

SEMiSTART

Antiparallel thyristors for softstart

SKKQ 1200

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.

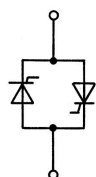
1) T_{vjmax} up to 150°C is allowable for overload conditions, max. time period for the overload condition is 20s.

Absolute Maximum Ratings

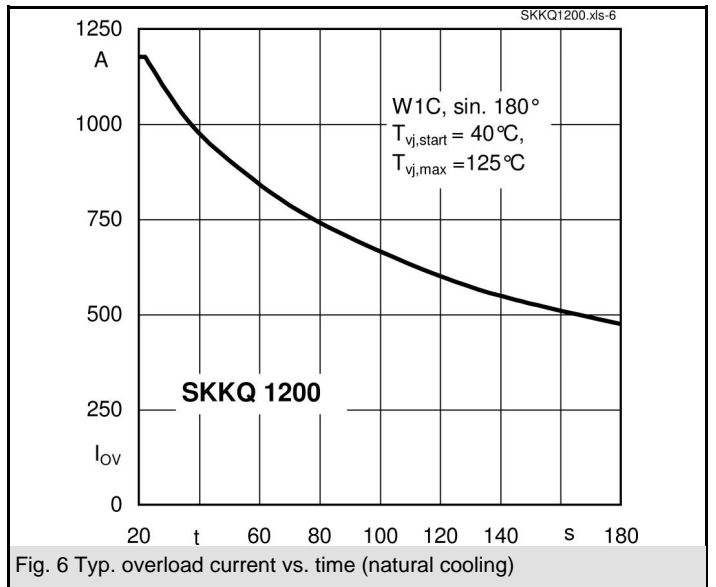
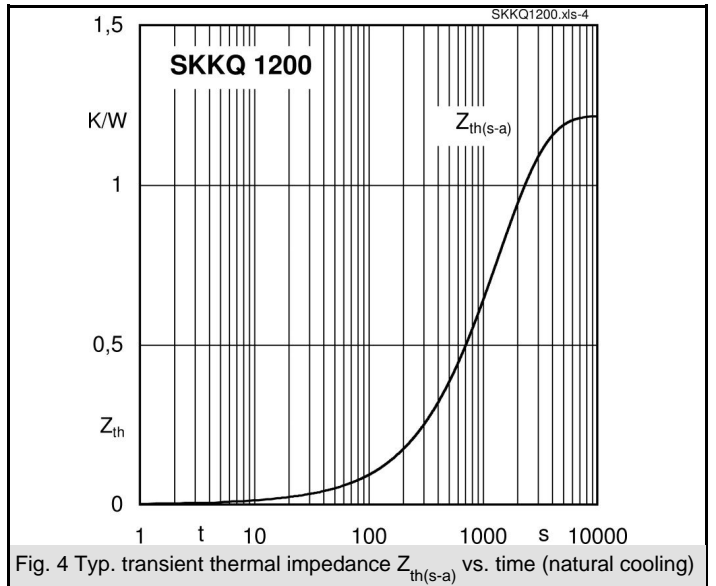
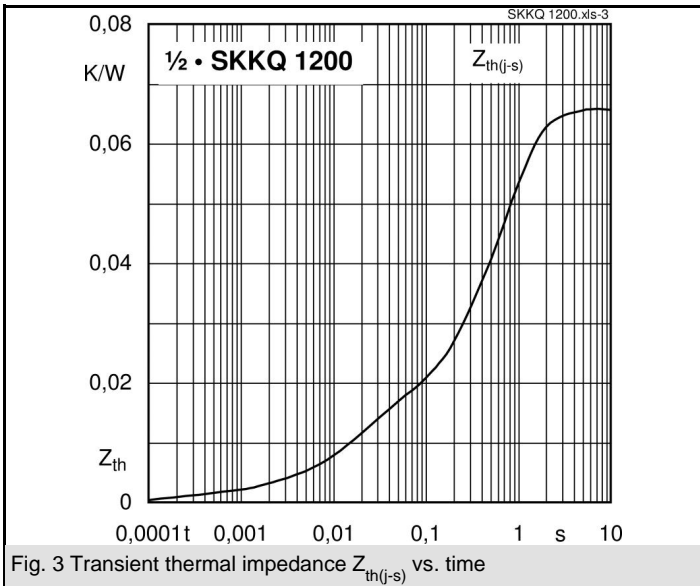
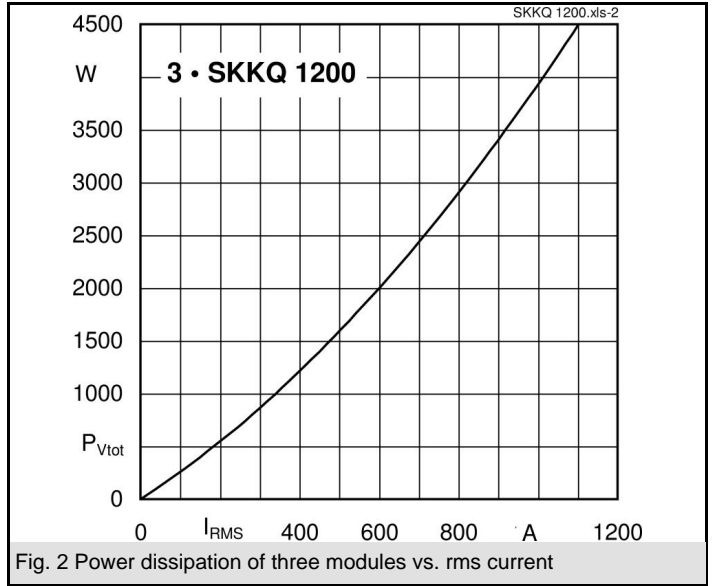
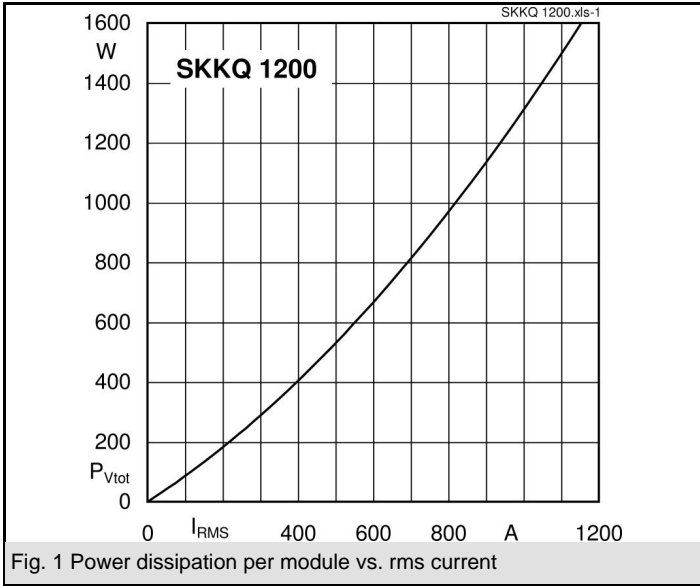
| Symbol | Conditions | Values | Units |
|--------------------|---|----------------------------|------------------|
| $I_{overload}$ | W1C; sin. 180°; 20 sec.; $T_{vjmax} = 150\text{ °C}$; $T_{vjstart} = 40\text{ °C}$ | 1225 | A |
| I_{TSM} | $T_{vj} = 25\text{ °C}$; 10 ms | 9500 | A |
| | $T_{vj} = 125\text{ °C}$; 10 ms | 8000 | A |
| I^2t | $T_{vj} = 25\text{ °C}$; 8,3 ... 10 ms | 451000 | A ² s |
| | $T_{vj} = 125\text{ °C}$; 8,3 ... 10 ms | 320000 | A ² s |
| SKKQ 1200/14 | | | |
| V_{RSM} | | 1500 | V |
| V_{RRM}, V_{DRM} | | 1400 | V |
| SKKQ 1200/18 | | | |
| V_{RSM} | | 1900 | V |
| V_{RRM}, V_{DRM} | | 1800 | V |
| T_{vj} | | -40 ... +125 ¹⁾ | °C |
| T_{stg} | | -40 ... +125 | °C |

