AS ENERGI

Thyristor Diode Modules
AMKH 72

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 125 A (maximum value for continuous operation) I_{TAV} = 70 A (sin 180; T_C = 85 °C)	
900	800	AMKH 72-08E	
1300	1200	AMKH 72-12E	
1500	1400	AMKH 72-14E	
1700	1600	AMKH 72-16E	
1900	1800	AMKH 72-18E	

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	70 (50)	A
I_D	P3/180; T_a = 45 °C; B2 / B6	62 / 75	A
	P3/180F; T_a = 35 °C; B2 / B6	115 /145	A
I_{RMS}	P3/180F; T_a = 35 °C; W1 / W3	155 / 3 * 115	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	1600	A
	T_{vj} = 125 °C; 10 ms	1450	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	13000	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	10500	A²s
V_T	T_{vj} = 25 °C; I_T = 300 A	max. 1,9	V
$V_{T(TO)}$	T_{vj} = 125 °C	max. 0,9	V
r_T	T_{vj} = 125 °C	max. 3,5	mΩ
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 20	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}	1	µs
$(di/dt)_{cr}$	T_{vj} = 125 °C	max. 150	A/µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	max. 1000	V/µs
t_q	T_{vj} = 125 °C ,	80	µs
I_H	T_{vj} = 25 °C; typ. / max.	150 / 250	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	300 / 600	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 150	mA
V_{GD}	T_{vj} = 125 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 125 °C; d.c.	max. 6	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,35 / 0,18	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,37 / 0,19	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,39 / 0,2	K/W
$R_{th(c-s)}$	per thyristor / per module	0,2 / 0,1	K/W
T_{vj}		- 40 ... + 125	°C
T_{stg}		- 40 ... + 125	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
M_s	to heatsink	5 ± 15 %[1)]	Nm
M_t	to terminals	3 ± 15 %	Nm
a		5 * 9,81	m/s²
m	approx.	95	g

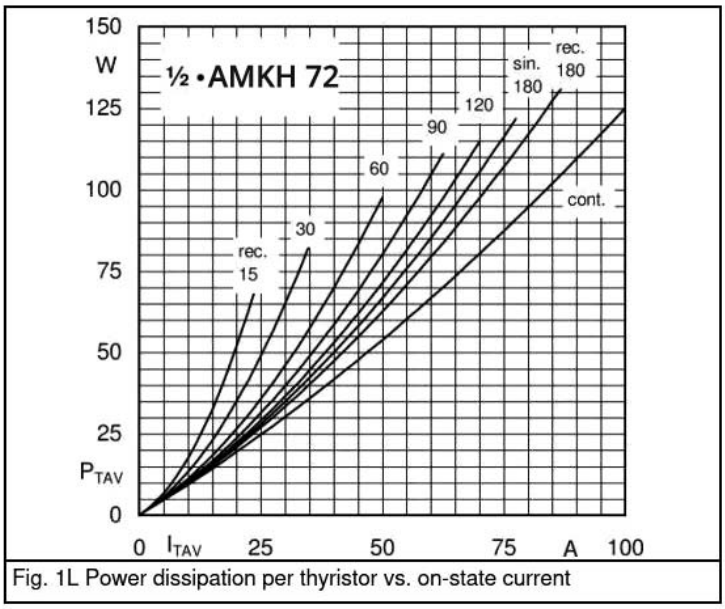


Fig. 1L Power dissipation per thyristor vs. on-state current

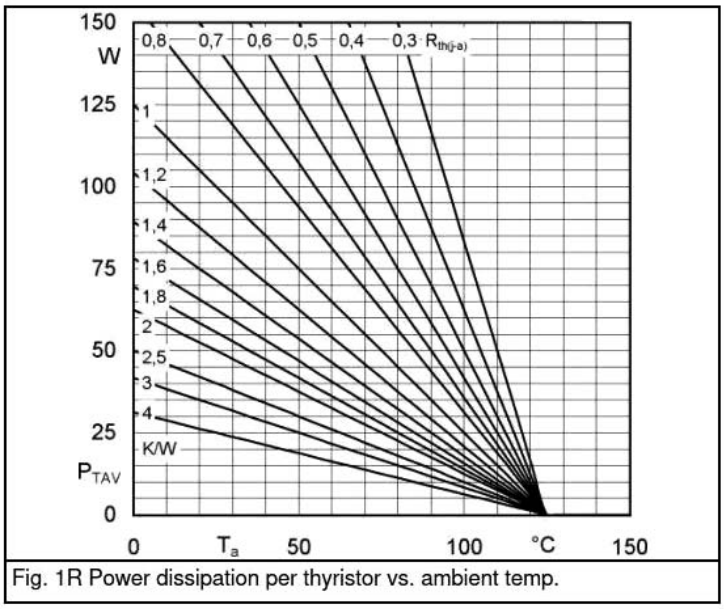


Fig. 1R Power dissipation per thyristor vs. ambient temp.

