SKT300

Line Thyristor

STUD VERSION

Liujing rectifier co., Ltd.

FEATURES

1). Hermetic metal case with ceramic insulator
2). Threaded stud ISO M24 × 1.5 or UNF 3/4-16
3). High i^2t and I_{TSM} values for easy fusing
4). International standard case

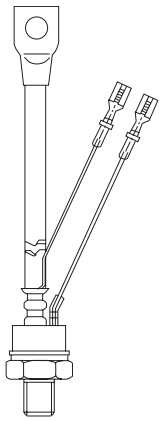
TYPICAL APPLICATIONS

1). DC motor control (e.g. for machine tools)
2). Controlled rectifiers (e.g. for battery charging)
3). AC controllers (e.g. for temperature control)
4). Recommended snubber network:
e.g. for V_{VRMS}≤400V: R=33Ω/32W, C=0.47μF

MAJOR RATINGS AND CHARACTERISTICS

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS}=450A (maximum value for continuous operation) I_{TAV}=250A (sin. 180° ; T_C=85℃)
500	400	SKT 300/04D
900	800	SKT 300/08D 1)*
2400	1200	SKT 300/12E 1)*
1500	1400	SKT 300/14E 1)*
1700	1600	SKT 300/16E 1)*

1)* Available with UNF thread 3/4-16 UNF2A, e.g. SKT 300/08D UNF



ELECTRICAL SPECIFICATIONS

Symbol	Conditions	Values	V
I_{TAV}	sin. 180; T_C=100(85)℃	257(351)	A
I_D	K0.55; T_a=45℃; B2/B6	250/360	A
	K0.55F; T_a=35℃; B2/B6	570/800	A
I_{RSM}	K0.55; T_a=45℃; W1C	280	A
I_{TSM}	T_{vj}=25℃; 10ms	11000	A
	T_{vj}=130℃; 10ms	10000	A
I^2t	T_{vj}=25℃; 8,35 ... 10ms	600000	A_2S
	T_{vj}=130℃; 8,35 ... 10ms	500000	A_2S
V_T	T_{vj}=25℃; I_T=800A	max. 1.45	V
$V_{T(TO)}$	T_{vj}=130℃	max. 0.9	V
r_T	T_{vj}=130℃	max. 0.5	mΩ
I_{DD}; I_{RD}	T_{vj}=130℃; V_{RD}=V_{RRM}; V_{DD}=V_{DRM}	max. 50	mA
t_{gd}	T_{vj}=25℃; I_G=1A; di_G/dt=1A μs	1	μs
t_{gr}	V_D=0.67 * V_{DRM}	2	μs
$(di/dt)_{cr}$	T_{vj}=130℃	max. 100	A/μs
$(dv/dt)_{cr}$	T_{vj}=130℃; SKT ... D/SKT ... E	max. 500/1000	V/μs
t_q	T_{vj}=130℃	50...150	μs
I_H	T_{vj}=25℃; typ./max.	150/250	mA
I_L	T_{vj}=25℃;R_G=33Ω; typ./max.	300/600	mA

Symbol	Conditions	Values	V
V_{GT}	T_{vj}=25℃; d.c.	min.3	V
I_{GT}	T_{vj}=25℃; d.c.	min.200	mA
V_{GD}	T_{vj}=130℃; d.c.	max.0.25	V
I_{GD}	T_{vj}=130℃; d.c.	max.10	mA
$R_{th(j-c)}$	cont.	0.09	K/W
$R_{th(j-c)}$	sin.180	0.096	K/W
$R_{th(j-c)}$	rec.120	0.101	K/W
$R_{th(c-s)}$		0.015	K/W
T_{vj}		-40 ... +130	℃
T_{stg}		-40 ... +150	℃
V_{isol}		-	V~
M_s	mounting force	60(UNF: 30)	Nm
a		5*9.81	m/s^2
m	approx.	490	g
Case		B7	

