Stud Thyristor

Line Thyristor

SKT 16

Features

- Hermetic metal case with glass insulator
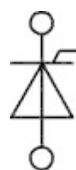- Threaded stud ISO M6 or UNF 1/4-28
- International standard case

Typical Applications*

- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)
- Recommended snubber network e. g. for $V_{VRMS} \leq 400$ V: R = 100 Ω/5 W, C = 1 µF

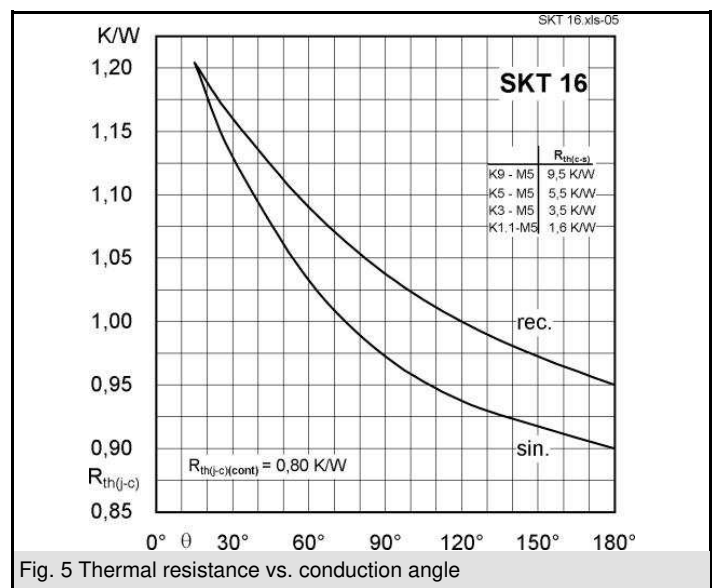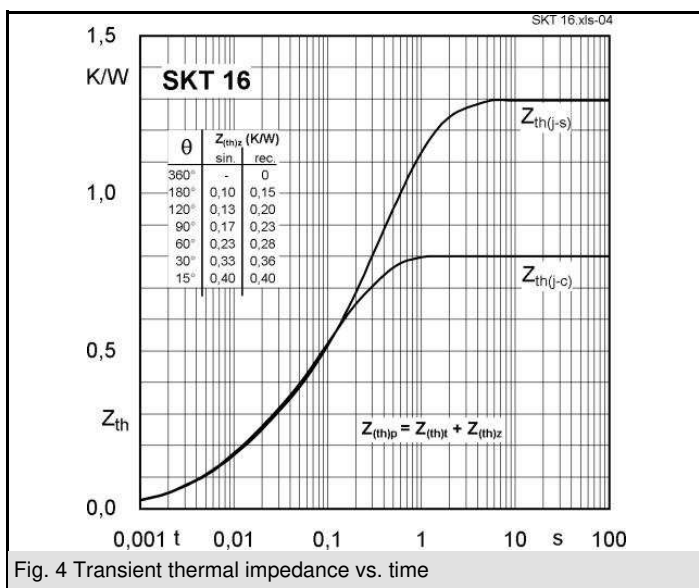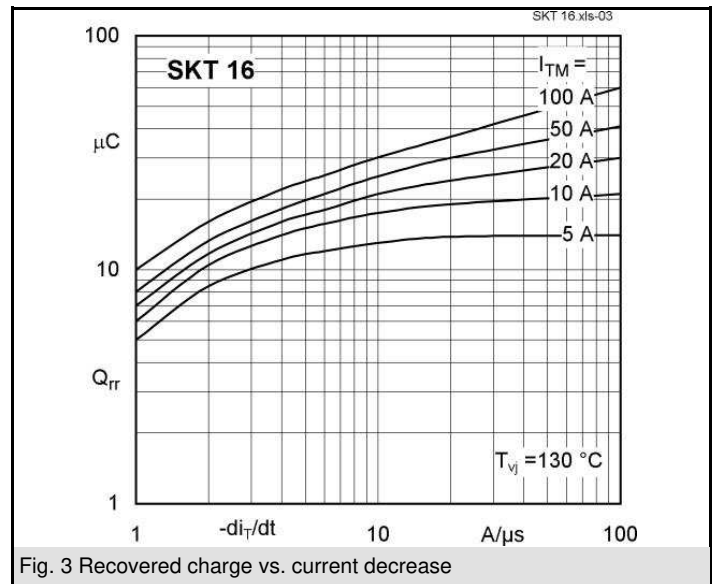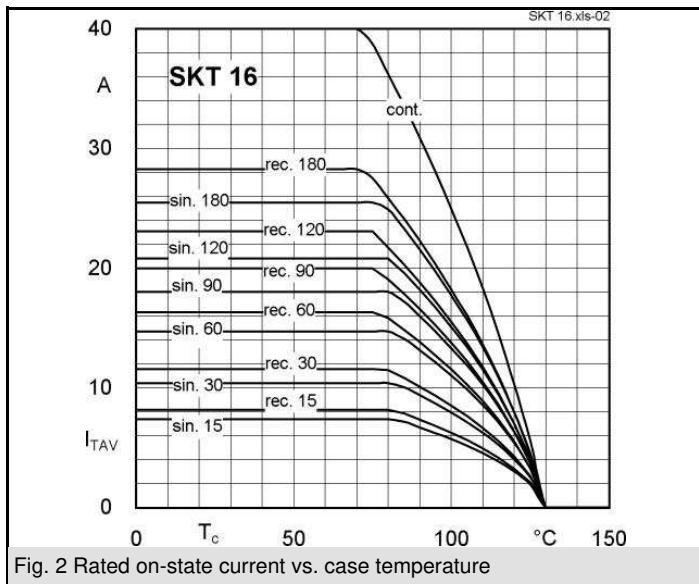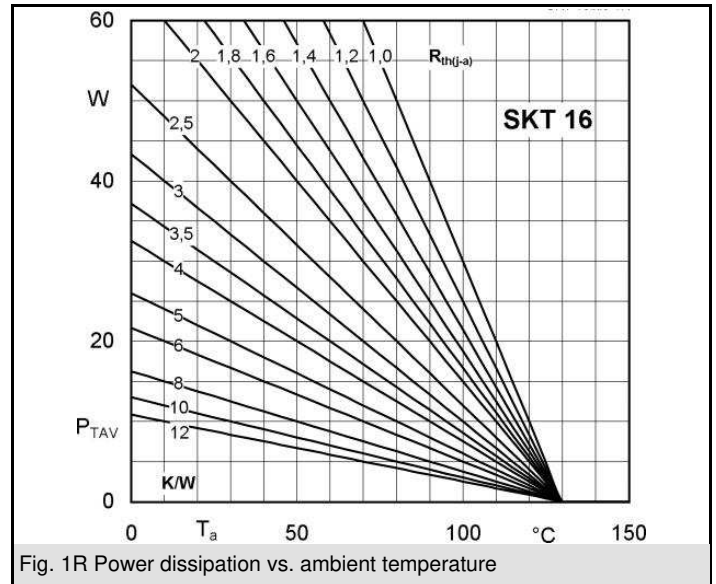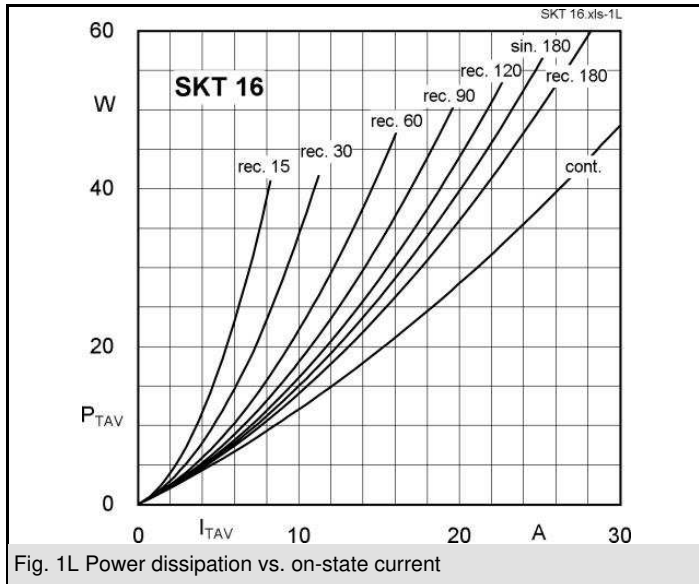[1] Available with UNF thread 1/4-28 UNF2A, e. g. SKT 16/06D UNF

