SEMIKRON

V_{RSM} V	V_{RRM} V_{DRM} V	I_{RMS} (maximum values for continuous operation) (T_h = 85 °C) 47 A	72 A
900	800	**SK 45 KQ 08**	**SK 70 KQ 08**
1300	1200	**SK 45 KQ 12**	**SK 70 KQ 12**
1700	1600	**SK 45 KQ 16**	**SK 70 KQ 16**

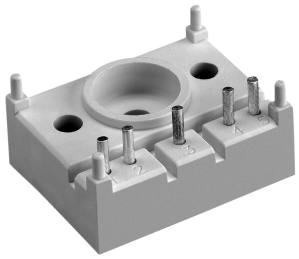
Symbol	Conditions	SK 45 KQ	SK 70 KQ	Units
I_{RMS}	W1C; sin 180°; T_h = 100 °C	33	50	A
	T_h = 85 °C	47	72	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	450	1 000	A
	T_{vj} = 125 °C; 10 ms	380	900	A
i^2t	T_{vj} = 25 °C; 8,3...10 ms	1 000	5 000	A^2s
	T_{vj} = 125 °C; 8,3...10 ms	720	4 000	A^2s
t_{gd}	T_{vj} = 25 °C; I_G = 1 A; di_G/dt = 1 A/µs	1		µs
t_{gr}	V_D = 0,67 V_{DRM}	2		µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	1 000	1 000	V/µs
$(di/dt)_{cr}$	T_{vj} = 125 °C; f = 50...60 Hz	50	50	A/µs
t_q	T_{vj} = 125 °C; typ.	80	80	µs
I_H	T_{vj} = 25 °C; typ. / max	80 / 150	100 / 200	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	150 / 300	200 / 400	mA
V_T	T_{vj} = 25 °C; (I_T = ...); max.	1,9	1,8	V
		(75)	(120)	A
$V_{T(TO)}$	T_{vj} = 125 °C	1	1	V
r_T	T_{vj} = 125 °C	10	6	mΩ
I_{DD}; I_{RD}	T_{vj} = 25 °C } V_{DD} = V_{DRM}	0,5	0,5	mA
	T_{vj} = 125 °C } V_{RD} = V_{RRM}	10	15	mA
V_{GT}	T_{vj} = 25 °C; dc	2	2	V
I_{GT}	T_{vj} = 25 °C; dc	100	100	mA
V_{GD}	T_{vj} = 125 °C; dc	0,25	0,25	V
I_{GD}	T_{vj} = 125 °C; dc	3	5	mA
R_{thjh} [1]	cont. per thyristor / per W1C	1,2 / 0,6	0,8 / 0,4	K/W
	sin 180° per thyristor / per W1C	1,24 / 0,62	0,84 / 0,42	K/W
T_{vj}		– 40 ... + 125		°C
T_{stg}		– 40 ... + 125		°C
T_{solder}	terminals, 10 s	260		°C
V_{isol}	a.c. 50 Hz; r.m.s. 1 s/1 min	3000 / 2500		V~
M_1	mounting torque	1,5		Nm
w		13		g
Case		T 1		

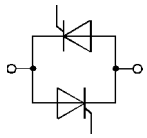
SEMITOP® 1

Antiparallel Thyristor Module

for a.c. controllers

SK 45 KQ
SK 70 KQ





KQ

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Glass passivated thyristor chips
- Up to 1600 V reverse voltage
- UL recognized, file no. E 63 532