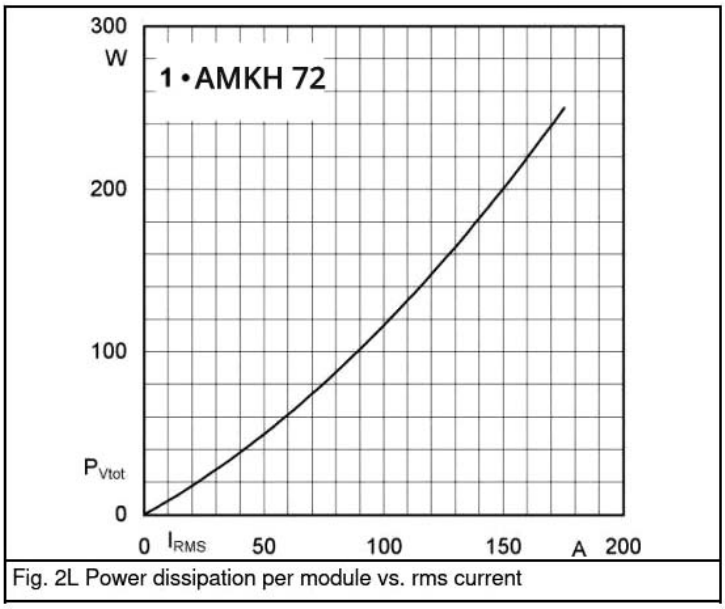


Fig. 2L Power dissipation per module vs. rms current

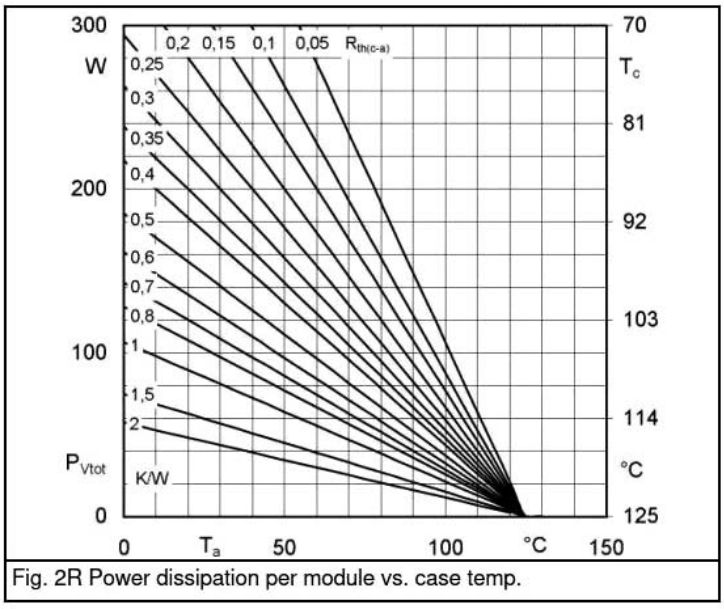


Fig. 2R Power dissipation per module vs. case temp.

