Thyristor Diode Modules
AMKH 500

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 920 A (maximum value for continuous operation) I_{TAV} = 500 A (sin 180; T_C = 89 °C)	
900	800	AMKT 500-08E	AMKH 500-08E
1300	1200	AMKT 500-12E	AMKH 500-12E
1500	1400	AMKT 500-14E	AMHT 500-14E
1700	1600	AMKT 500-16E	AMKH 500-16E
1900	1800	AMKT 500-18E	AMKH 500-18E

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	540 (390)	A
I_D	P16/200F; T_a = 35 °C; B2 / B6	665 / 845	A
I_{RMS}	P16/300F; T_a = 35 °C; W1 / W3	850 / 3 * 670	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	17000	A
	T_{vj} = 130 °C; 10 ms	15000	A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms	1445000	A^2s
	T_{vj} = 130 °C; 8,3 ... 10 ms	1125000	A^2s
V_T	T_{vj} = 25 °C; I_T = 1700 A	max. 1,5	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 0,925	V
r_T	T_{vj} = 130 °C	max. 0,27	mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 100	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. 200	A/µs
$(dv/dt)_{cr}$	T_{vj} = 130 °C	max. 1000	V/µs
t_q	T_{vj} = 130 °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.	300 / 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} = 130 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 130 °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,062 / 0,031	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,065 / 0,032	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,07 / 0,035	K/W
$R_{th(c-s)}$	per thyristor / per module	0,02 / 0,01	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
M_s	to heatsink	5 ± 15 %	Nm
M_t	to terminals	12 ± 15 %	Nm
a		5 * 9,81	m/s^2
m	approx.	1420	g

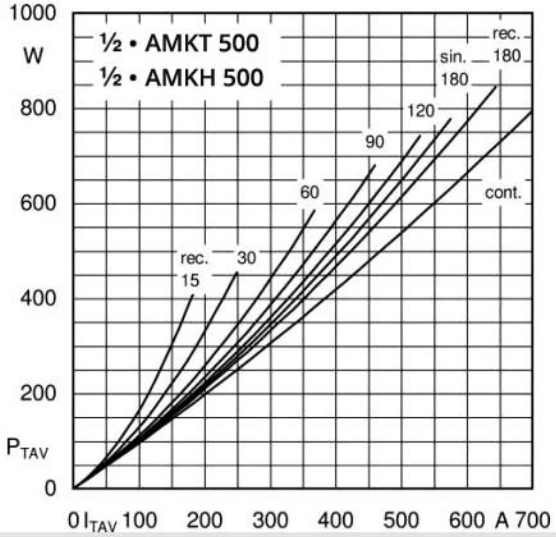

Fig. 1L Power dissipation per thyristor vs. on-state current

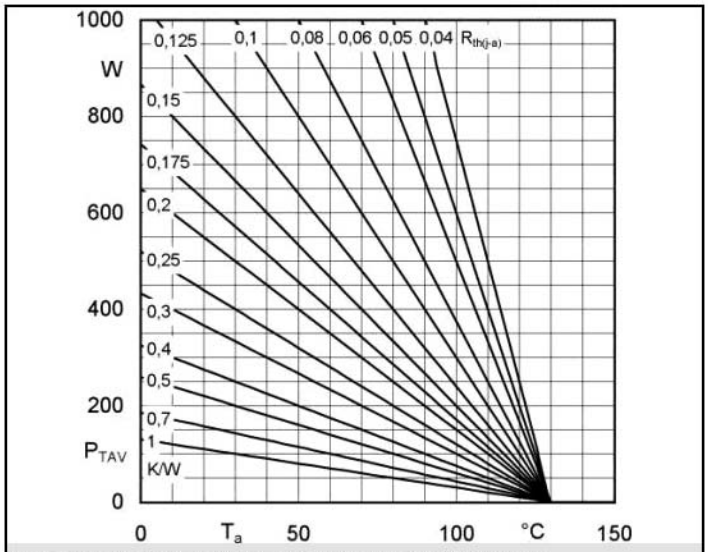

Fig. 1R Power dissipation per thyristor vs. ambient temp.