Typical Applications

- Soft starters
- Light control (studios, theaters)
- Temperature control

[1] Thermal resistance junction to heatsink

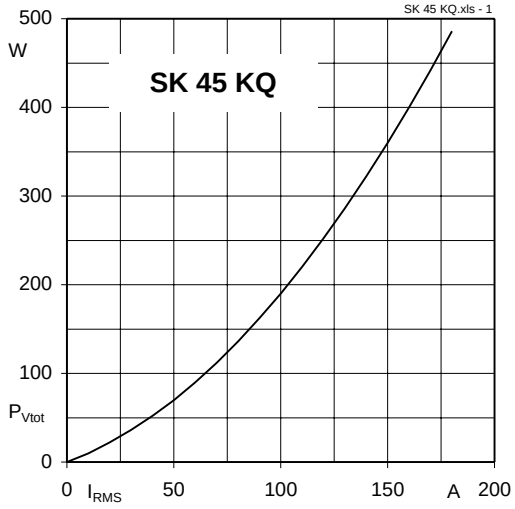


Fig. 1 Power dissipation per module vs. rms current

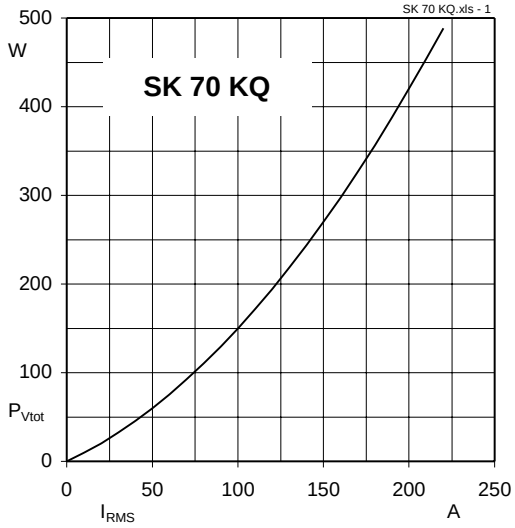


Fig. 1 Power dissipation per module vs. rms current

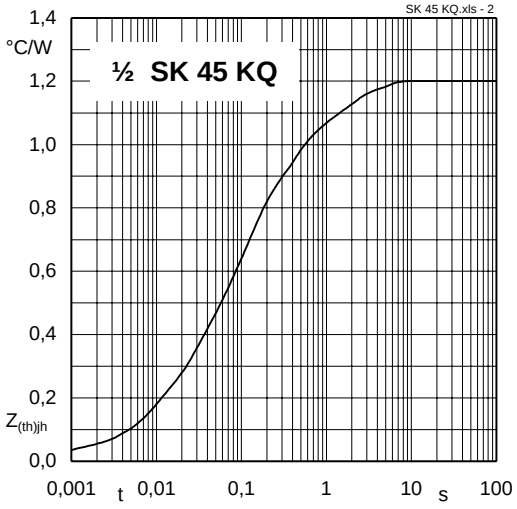
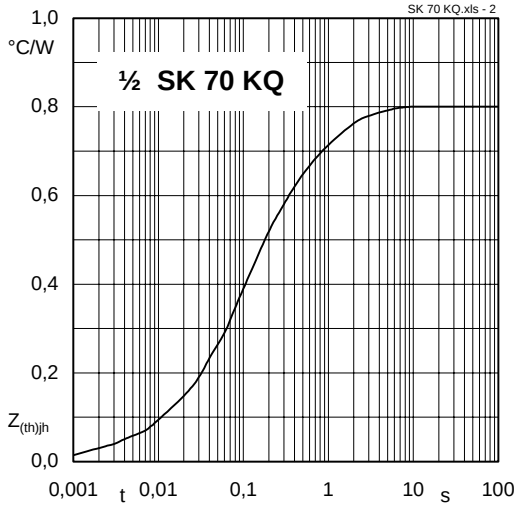


Fig. 2 Transient thermal impedance vs. time



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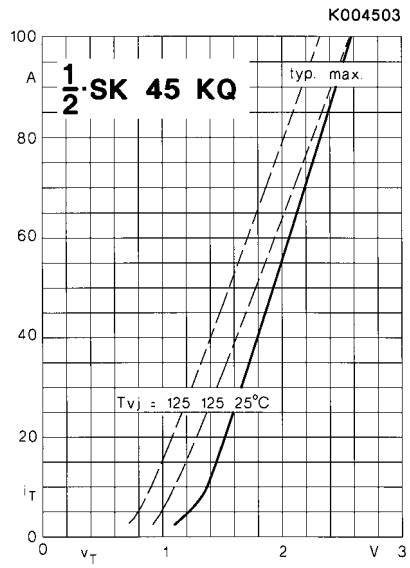


