SKT 813

Capsule Thyristor

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 1600 A (maximum value for continuous operation) I_{TAV} = 810 A (sin. 180 DSC; T_c = 88ºC)
500	400	SKT 813/04D
900	800	SKT 813/08D
1300	1200	SKT 813/12E
1700	1600	SKT 813/16E
1900	1800	SKT 813/18E

Thyristors

SKT 813

Features

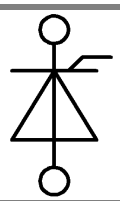
- Hermetic metal case with epoxy insulator
- Capsule package for double sided cooling
- Off-state and reverse voltages up to 1800 V
- Amplifying gate

Typical Applications *

- DC motor control
- Controlled and half-controlled rectifiers
- AC controllers
- Recommended snubber network
  e.g. for $V_{rms} \leq 400$ V:
  RC: 33 Ω/32 W, C = 1µF

1) With thermal compound

Symbol	Condition	Values	Units
I_{TAV}	sin. 180 ; T_C = 100 (85) ºC	605 (855)	A
I_D	2 x P8/180; T_a = 45 ºC; B2/B6	435 / 635	A
	2 x P8/180F; T_a = 35 ºC; B2/B6	965 / 1370	A
I_{RMS}	2 x P8/180; T_a = 45 ºC; W1C	485	A
I_{TSM}	T_{vj} = 25º C ; 10 ms	15000	A
	T_{vj} = 125º C ; 10 ms	13000	A
i^2t	T_{vj} = 25º C ; 8,3...10 ms	1125000	A^2s
	T_{vj} = 125º C ; 8,3...10 ms	845000	A^2s
V_T	T_{vj} = 25º C, I_T = 2400 A	max. 1,65	V
$V_{T(TO)}$	T_{vj} = 125º C	max. 0,92	V
r_T	T_{vj} = 125º C	max. 0,30	mΩ
I_{DD}; I_{RD}	T_{vj} = 125º C; V_{RD} = V_{RRM}; V_{RD} = V_{RRM}	80	mA
t_{gd}	T_{vj} = 25º C; i_G = 1A; di_G/d_t = 1 A/µs	1	µs
t_{gr}	V_D = 0,67 * V_{DRM}	2	µs
$(di/dt)_{cr}$	T_{vj} = 125°C	min. 125	A/µs
$(dV/dt)_{cr}$	T_{vj} = 125°C	min. 1000	V/µs
t_q	T_{vj} = 125°C	100 … 200	µs
I_H	T_{vj} = 25°C; typ. / max	150 / 500	mA
I_L	T_{vj} = 25°C; R_G = 33 Ω; typ. / max	500 / 2000	mA
V_{GT}	T_{vj} = 25°C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25°C; d.c.	min. 200	mA
V_{GD}	T_{vj} = 125°C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 125°C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; DSC	0,029	K/W
$R_{th(j-c)}$	sin. 180; DSC / SSC	0,030 / 0,060	K/W
$R_{th(j-c)}$	rec. 120; DSC / SSC	0,032 / 0,064	K/W
$R_{th(c-s)}$ 1)	DSC / SSC	0,0065 / 0,013	K/W
T_{vj}		-40...+125	°C
T_{stg}		-40...+125	°C
F	Mounting force (SI units)	10 … 13	kN
m	approx.	125	g
Case		B21	



