

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; $T_c = 88^\circ\text{C}$)
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

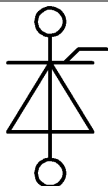
- Hermetic metal case with epoxy insulator
- Capsule package for double sided cooling
- Off-state and reverse voltages up to 1800 V
- Amplifying gate

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 = 1 μF

1) With thermal compound

Symbol	Condition	Values	Units
I_{TAV}	sin. 180 ; $T_c = 100$ (85) $^\circ\text{C}$	605 (855)	A
I_D	2 x P8/180; $T_a = 45$ $^\circ\text{C}$; B2/B6 2 x P8/180F; $T_a = 35$ $^\circ\text{C}$; B2/B6	435 / 635 965 / 1370	A A
I_{RMS}	2 x P8/180; $T_a = 45$ $^\circ\text{C}$; W1C	485	A
I_{TSM}	$T_{vj} = 25^\circ\text{C}$; 10 ms $T_{vj} = 125^\circ\text{C}$; 10 ms	15000 13000	A A
i^2t	$T_{vj} = 25^\circ\text{C}$; 8,3...10 ms $T_{vj} = 125^\circ\text{C}$; 8,3...10 ms	1125000 845000	A^2s A^2s
V_T	$T_{vj} = 25^\circ\text{C}$, $I_T = 2400$ A	max. 1,65	V
$V_{T(TO)}$	$T_{vj} = 125^\circ\text{C}$	max. 0,92	V
r_T	$T_{vj} = 125^\circ\text{C}$	max. 0,30	$\text{m}\Omega$
$I_{DD}; I_{RD}$	$T_{vj} = 125^\circ\text{C}$; $V_{RD} = V_{RRM}$; $V_{RD} = V_{RRM}$	80	mA
t_{gd}	$T_{vj} = 25^\circ\text{C}$; $i_G = 1$ A; $di_G/dt = 1$ A/ μs	1	μs
t_{gr}	$V_D = 0,67 * V_{DRM}$	2	μs
$(di/dt)_{cr}$	$T_{vj} = 125^\circ\text{C}$	min. 125	A/ μs
$(dv/dt)_{cr}$	$T_{vj} = 125^\circ\text{C}$	min. 1000	V/ μs
t_q	$T_{vj} = 125^\circ\text{C}$	100 ... 200	μs
I_H	$T_{vj} = 25^\circ\text{C}$; typ. / max	150 / 500	mA
I_L	$T_{vj} = 25^\circ\text{C}$; $R_G = 33$ Ω ; typ. / max	500 / 2000	mA
V_{GT}	$T_{vj} = 25^\circ\text{C}$; d.c.	min. 3	V
I_{GT}	$T_{vj} = 25^\circ\text{C}$; d.c.	min. 200	mA
V_{GD}	$T_{vj} = 125^\circ\text{C}$; d.c.	max. 0,25	V
I_{GD}	$T_{vj} = 125^\circ\text{C}$; 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	$^\circ\text{C}$
T_{stg}		-40...+125	$^\circ\text{C}$
F	Mounting force (SI units)	10 ... 13	kN
m	approx.	125	g
Case		B21	



SKT

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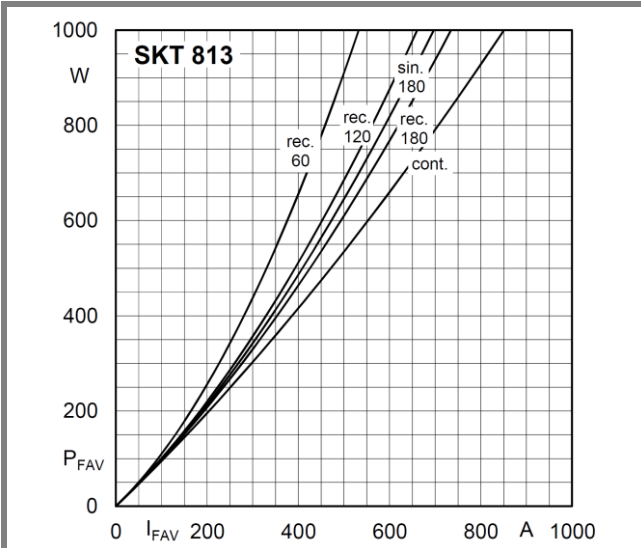