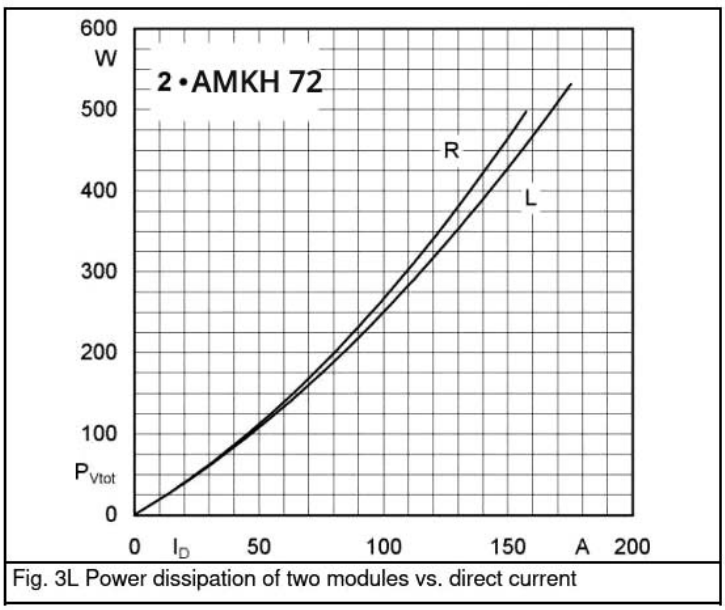


Fig. 3L Power dissipation of two modules vs. direct current

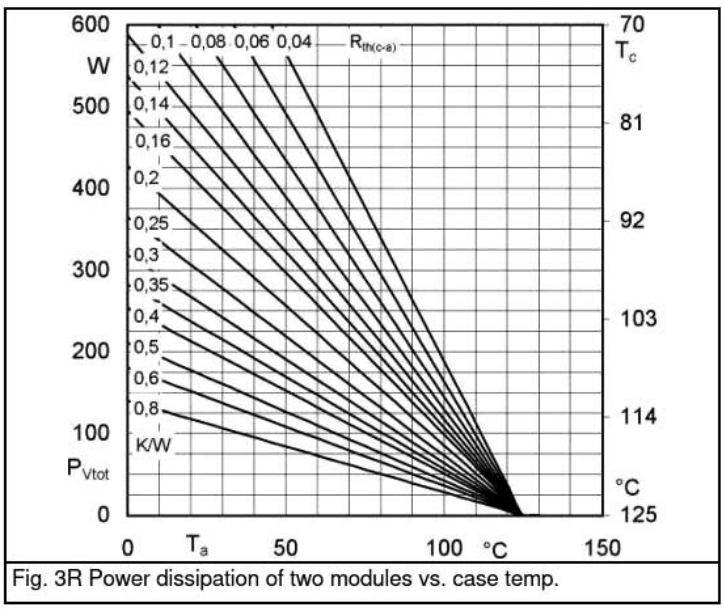


Fig. 3R Power dissipation of two modules vs. case temp.