SKT

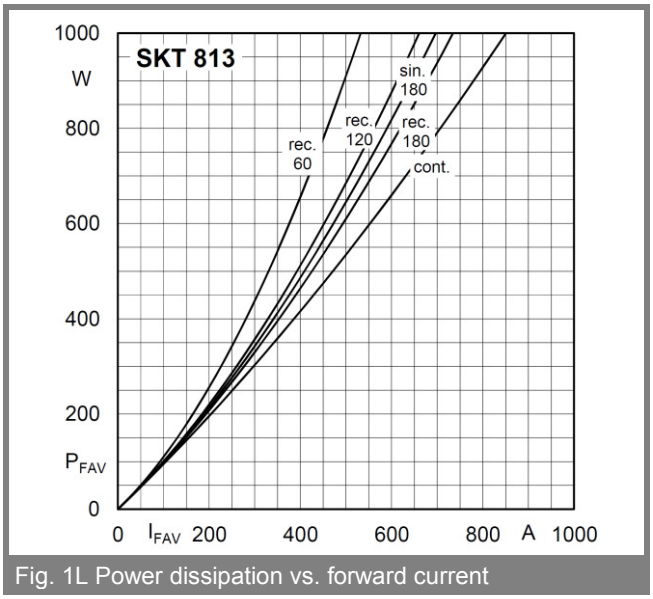


Fig. 1L Power dissipation vs. forward current

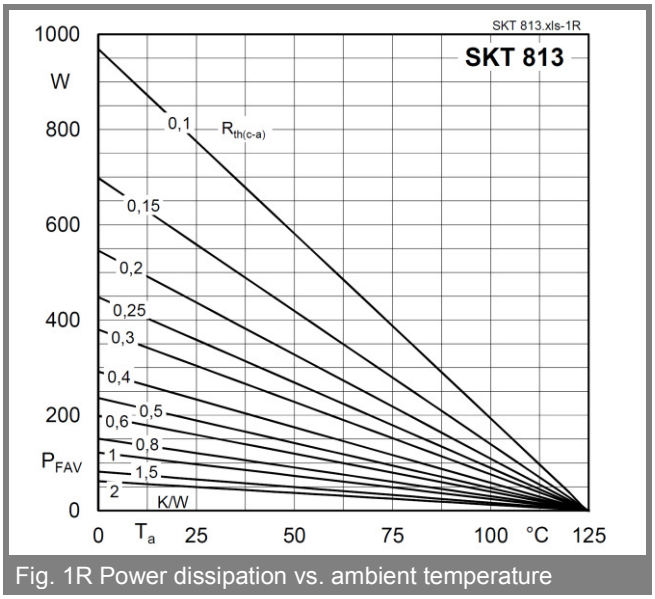


Fig. 1R Power dissipation vs. ambient temperature