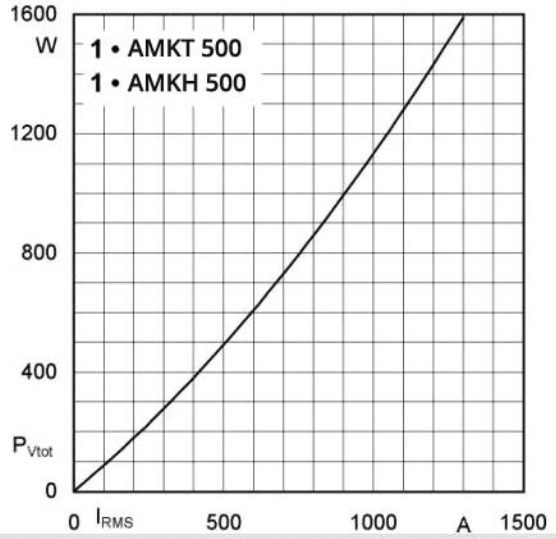

Fig. 2L Power dissipation per module vs. rms current

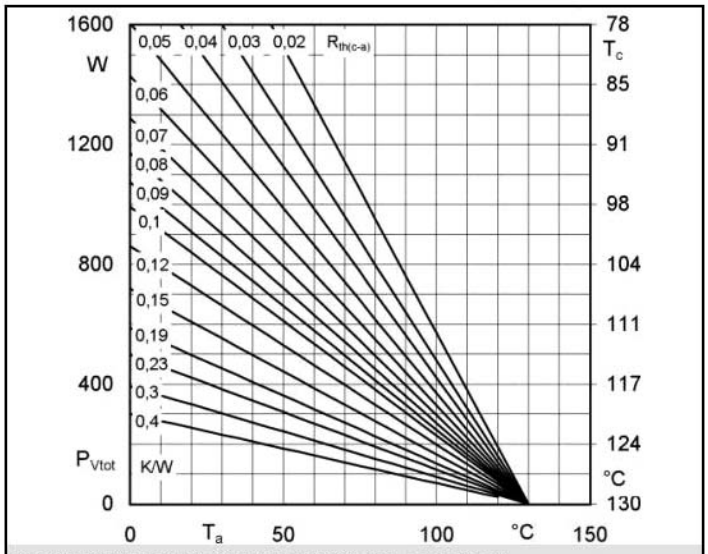

Fig. 2R Power dissipation per module vs. case temp.