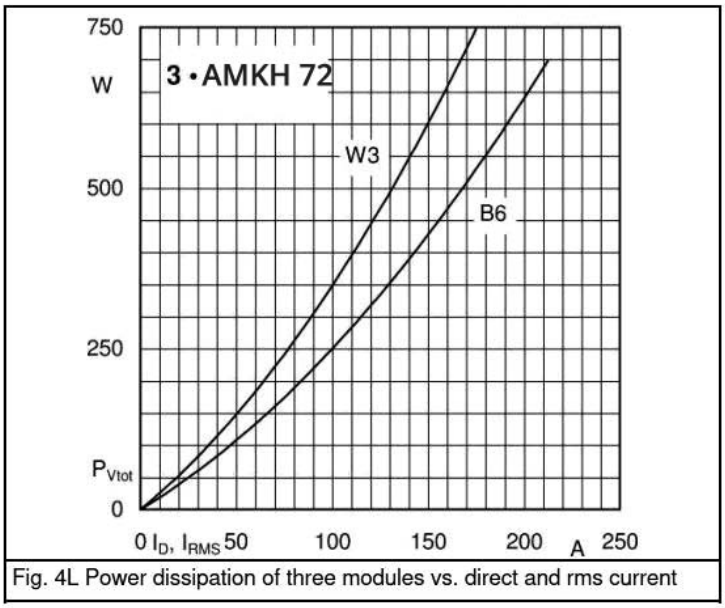


Fig. 4L Power dissipation of three modules vs. direct and rms current

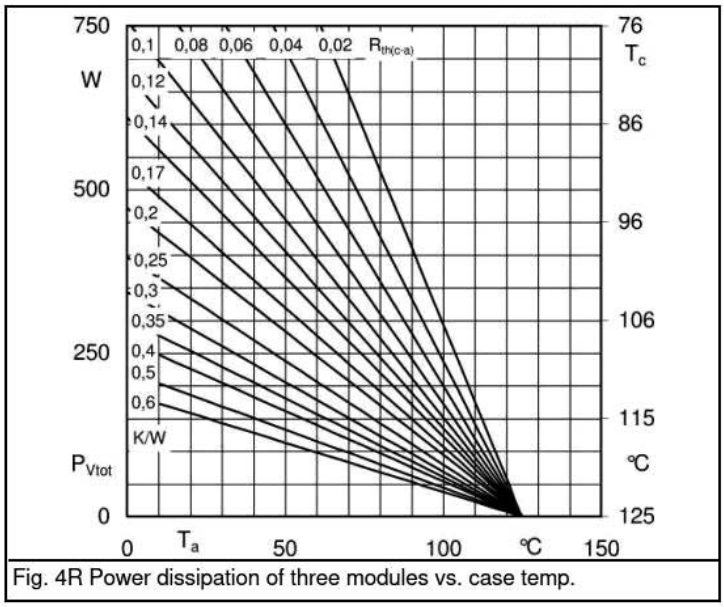


Fig. 4R Power dissipation of three modules vs. case temp.