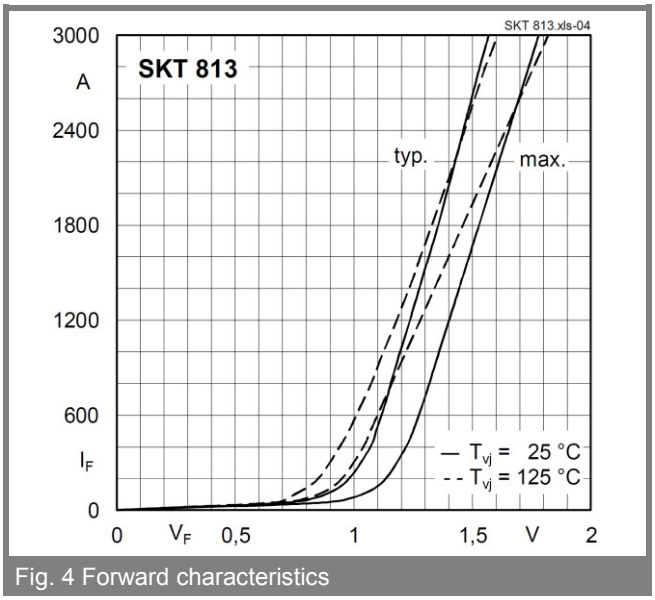


Fig. 4 Forward characteristics

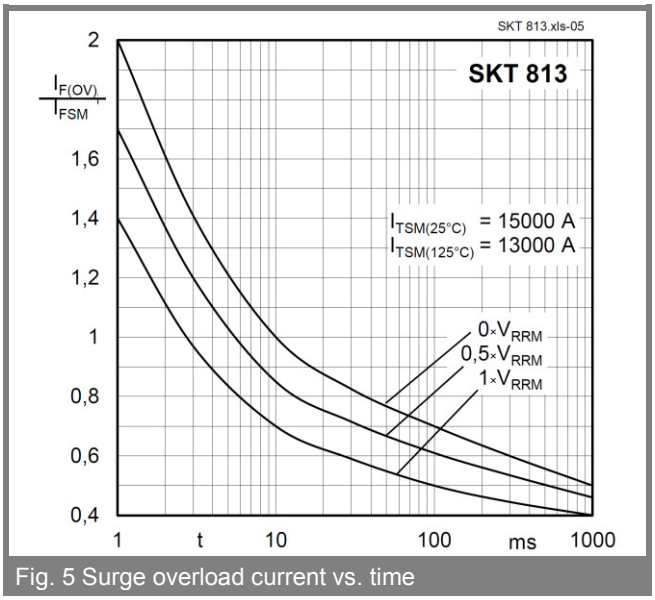


Fig. 5 Surge overload current vs. time

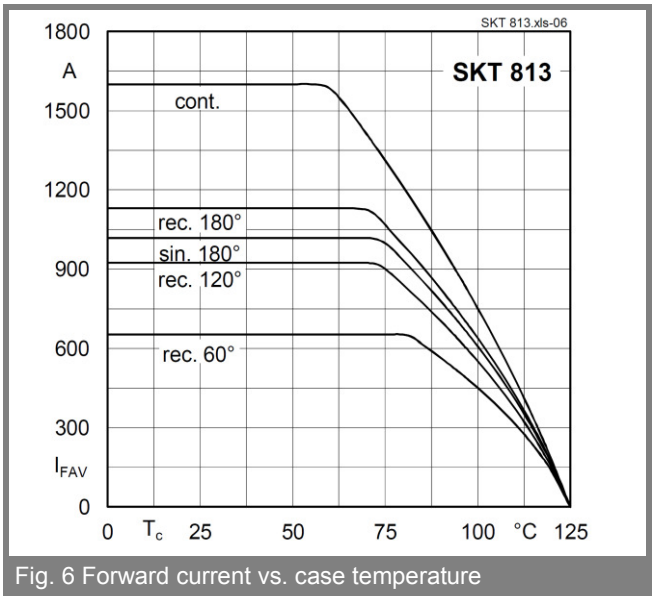