Fig. 1L Power dissipation vs. forward current

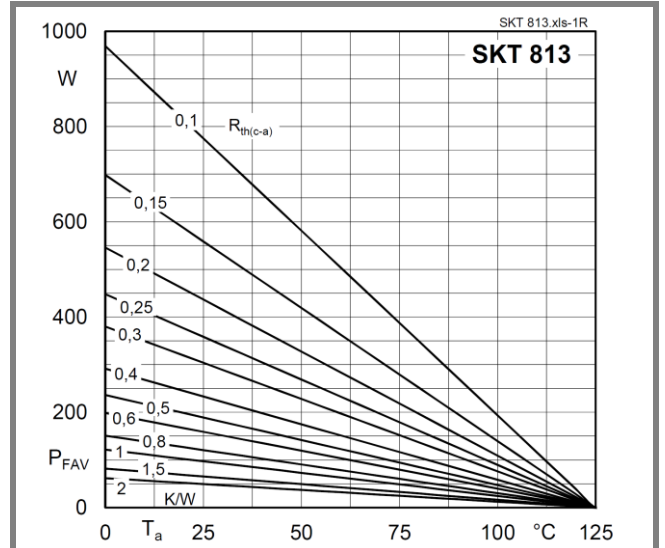


Fig. 1R Power dissipation vs. ambient temperature

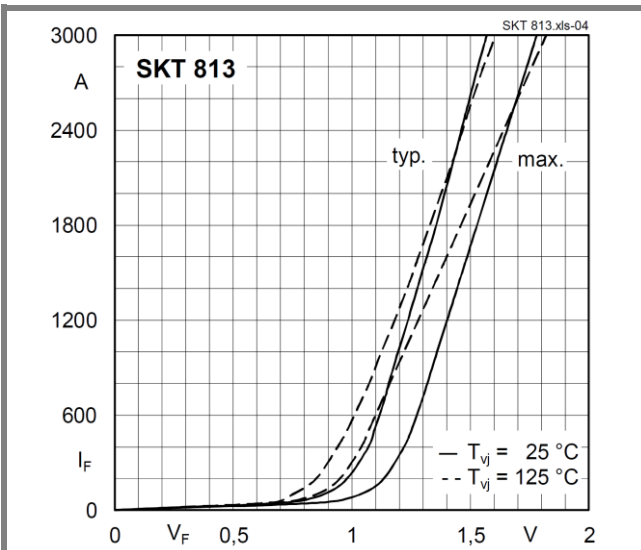


Fig. 4 Forward characteristics