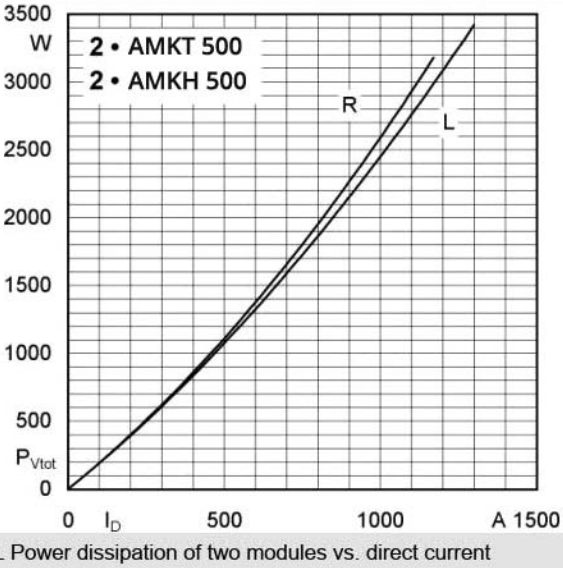

Fig. 3L Power dissipation of two modules vs. direct current

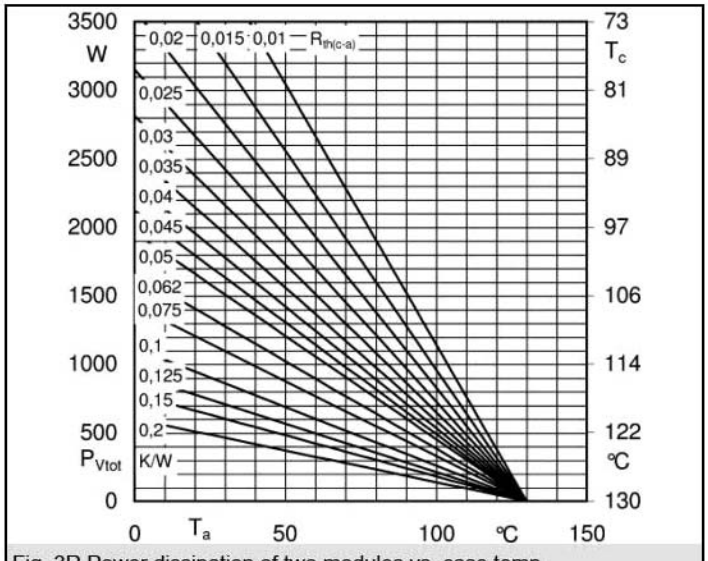

Fig. 3R Power dissipation of two modules vs. case temp.

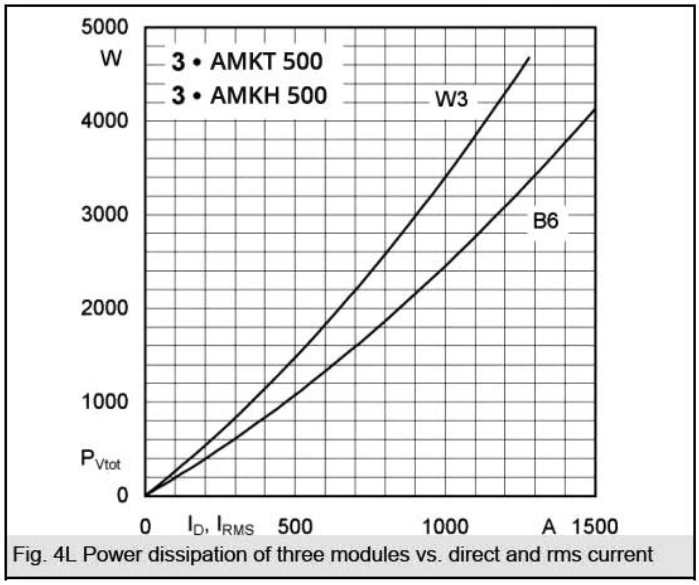

Fig. 4L Power dissipation of three modules vs. direct and rms current

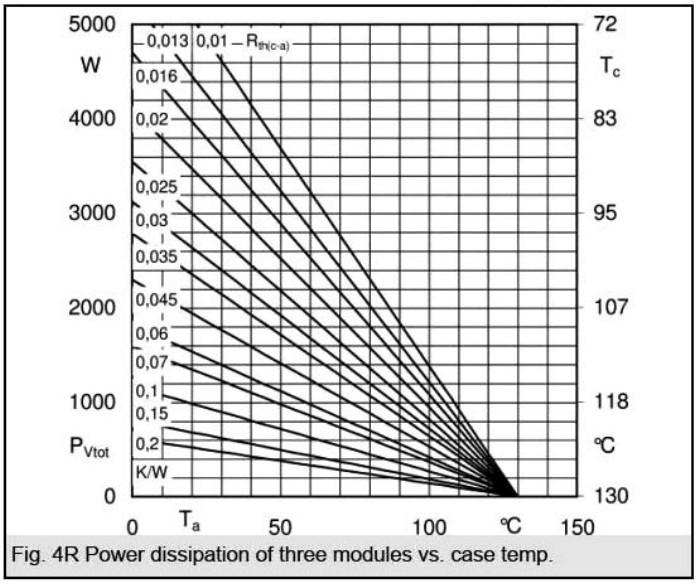

Fig. 4R Power dissipation of three modules vs. case temp.