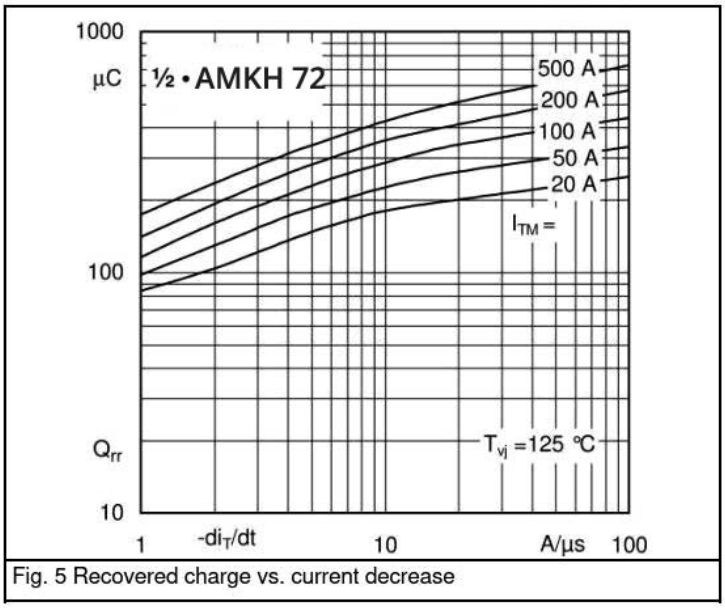


Fig. 5 Recovered charge vs. current decrease

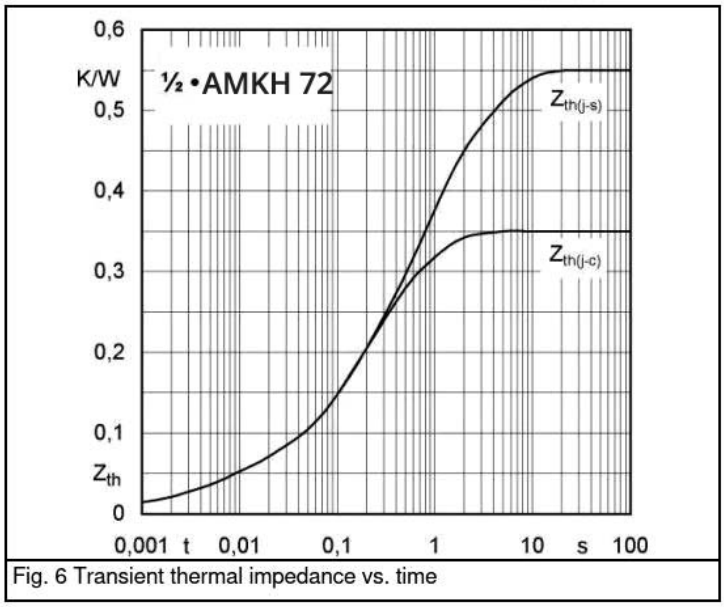


Fig. 6 Transient thermal impedance vs. time

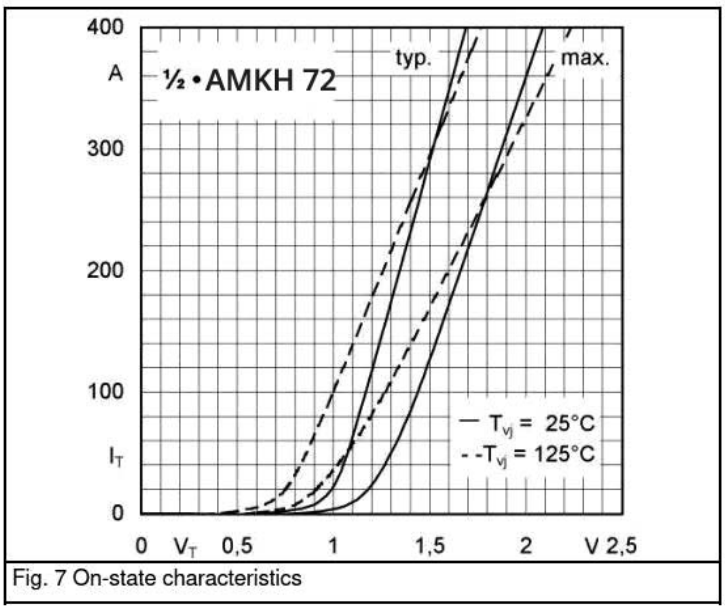


Fig. 7 On-state characteristics

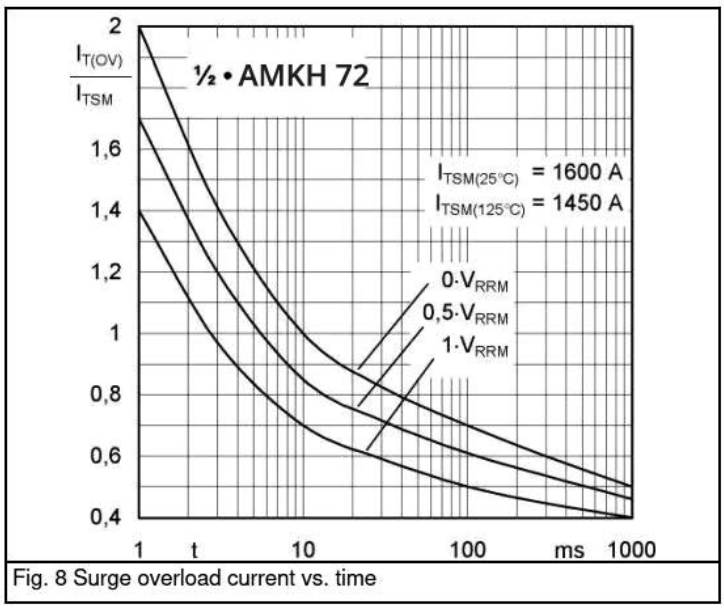