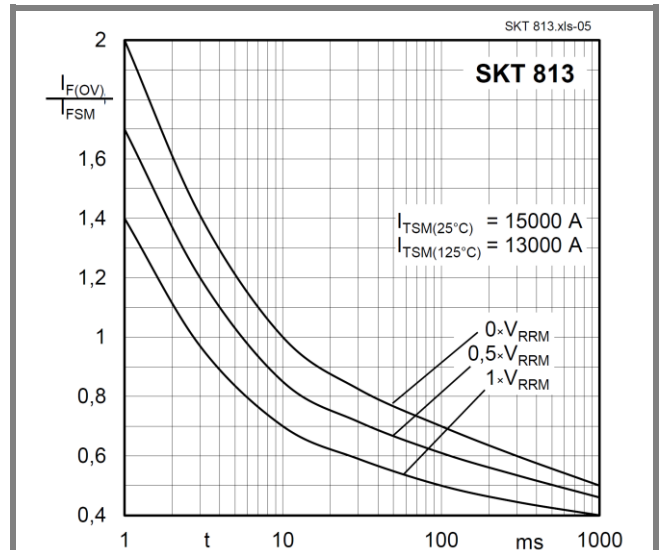


Fig. 5 Surge overload current vs. time

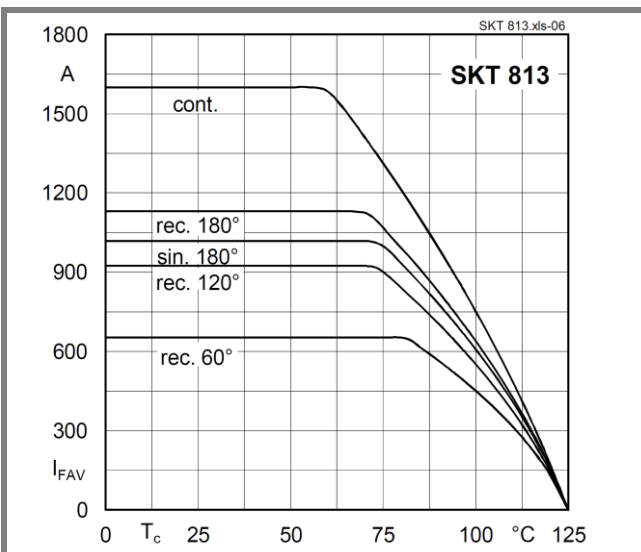


Fig. 6 Forward current vs. case temperature