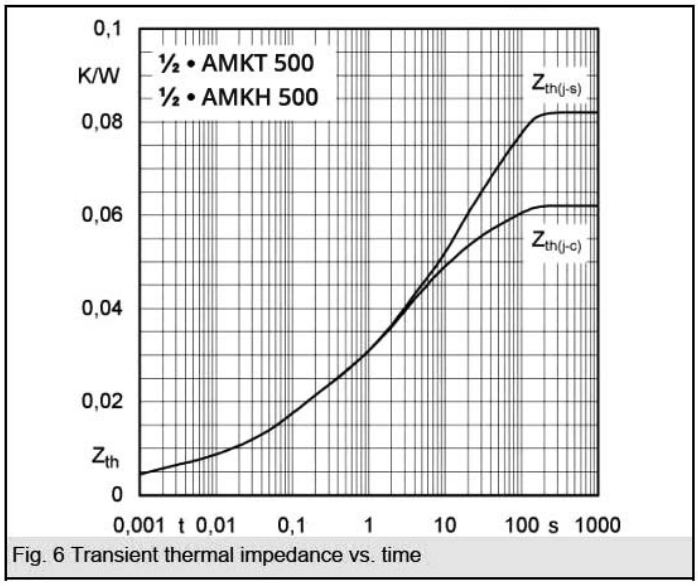

Fig. 6 Transient thermal impedance vs. time

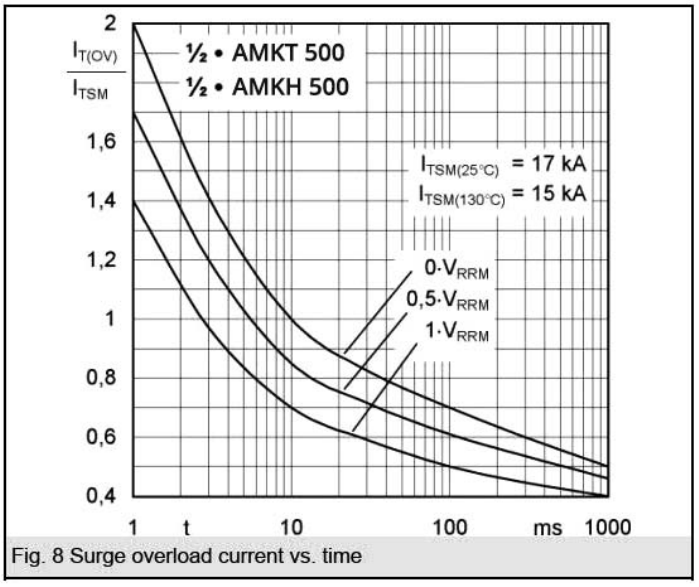

Fig. 8 Surge overload current vs. time

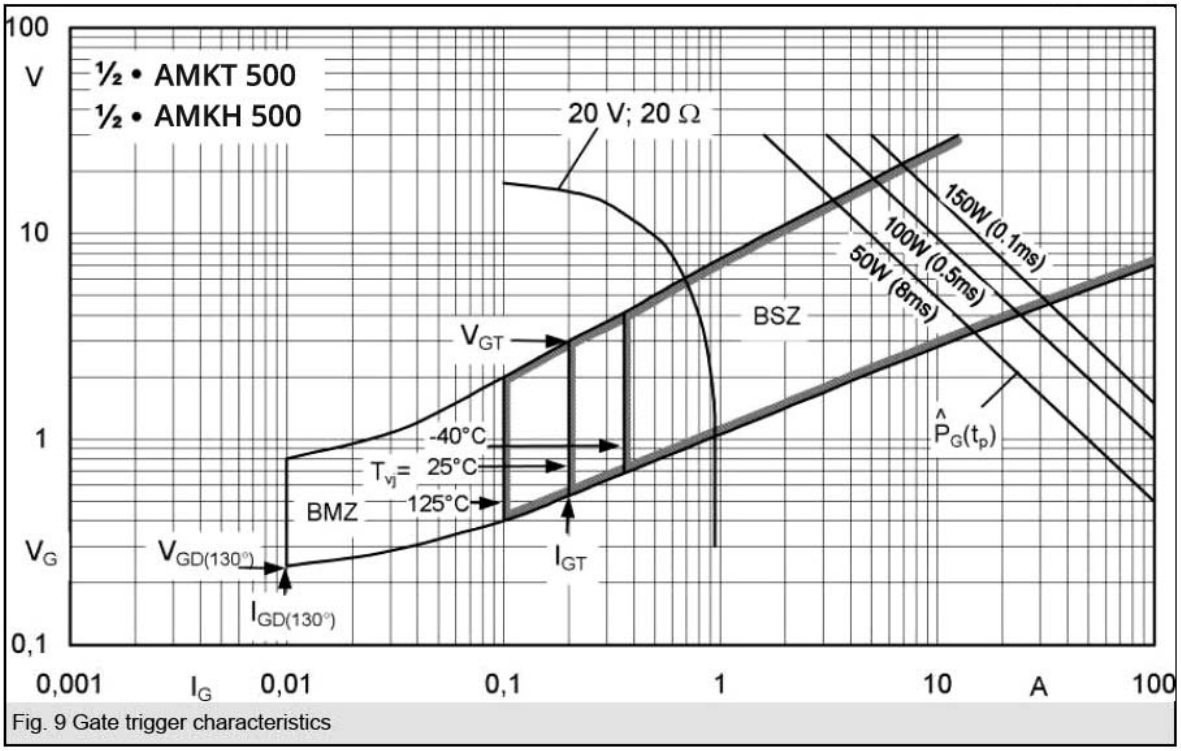

Fig. 9 Gate trigger characteristics

DIMENSIONS

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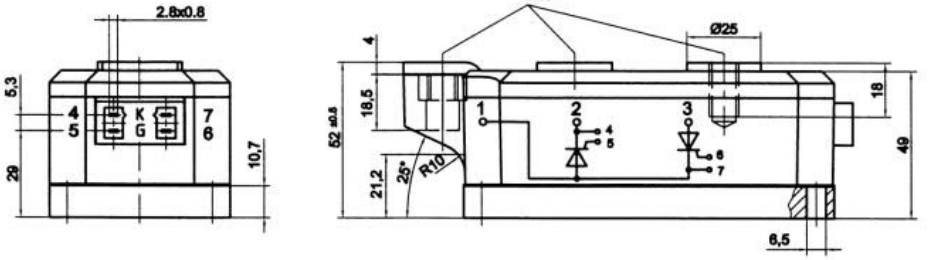

