

## SEMISTACK

Antiparallel thyristors for softstart

### SKKQ 230

#### Features

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

#### Typical Applications

- Soft Starters

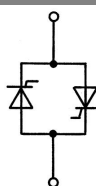
1)  $T_{vjmax}$  up to 150°C is allowable for overload conditions, max. time period for the overload condition is 25s.

#### Absolute Maximum Ratings

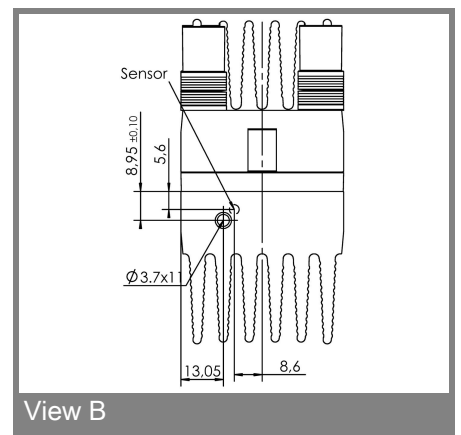
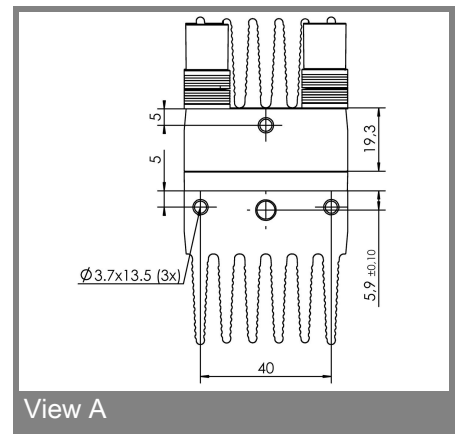
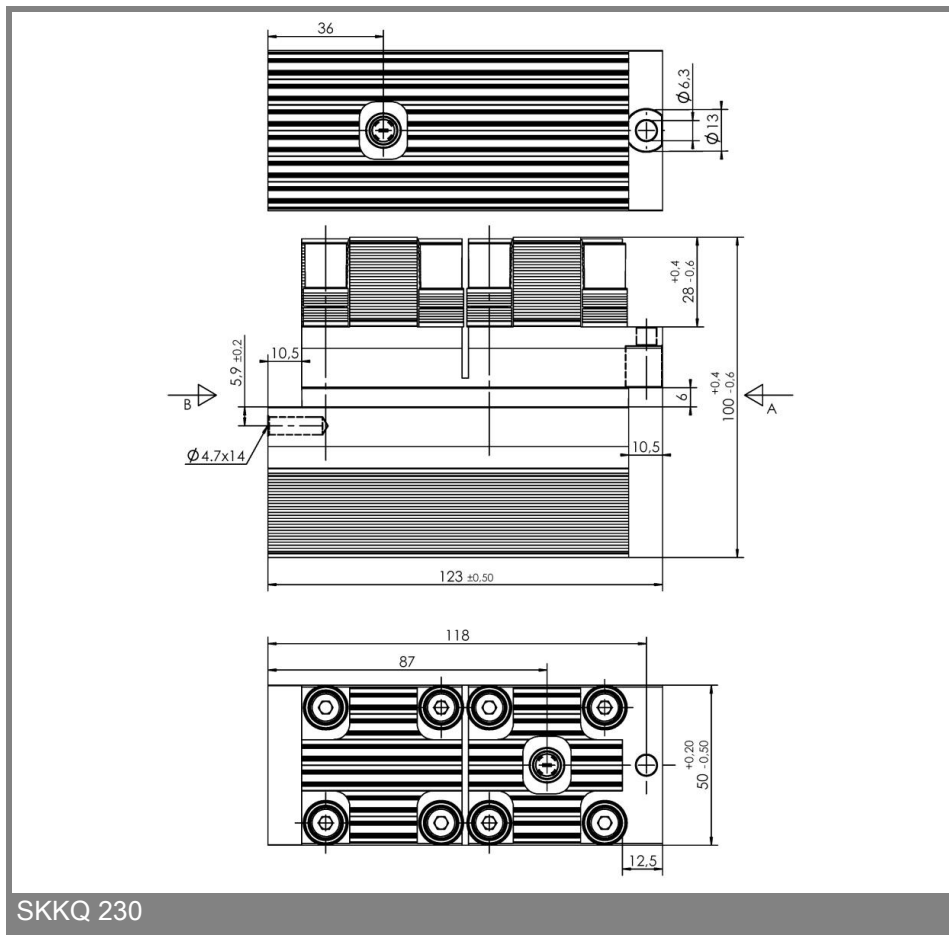
Symbol	Conditions	Values	Units
$I_{overload}$	W1C; sin. 180°; 20 sec.; $T_{vjmax} = 150\text{ °C}$ ; $T_{vjstart} = 40\text{ °C}$	800	A
$I_{TSM}$	$T_{vj} = 25\text{ °C}$ ; 10 ms	5700	A
	$T_{vj} = 125\text{ °C}$ ; 10 ms	5200	A
$I^2t$	$T_{vj} = 25\text{ °C}$ ; 8,3 ... 10 ms	162000	A <sup>2</sup> s
	$T_{vj} = 125\text{ °C}$ ; 8,3 ... 10 ms	135000	A <sup>2</sup> s
SKKQ 230/14			
$V_{RSM}$		1500	V
$V_{RRM}, V_{DRM}$		1400	V
SKKQ 230/18			
$V_{RSM}$		1900	V
$V_{RRM}, V_{DRM}$		1800	V
$T_{vj}$		-40 ... +125 <sup>1)</sup>	°C
$T_{stg}$		-40 ... +125	°C

#### Characteristics

Symbol	Conditions	min.	typ.	max.	Units
$V_T$	$T_{vj} = 25\text{ °C}$ ; $I_T = 1000\text{ A}$			1,9	V
$V_{T(TO)}$	$T_{vj} = 125\text{ °C}$			0,9	V
$r_T$	$T_{vj} = 125\text{ °C}$			0,8	mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 125\text{ °C}$ ; $V_{RD} = V_{RRM}$ ; per module			60	mA
$t_{gd}$	$T_{vj} = 25\text{ °C}$ ; $I_G = 1\text{ A}$ ; $di_G/dt = 1\text{ A}/\mu\text{s}$		1		μs
$t_{gr}$	$V_D = 0,67 * V_{DRM}$		2		μs
$(dv/dt)_{cr}$	$T_{vj} = 125\text{ °C}$		1000		V/μs
$(di/dt)_{cr}$	$T_{vj} = 125\text{ °C}$ ; $f = 50 \dots 60\text{ Hz}$		125		A/μs
$t_q$	$T_{vj} = 125\text{ °C}$		150		μs
$I_H$	$T_{vj} = 25\text{ °C}$		150	400	mA
$I_L$	$T_{vj} = 25\text{ °C}$ ; $R_G = 33\ \Omega$		300	1000	mA
$V_{GT}$	$T_{vj} = 25\text{ °C}$ ; d.c.	2			V
$I_{GT}$	$T_{vj} = 25\text{ °C}$ ; d.c.	150			mA
$V_{GD}$	$T_{vj} = 125\text{ °C}$ ; d.c.			0,25	V
$I_{GD}$	$T_{vj} = 125\text{ °C}$ ; d.c.			10	mA
$R_{th(j-s)}$	cont.; per thyristor			0,106	K/W
$M_t$			5 ± 15%		Nm
m	approx.		1200		g
Case				SKKQ 230	



W1C



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