SKT160

Line Thyristor

STUD VERSION

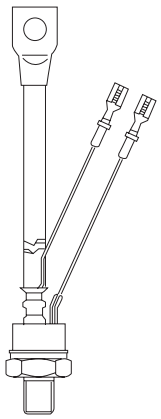
Liujing rectifier co., Ltd.

FEATURES

1). Hermetic metal case with glass insulator
2). Threaded stud ISO M16 × 1.5 or UNF 3/4-16
3). 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/13W, C=0.47μF



MAJOR RATINGS AND CHARACTERISTICS

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS}=280A (maximum value for continuous operation) I_{TAV}=160A (sin. 180° ; T_C=84℃)
500	400	SKT 160/04D
700	600	SKT 160/06D
900	800	SKT 160/08D
1300	1200	SKT 160/12E[1)*]
1500	1400	SKT 160/14E
1700	1600	SKT 160/16E[1)*]

1)* Available with UNF thread 3/4-16 UNF2A, e.g. SKT 160/12E UNF

ELECTRICAL SPECIFICATIONS

Symbol	Conditions	Values	V
I_{TAV}	sin. 180; T_C=100(85)℃	116(158)	A
I_D	K1.1; T_a=45℃; B2/B6	110/150	A
	K0.55; T_a=45℃; B2/B6	170/240	A
I_{RSM}	K0.55; T_a=45℃; W1C	190	A
I_{TSM}	T_{vj}=25℃; 10ms	4300	A
	T_{vj}=130℃; 10ms	3750	A
I^2t	T_{vj}=25℃; 8,35 ... 10ms	92500	A_2S
	T_{vj}=130℃; 8,35 ... 10ms	70000	A_2S
V_T	T_{vj}=25℃; I_T=500A	max. 17.5	V
$V_{T(TO)}$	T_{vj}=130℃	max. 1	V
r_T	T_{vj}=130℃	max. 1.5	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. 500/1600	V/μs
t_q	T_{vj}=130℃	120	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.	0.16	K/W
$R_{th(j-c)}$	sin.180	0.18	K/W
$R_{th(j-c)}$	rec.120	0.2	K/W
$R_{th(c-s)}$		0.03	K/W
T_{vj}		-40 ... +130	℃
T_{stg}		-55 ... +150	℃
V_{isol}		-	V~
M_s	to heatsink	30	Nm
a		5*9.81	m/s^2
m	approx.	250	g
Case		B6	