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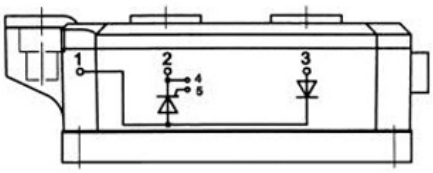
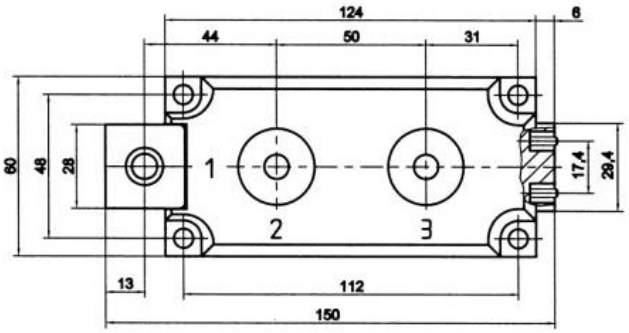
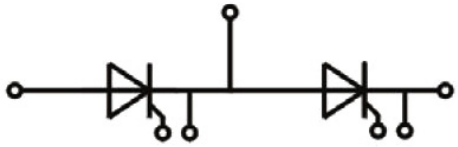




Dimensions in mm

TOPOLOGY OF INTERNAL CONNECTION



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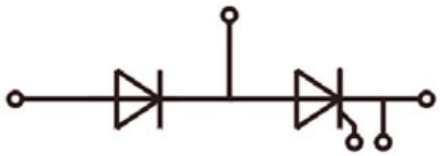

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