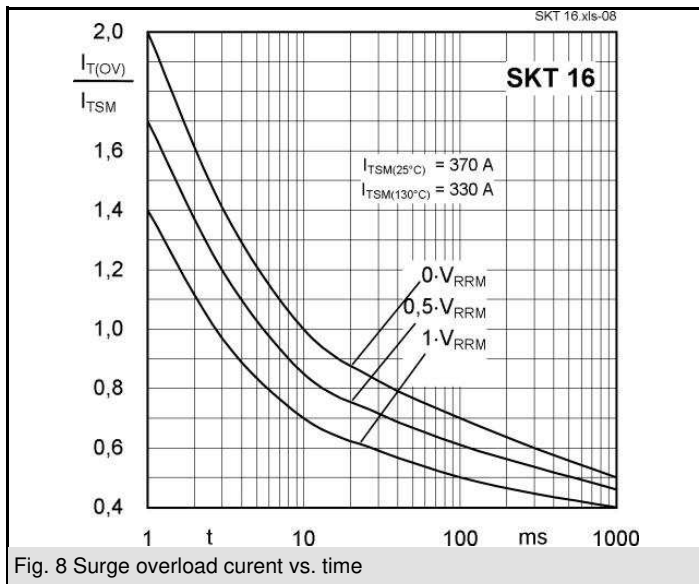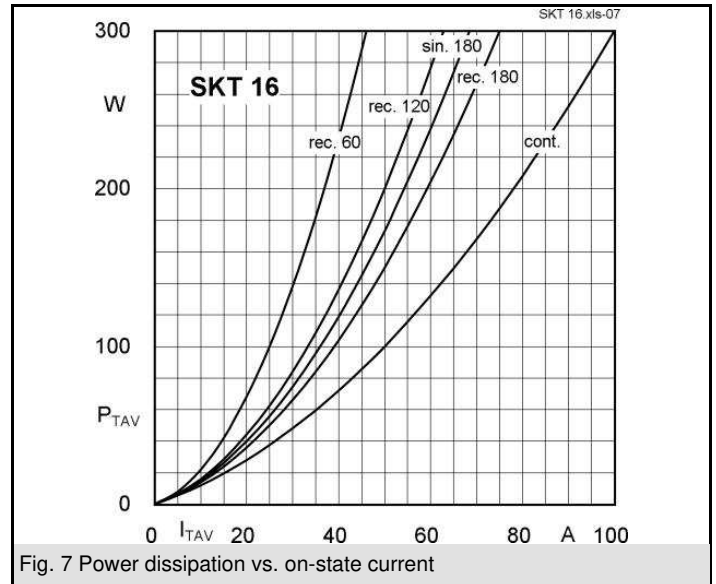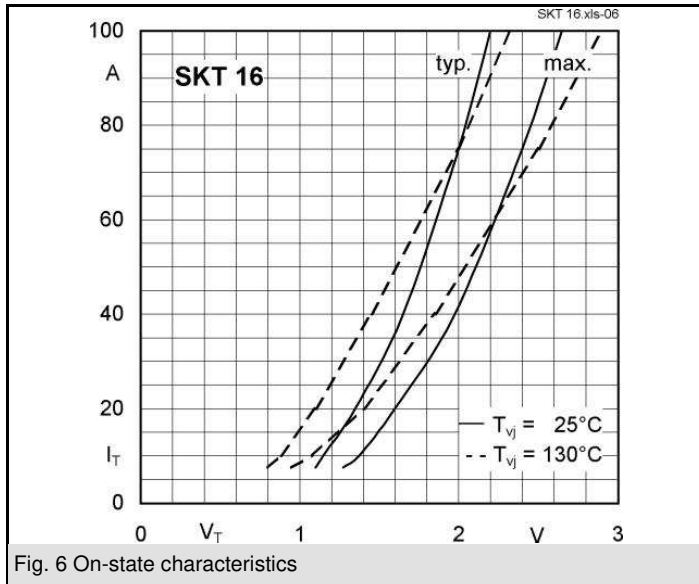| V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 40 A (maximum value for continuous operation) I_{TAV} = 16 A (sin. 180; T_c = 104 °C)		
500	400	SKT 16/04D		
700	600	SKT 16/06D[1]		
900	800	SKT 16/08D		
1300	1200	SKT 16/12E[1]		
1500	1400	SKT 16/14E		
1700	1600	SKT 16/16E		
1900	1800	SKT 16/18E		