PERFORMANCE CURVES FIGURE

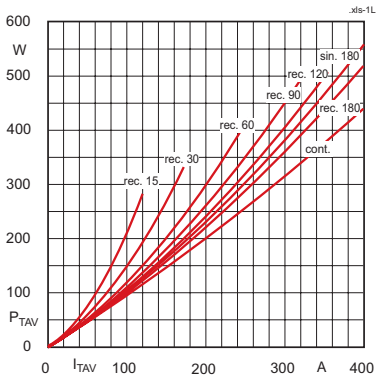


Fig. 1L Power dissipation vs. on-state current

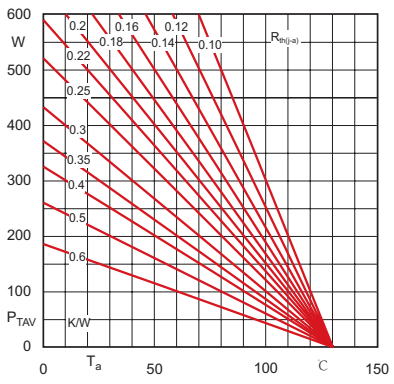


Fig. 1R Power dissipation vs. ambient temperature

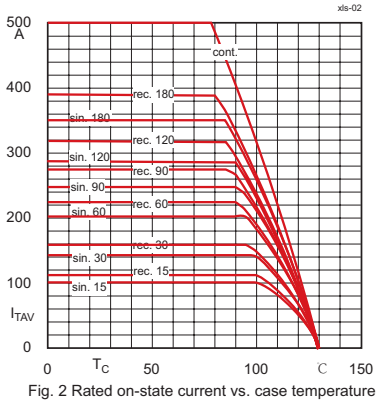


Fig. 2 Rated on-state current vs. case temperature

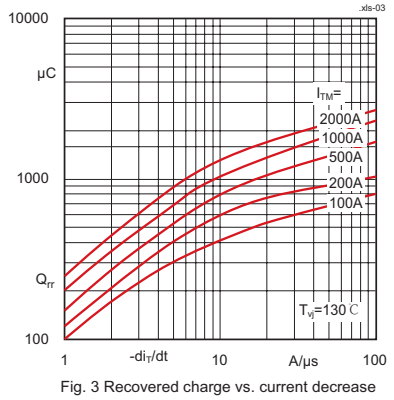


Fig. 3 Recovered charge vs. current decrease

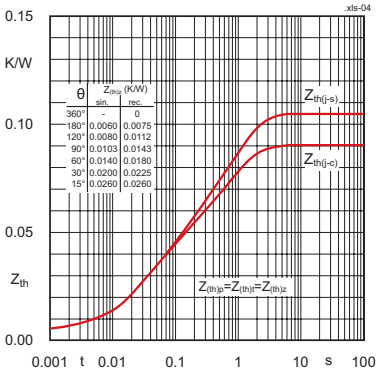


Fig. 4 Transient thermal impedance vs. time

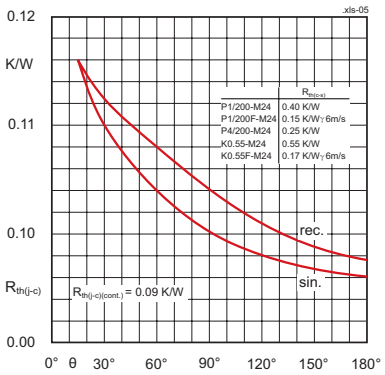


Fig. 5 Thermal resistance vs. conduction angle

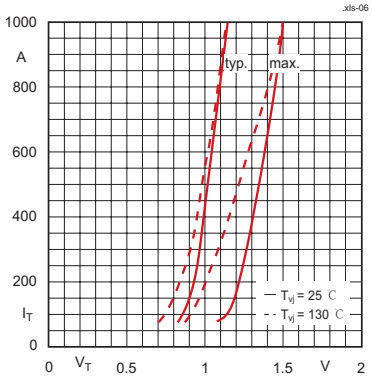


Fig. 6 On-state characteristics

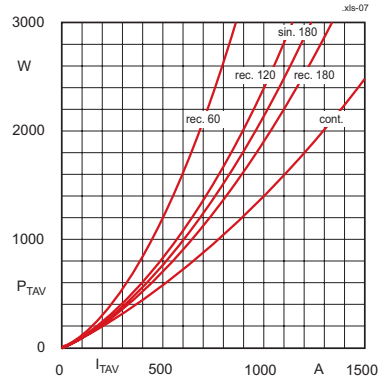


Fig. 7 Power dissipation vs. on-state current

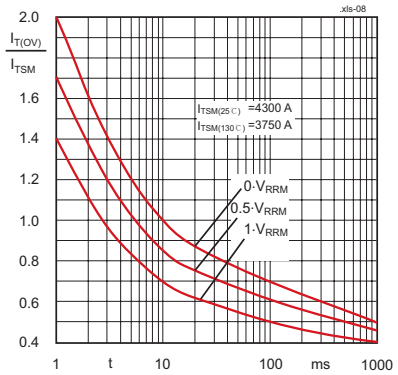


Fig. 8 Surge overload curent vs. time

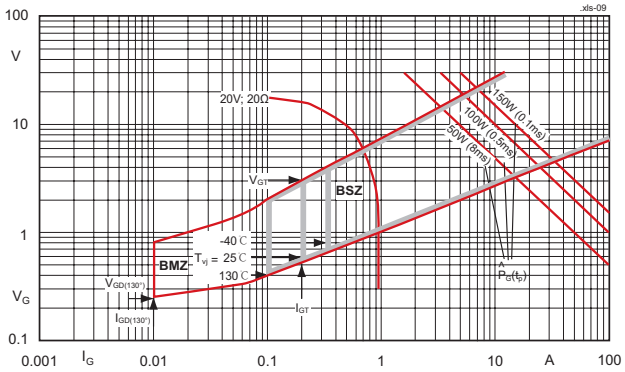
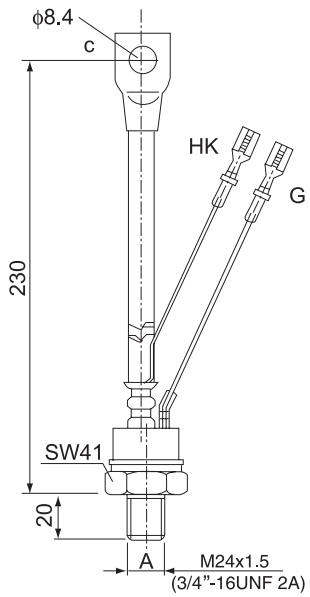


Fig. 9 Gate trigger characteristics

OUTLINE



SKT10

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