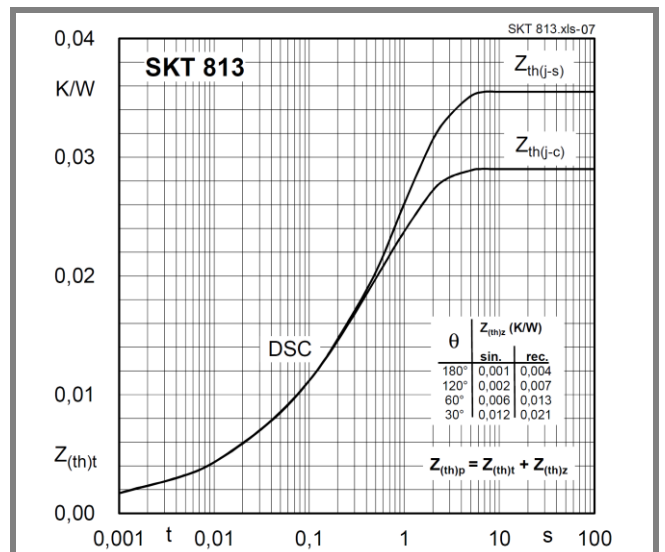


Fig. 7 Transient thermal impedance vs. time

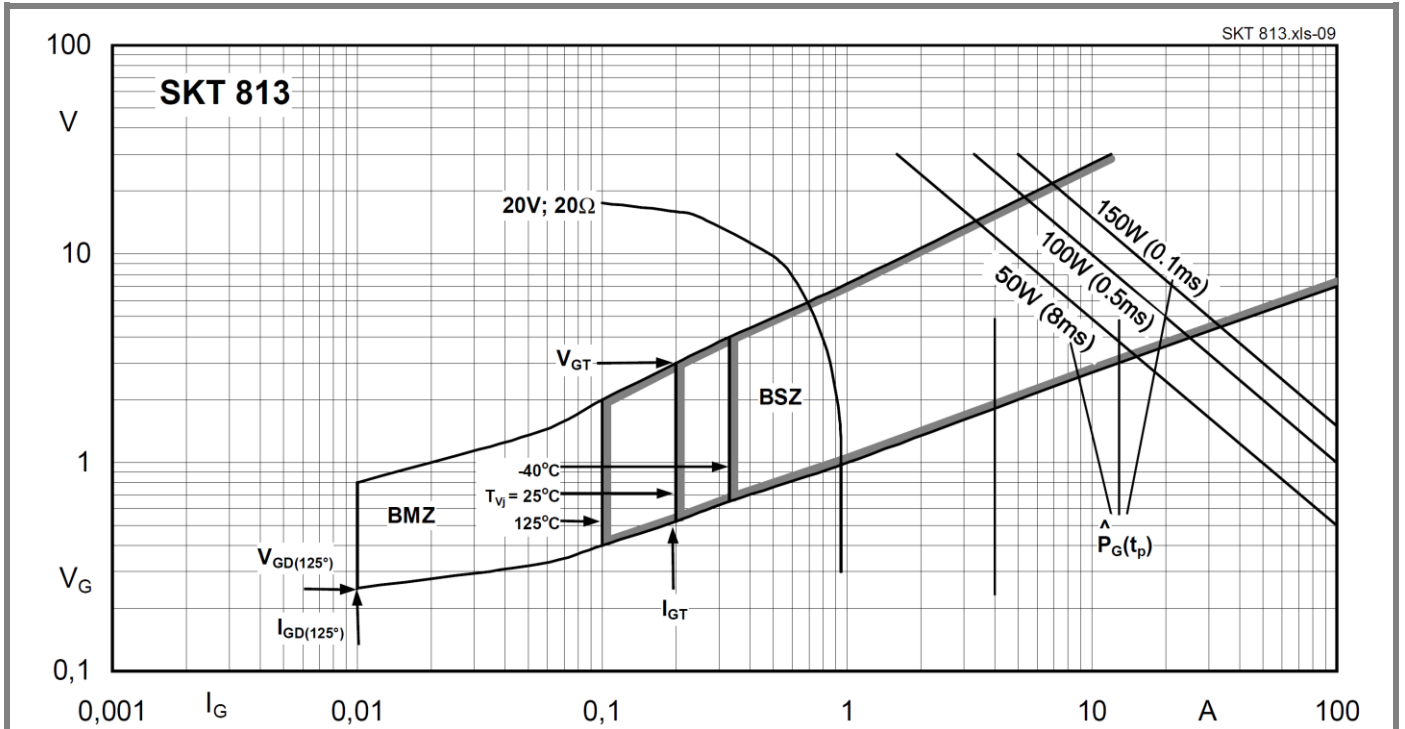
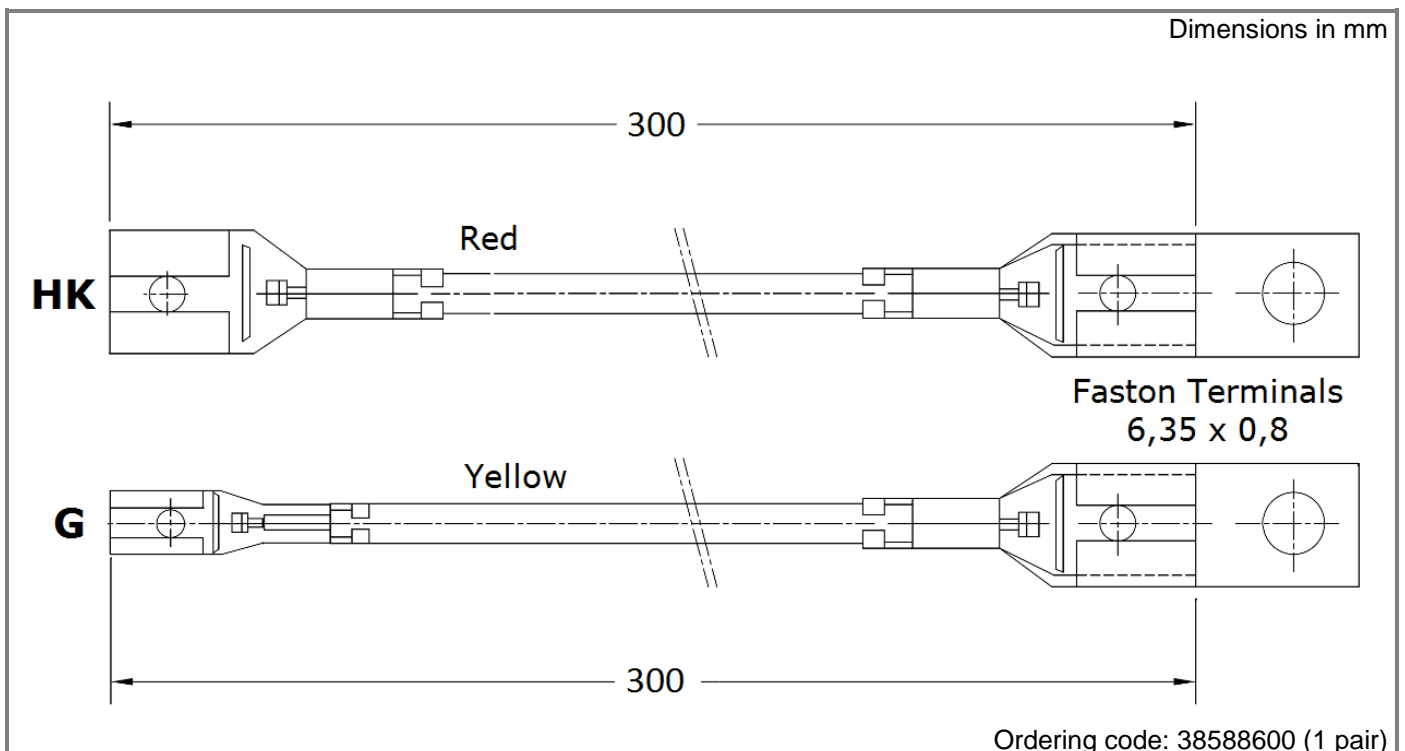
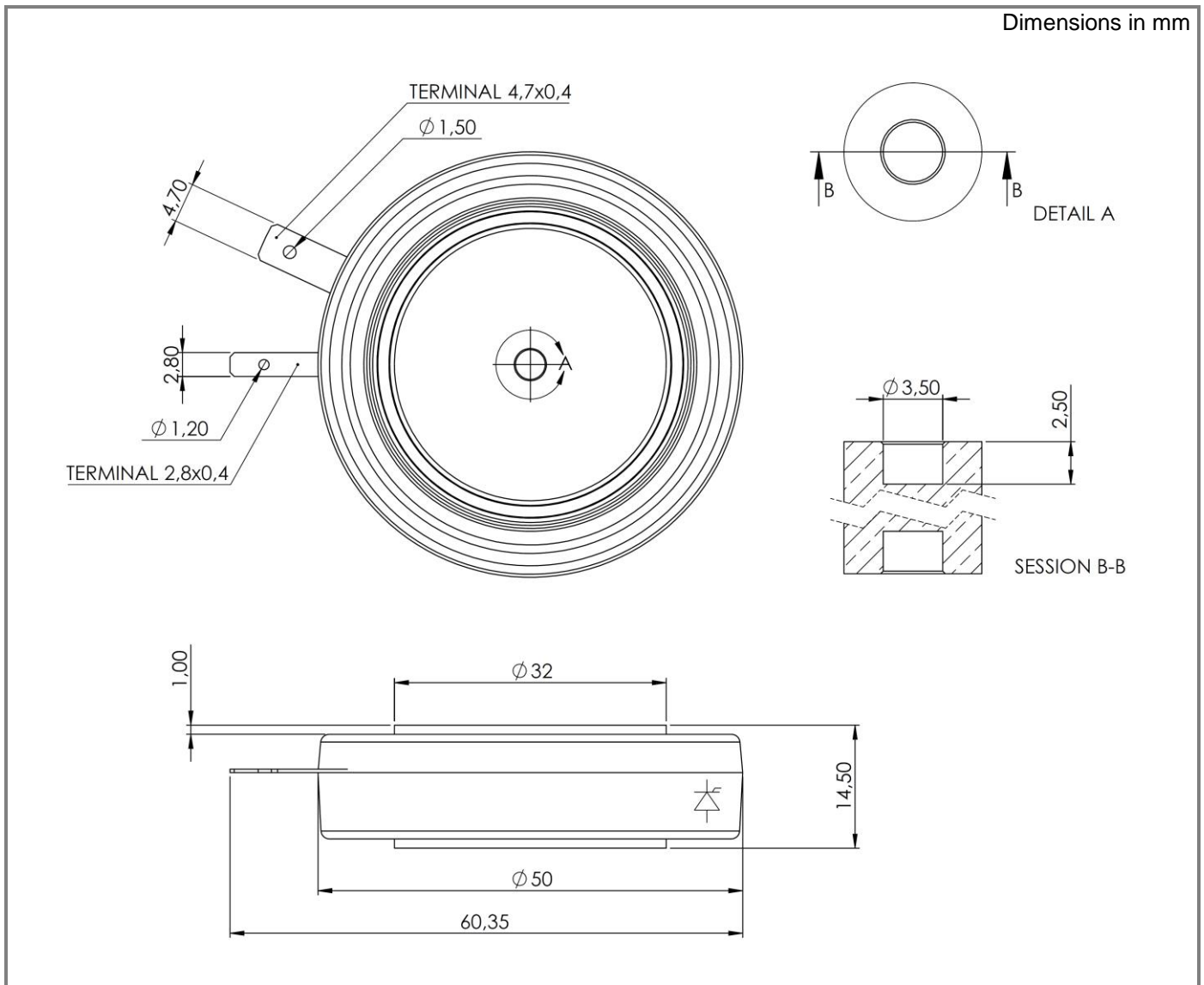


Fig. 9 Gate trigger characteristics



G / HK Leads – Separately available

Ordering code: 38588600 (1 pair)



Case B21

*IMPORTANT INFORMATION AND WARNINGS

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