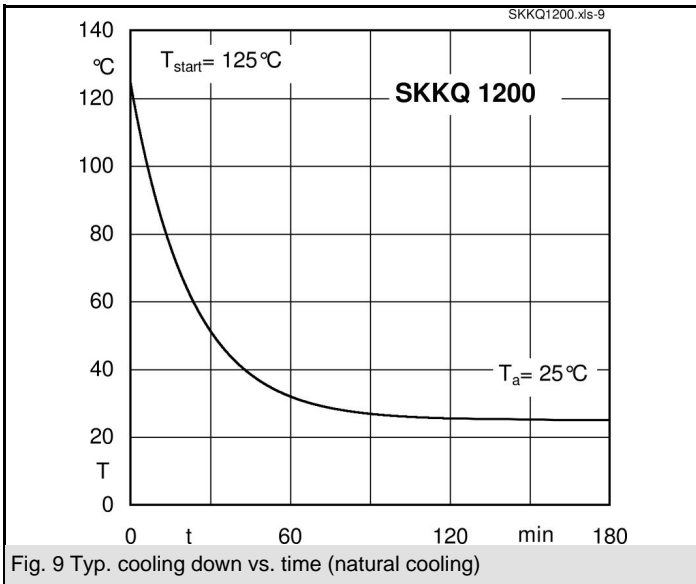
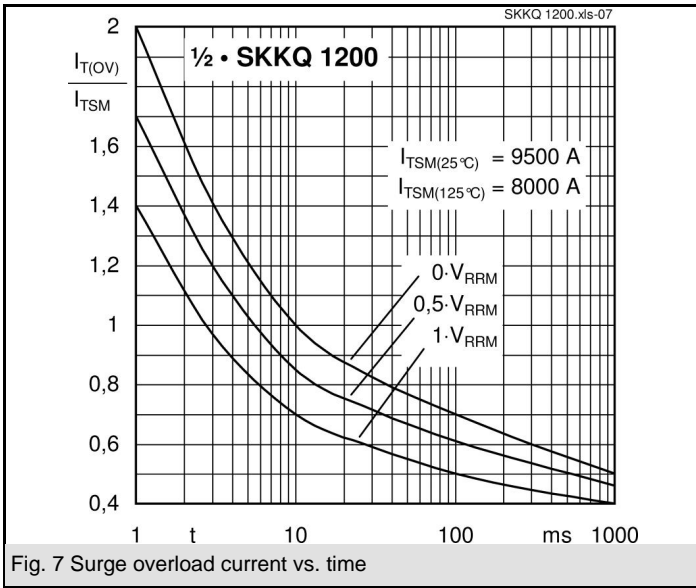
Characteristics