Fig. 6 Forward current vs. case temperature

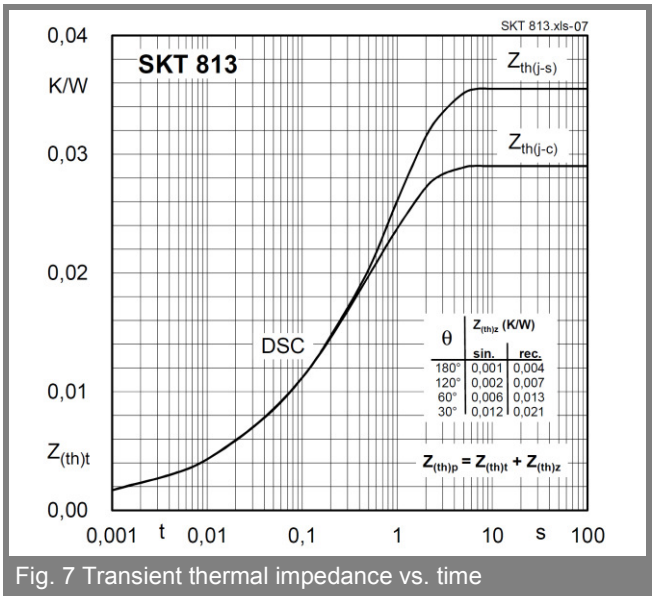


Fig. 7 Transient thermal impedance vs. time

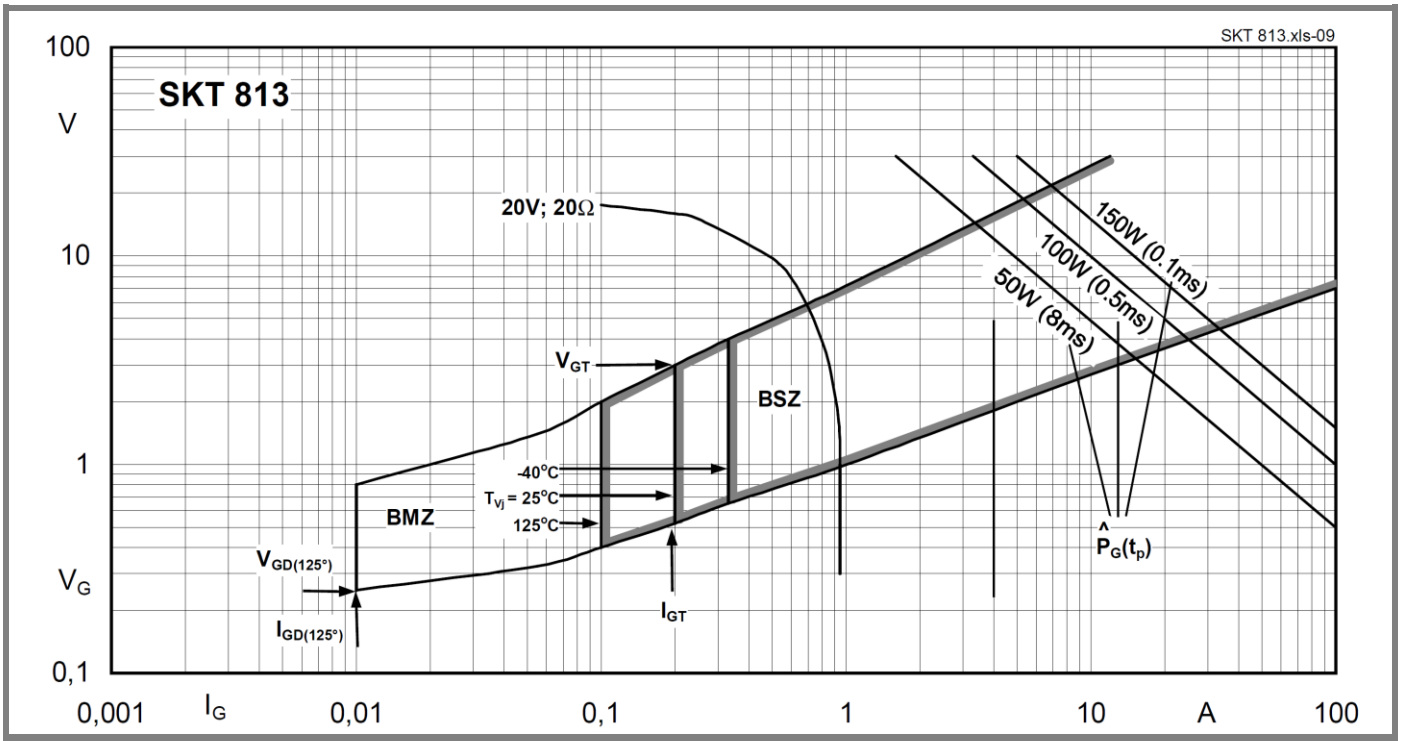
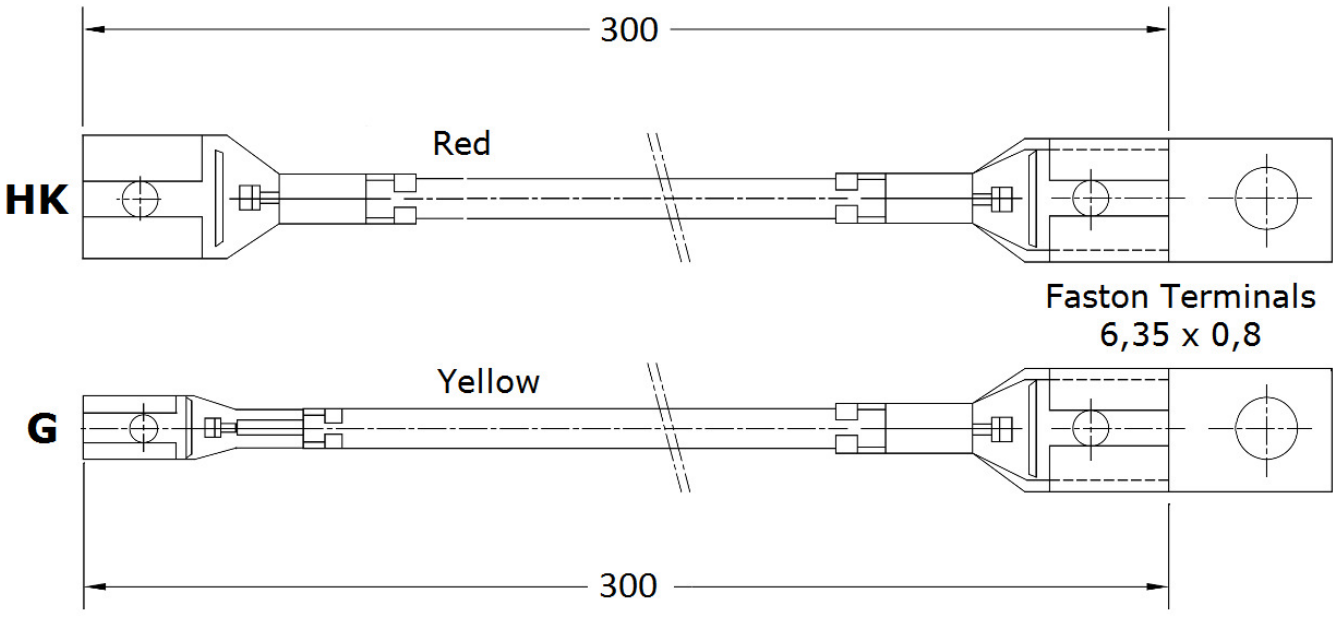