PERFORMANCE CURVES FIGURE

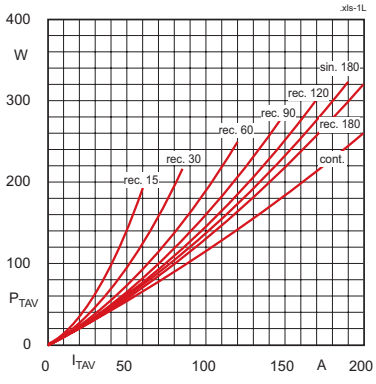


Fig. 1L Power dissipation vs. on-state current

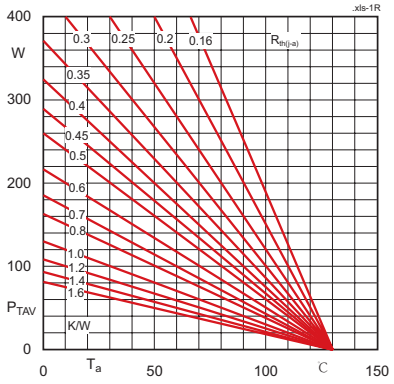


Fig. 1R Power dissipation vs. ambient temperature

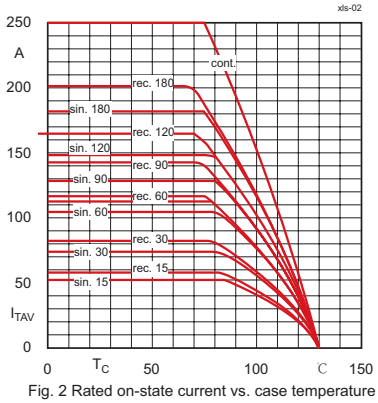


Fig. 2 Rated on-state current vs. case temperature

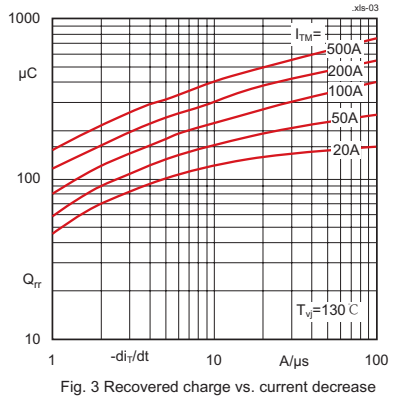


Fig. 3 Recovered charge vs. current decrease

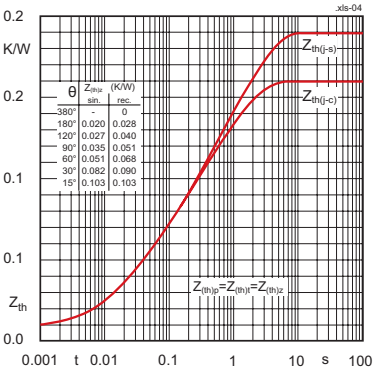


Fig. 4 Transient thermal impedance vs. time

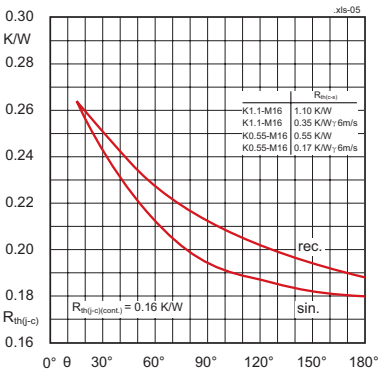


Fig. 5 Thermal resistance vs. conduction angle

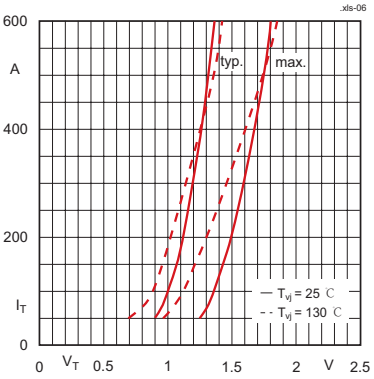


Fig. 6 On-state characteristics

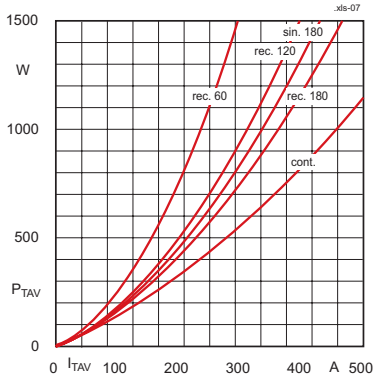


Fig. 7 Power dissipation vs. on-state current

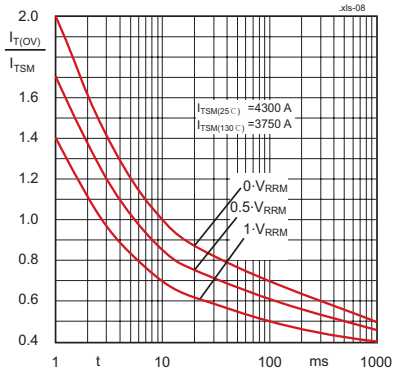


Fig. 8 Surge overload curent vs. time

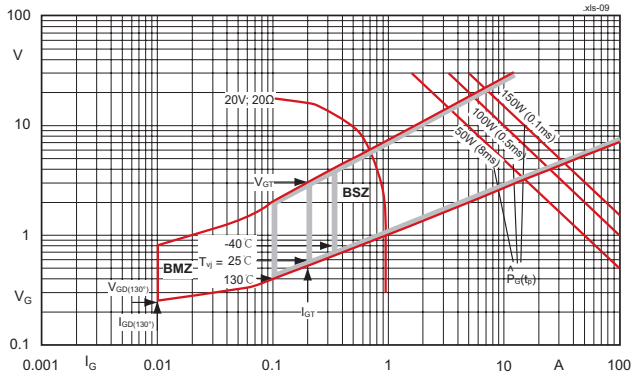
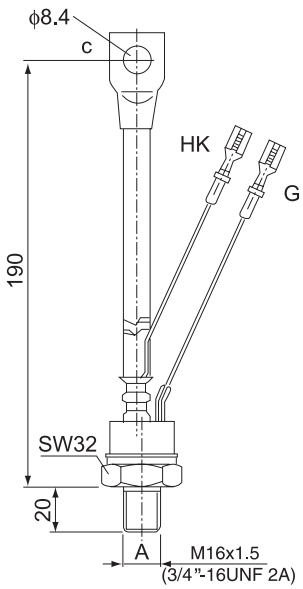


Fig. 9 Gate trigger characteristics

OUTLINE



SKT9

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