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 100 (85) °C;	18 (23)	A
I_D	K5; T_a = 45 °C; B2 / B6	18 / 24	A
	K3; T_a = 45 °C; B2 / B6	24 /33	A
I_{RMS}	K5; T_a = 45 °C; W1C	20	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	370	A
	T_{vj} = 130 °C; 10 ms	330	A
i^2t	T_{vj} = 25 °C; 8,35 ... 10 ms	680	A²s
	T_{vj} = 130 °C; 8,35 ... 10 ms	550	A²s
V_T	T_{vj} = 25 °C; I_T = 75 A	max. 2,4	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 1	V
r_T	T_{vj} = 130 °C	max. 20	mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 8	mA
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
$(di/dt)_{cr}$	T_{vj} = 130 °C	max. 50	A/µs
$(dv/dt)_{cr}$	T_{vj} = 130 °C ; SKT ...D / SKT ...E	max. 500 / 1000	V/µs
t_q	T_{vj} = 130 °C ,	80	µs
I_H	T_{vj} = 25 °C; typ. / max.	80 / 150	mA
I_L	T_{vj} = 25 °C; typ. / max.	150 / 300	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 100	mA
V_{GD}	T_{vj} = 130 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 130 °C; d.c.	max. 3	mA
$R_{th(j-c)}$	cont.	0,8	K/W
$R_{th(j-c)}$	sin. 180	0,9	K/W
$R_{th(j-c)}$	rec. 120	0,95	K/W
$R_{th(c-s)}$		0,5	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 40 ... + 150	°C
V_{isol}		-	V~
M_s	to heatsink	2,5	Nm
a		5 * 9,81	m/s²
m	approx.	13	g
Case		B 2	

SKT

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Fig. 1L Power dissipation vs. on-state current

Fig. 1R Power dissipation vs. ambient temperature

Fig. 2 Rated on-state current vs. case temperature

Fig. 3 Recovered charge vs. current decrease

Fig. 4 Transient thermal impedance vs. time

Fig. 5 Thermal resistance vs. conduction angle

Fig. 6 On-state characteristics

Fig. 7 Power dissipation vs. on-state current

Fig. 8 Surge overload curent vs. time

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Fig. 9 Gate trigger characteristics

Dimensions in mm

φ4,2

C

φ1,5

G

30

11

SW 14

A

M6
(1/4 – 28 UNF 2A)

Case B 2 (IEC 60191-2: A11M, A11U; JEDEC: TO-208AA (TO-48))

* The specifications of our components may not be considered as an assurance of component characteristics.
Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON

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products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

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