Fig. 9 Gate trigger characteristics

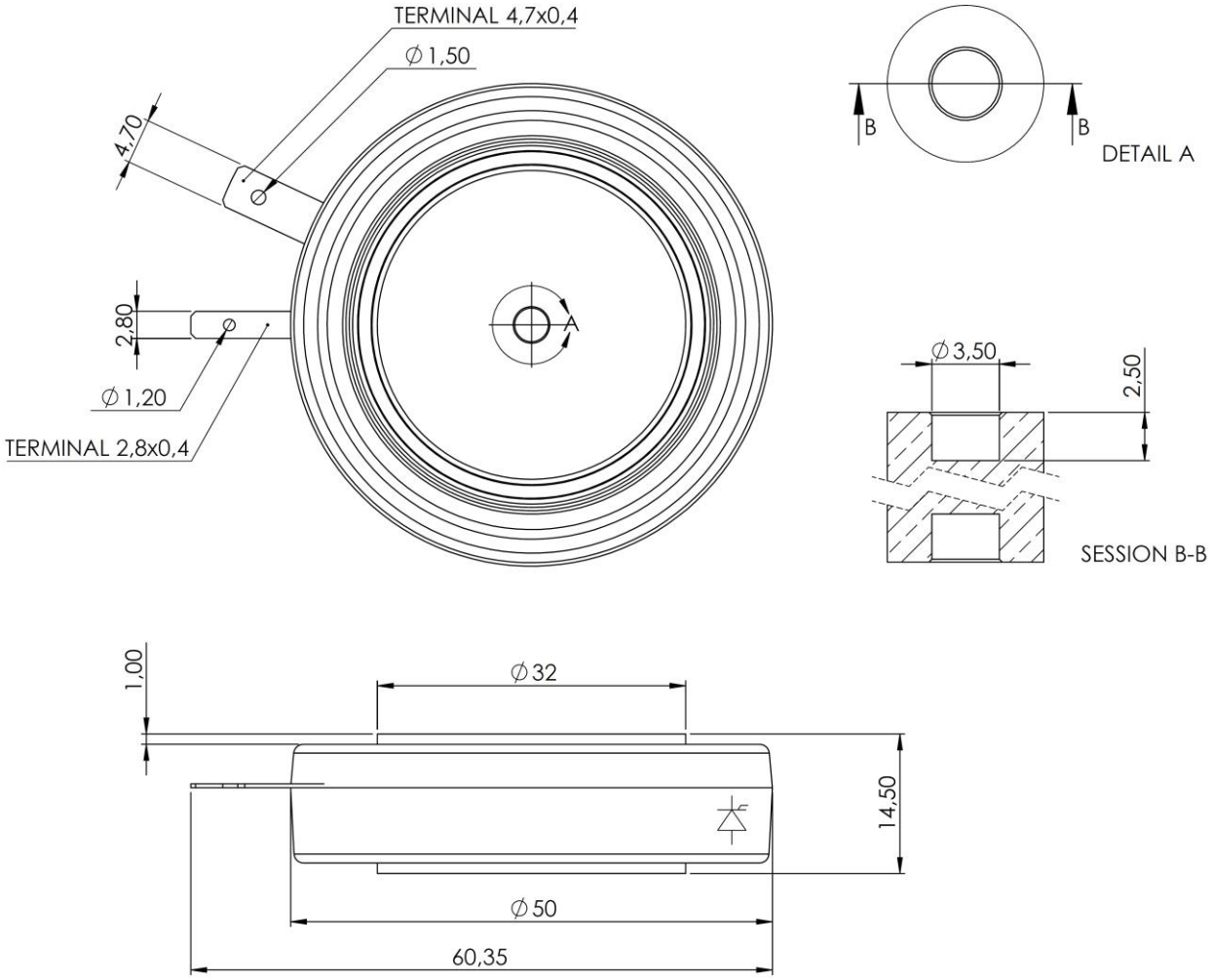
Dimensions in mm



Ordering code: 38588600 (1 pair)

G / HK Leads – Separately available

Dimensions in mm



Case B21

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