Fig. 8 Surge overload current vs. time

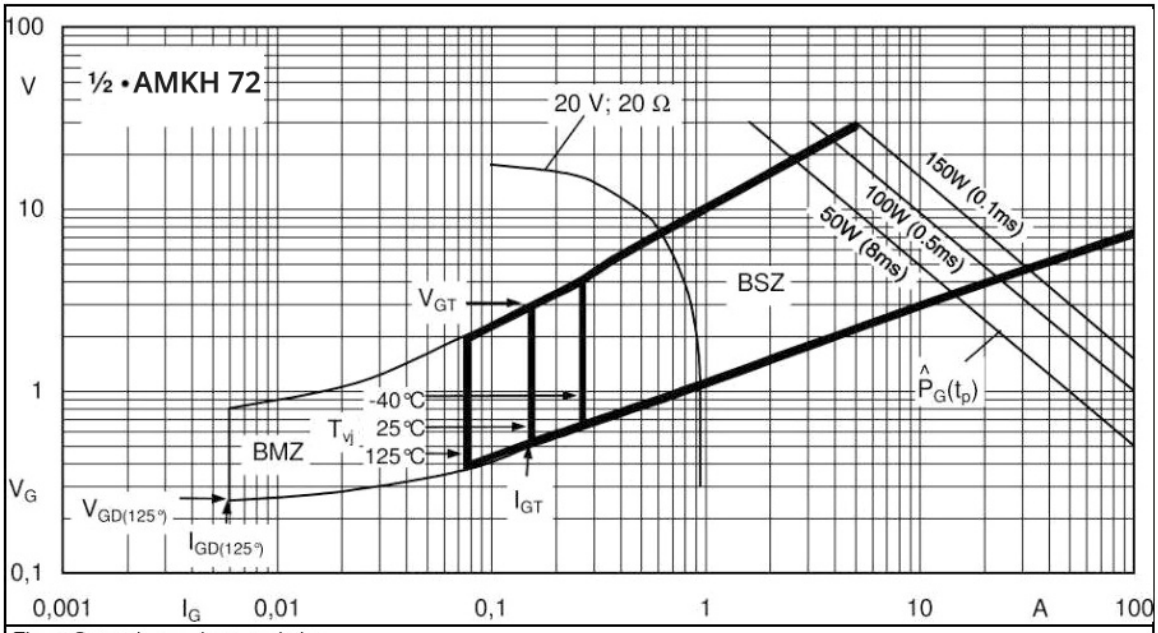
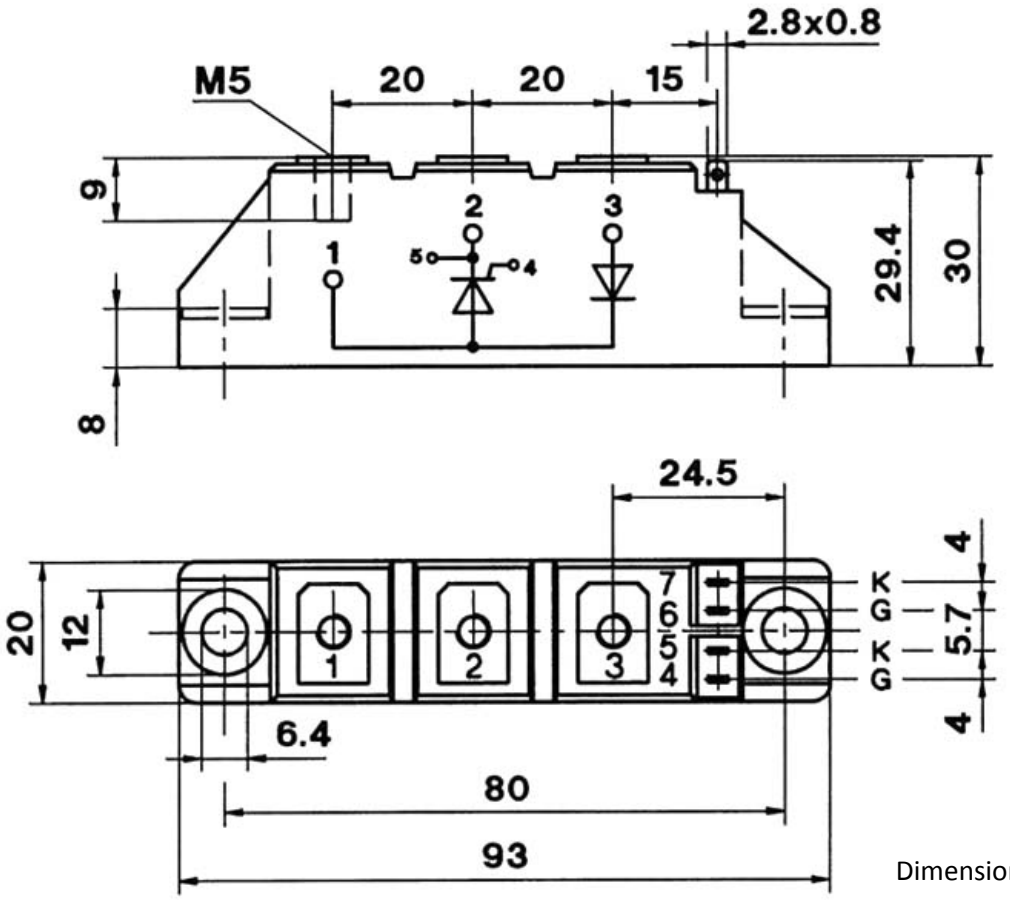
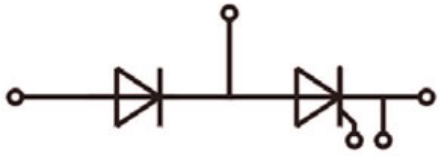


Fig. 9 Gate trigger characteristics

DIMENSIONS



Dimensions in mm

TOPOLOGY OF INTERNAL CONNECTION