Fig. 3 On-state characteristics

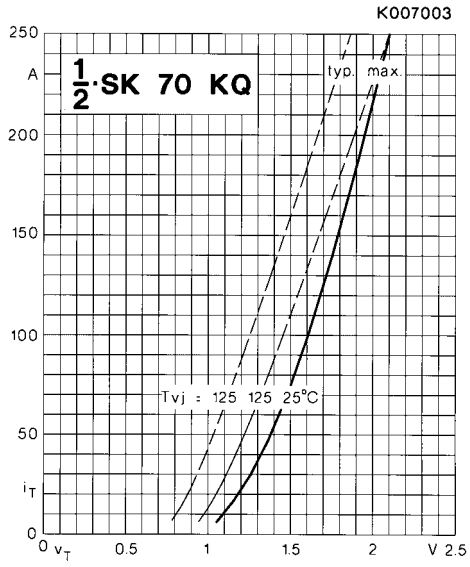


Fig. 3 On-state characteristics

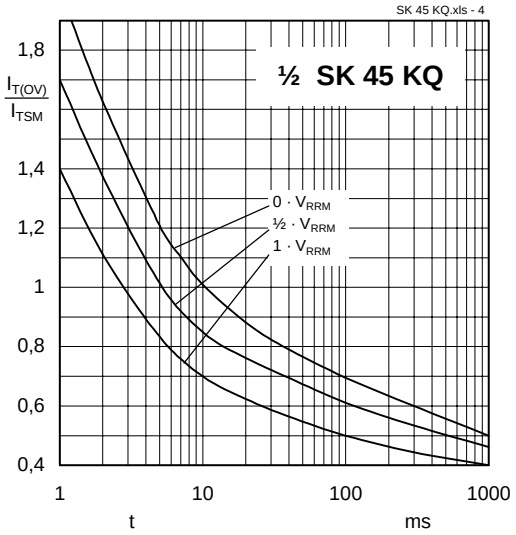


Fig. 4 Surge overload current vs. time

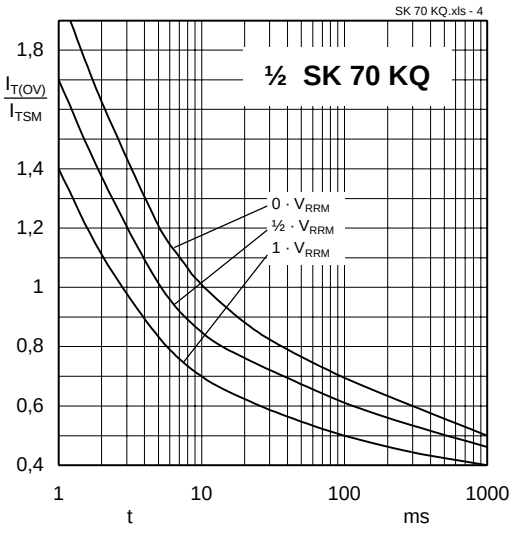


Fig. 4 Surge overload current vs. time

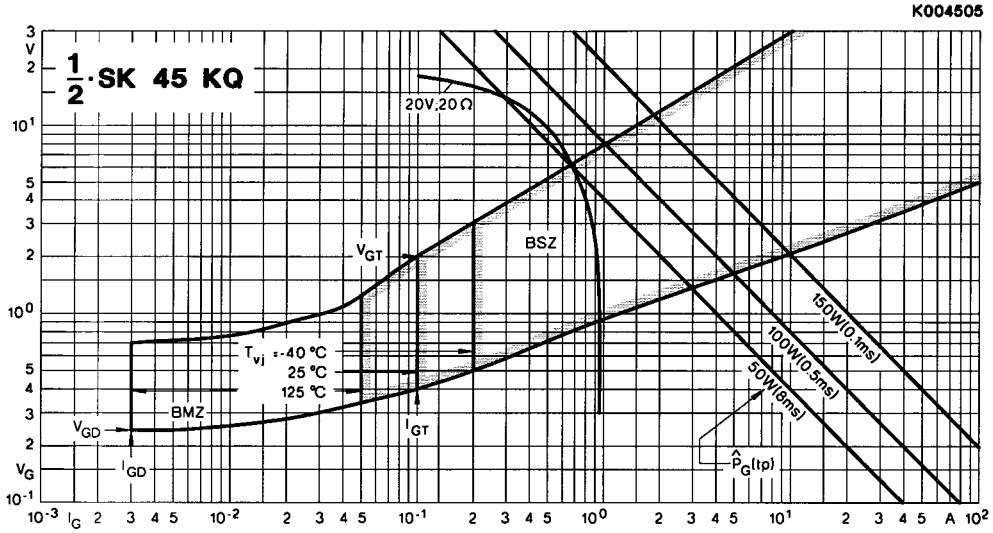


