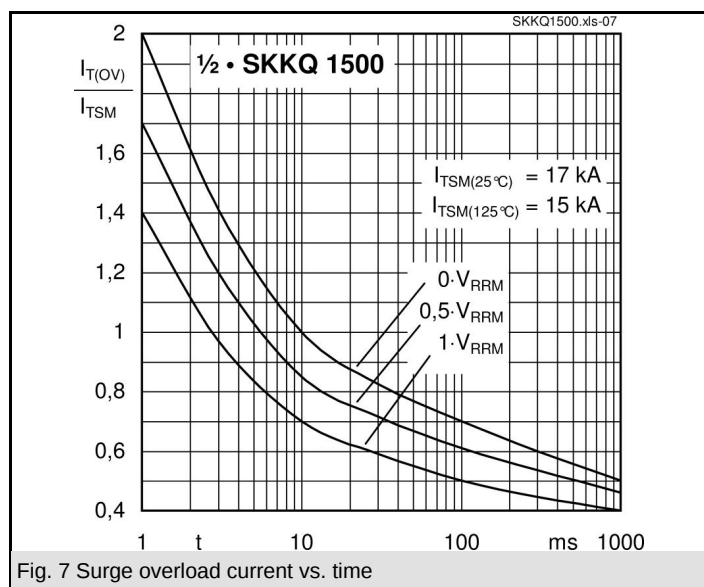
Characteristics

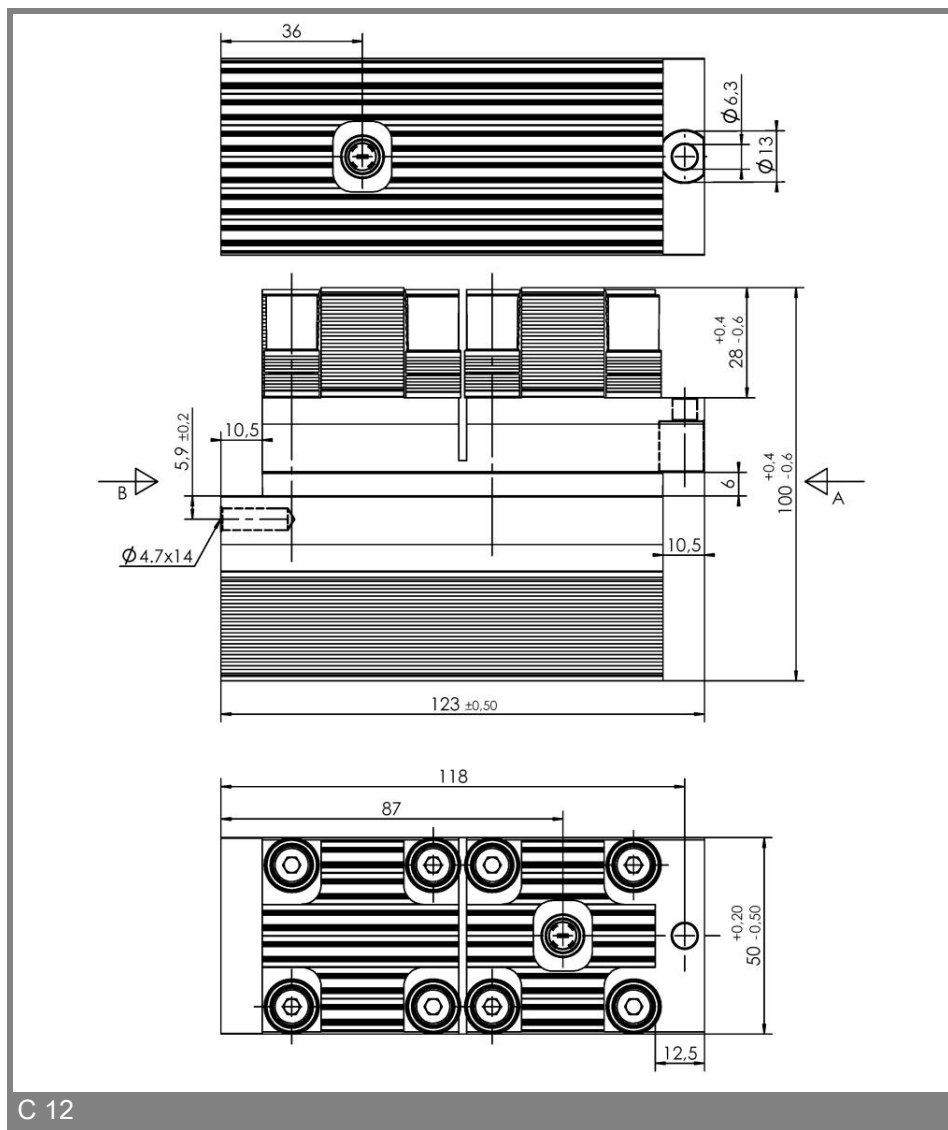
Symbol	Conditions	min.	typ.	max.	Units
V_T	$T_{vj} = 25^\circ\text{C}$; $I_T = 1700\text{ A}$			1,5	V
$V_{T(TO)}$	$T_{vj} = 125^\circ\text{C}$			0,85	V
r_T	$T_{vj} = 125^\circ\text{C}$			0,3	mΩ
I_{DD}, I_{RD}	$T_{vj} = 125^\circ\text{C}$; $V_{RD} = V_{RRM}$; per module			180	mA
t_{gd}	$T_{vj} = 25^\circ\text{C}$; $I_G = 1\text{ A}$; $di_G/dt = 1\text{ A}/\mu\text{s}$		1		μs
t_{gr}	$V_D = 0,67 * V_{DRM}$		2		μs
$(dv/dt)_{cr}$	$T_{vj} = 125^\circ\text{C}$		1000		V/μs
$(di/dt)_{cr}$	$T_{vj} = 125^\circ\text{C}$; $f = 50 \dots 60\text{ Hz}$		200		A/μs
t_q	$T_{vj} = 125^\circ\text{C}$		200		μs
I_H	$T_{vj} = 25^\circ\text{C}$		150	500	mA
I_L	$T_{vj} = 25^\circ\text{C}$; $R_G = 33\ \Omega$		300	2000	mA
V_{GT}	$T_{vj} = 25^\circ\text{C}$; d.c.	3			V
I_{GT}	$T_{vj} = 25^\circ\text{C}$; d.c.	200			mA
V_{GD}	$T_{vj} = 125^\circ\text{C}$; d.c.			0,25	V
I_{GD}	$T_{vj} = 125^\circ\text{C}$; d.c.			10	mA
$R_{th(j-s)}$	cont.; per thyristor			0,037	K/W
M_t			5 ± 15%		Nm
m	approx.		1200		g
Case			C 12		



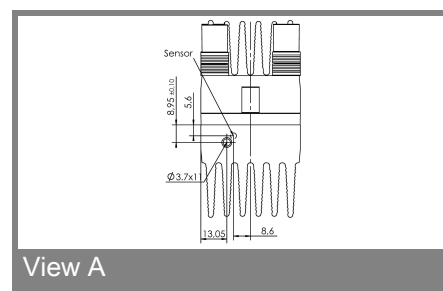
W1C



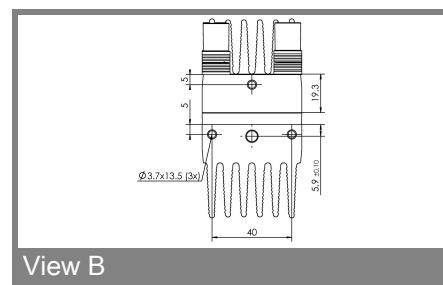




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View A



View B

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