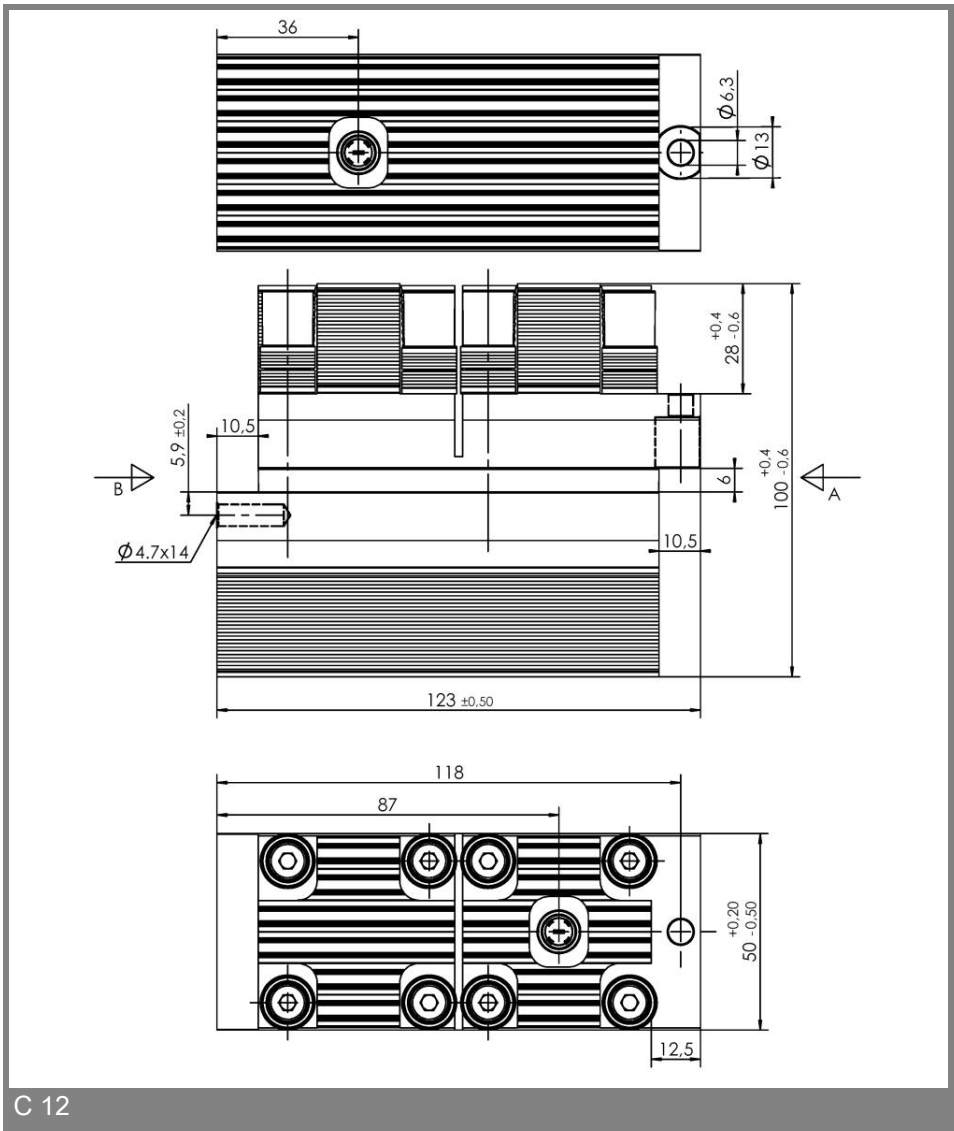
| Symbol | Conditions | min. | typ. | max. | Units |
|------------------|---|------|---------|-------|-------|
| V_T | $T_{vj} = 25\text{ °C}$; $I_T = 1500\text{ A}$ | | | 1,65 | V |
| $V_{T(TO)}$ | $T_{vj} = 125\text{ °C}$ | | | 0,9 | V |
| r_T | $T_{vj} = 125\text{ °C}$ | | | 0,5 | mΩ |
| I_{DD}, I_{RD} | $T_{vj} = 125\text{ °C}$; $V_{RD} = V_{RRM}$; per module | | | 72 | 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 |
| $(di/dt)_{cr}$ | $T_{vj} = 125\text{ °C}$; $f = 50 \dots 60\text{ Hz}$ | | 200 | | A/μs |
| t_q | $T_{vj} = 125\text{ °C}$ | | 150 | | μs |
| I_H | $T_{vj} = 25\text{ °C}$ | | 150 | 500 | mA |
| I_L | $T_{vj} = 25\text{ °C}$; $R_G = 33\ \Omega$ | | 300 | 2000 | mA |
| V_{GT} | $T_{vj} = 25\text{ °C}$; d.c. | 3 | | | V |
| I_{GT} | $T_{vj} = 25\text{ °C}$; d.c. | 200 | | | 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 | | | 0,066 | K/W |
| M_t | | | 5 ± 15% | | Nm |
| m | approx. | | 1200 | | g |
| Case | | | C 12 | | |



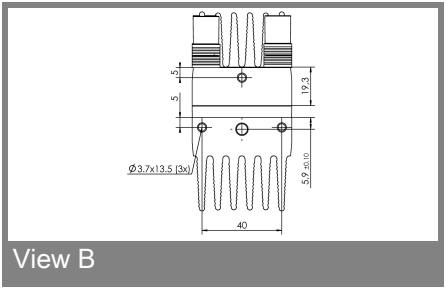
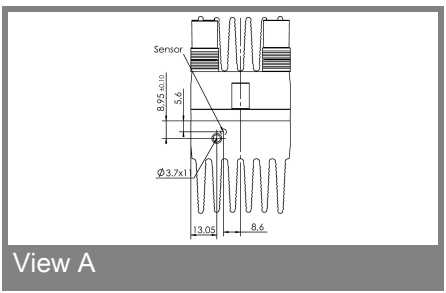
W1C







C 12



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