Fig. 5 Gate trigger characteristics

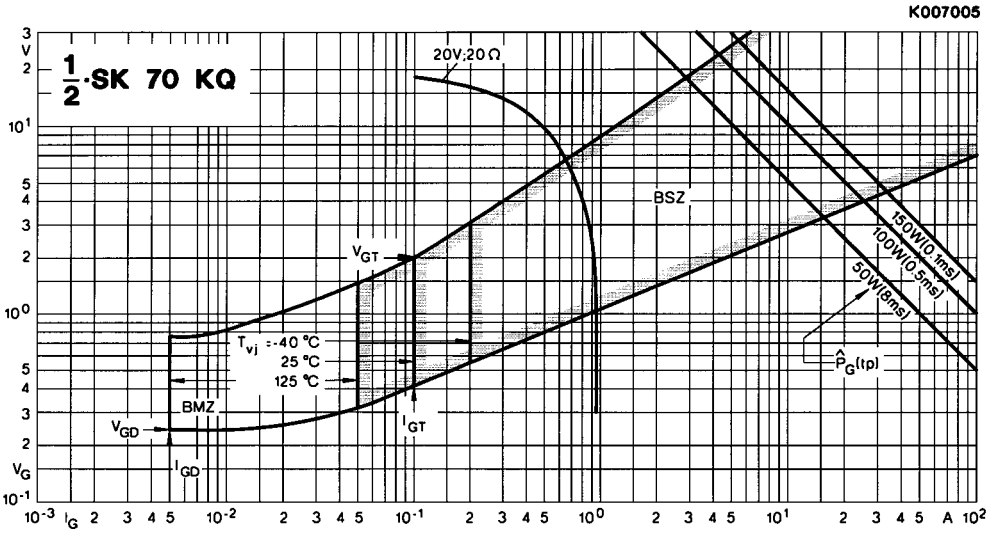
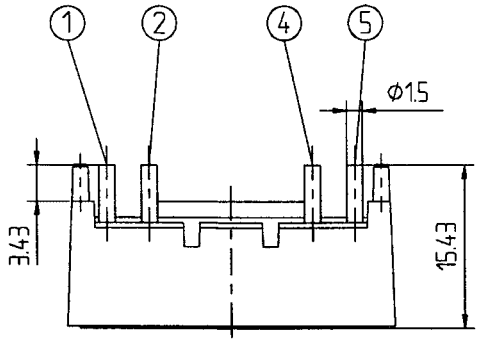
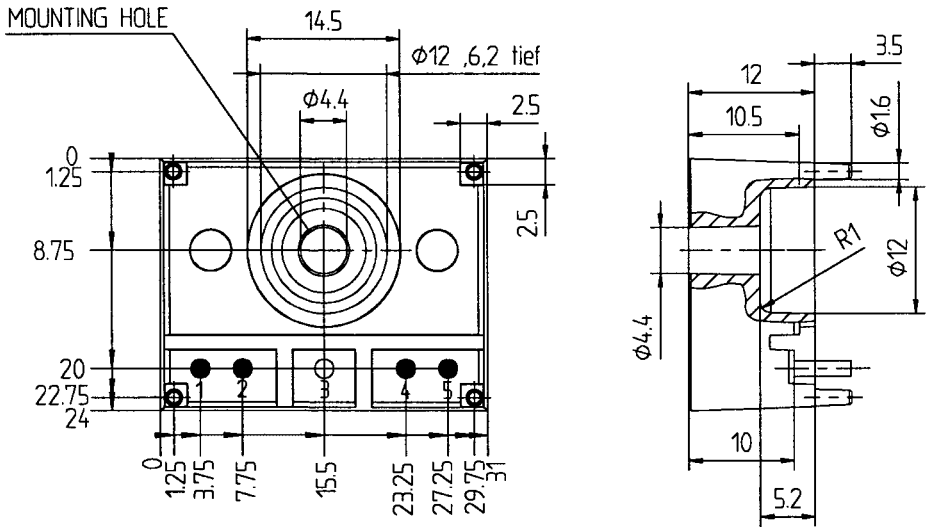


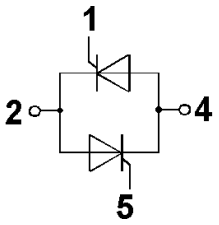
Fig. 5 Gate trigger characteristics

SEMITOP® 1
SK 45 KQ
SK 70 KQ

Case T 1







Dimensions in mm