BTT92/16

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 150 A (maximum value for continuous operation) I_{TAV} = 95 A (sin. 180; T_c = 85 °C)		
900	800			
1300	1200			
1500	1400			
1700	1600	BTT 92/16E		
1900	1800			

Thyristor / Diode Modules

BTT 92

Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532

Typical Applications*

- DC motor control (e. g. for machine tools)
- AC motor soft starters
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) See the assembly instructions

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	95 (68)	A
I_D	P3/180; T_a = 45 °C; B2 / B6	70 / 85	A
	P3/180F; T_a = 35 °C; B2 / B6	140 /175	A
I_{RMS}	P3/180F; T_a = 35 °C; W1 / W3	190 / 3 * 135	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	2000	A
	T_{vj} = 125 °C; 10 ms	1750	A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms	20000	A^2s
	T_{vj} = 125 °C; 8,3 ... 10 ms	15000	A^2s
V_T	T_{vj} = 25 °C; I_T = 300 A	max. 1,65	V
$V_{T(TO)}$	T_{vj} = 125 °C	max. 0,9	V
r_T	T_{vj} = 125 °C	max. 2	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}	2	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 ,	100	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	0,28 / 0,14	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,3 / 0,15	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,32 / 0,16	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/s^2
m	approx.	95	g
Case		A 46 A 48 A 47	

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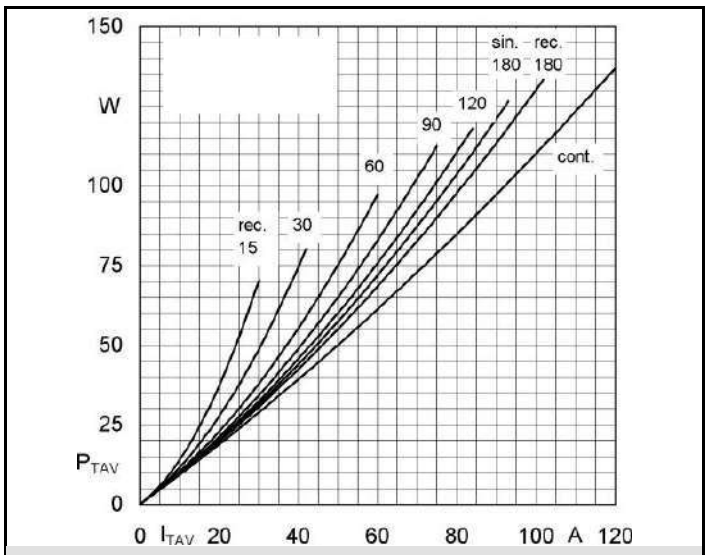


Fig. 1L Power dissipation per thyristor vs. on-state current

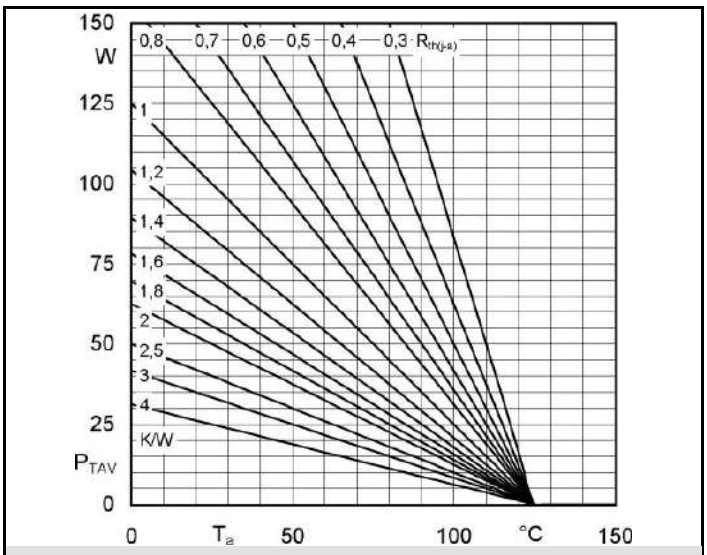


Fig. 1R Power dissipation per thyristor vs. ambient temp.

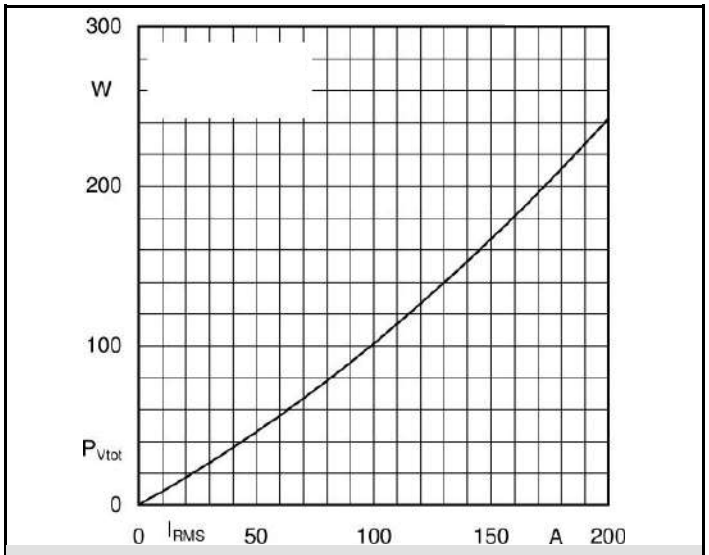


Fig. 2L Power dissipation per module vs. rms current

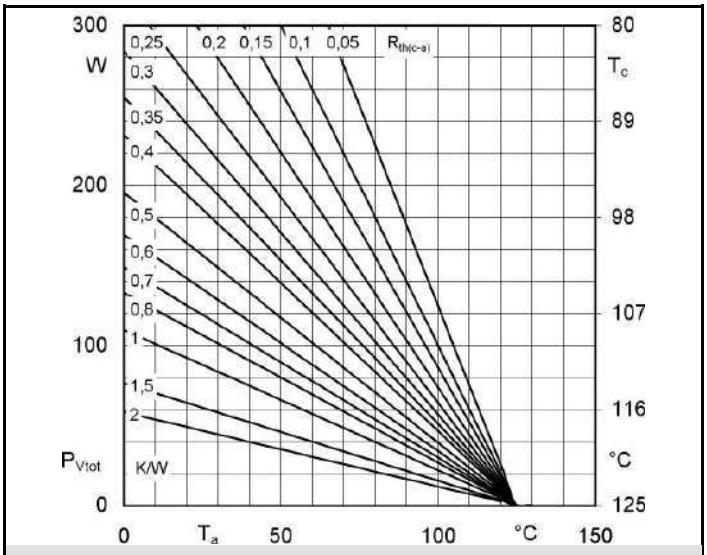


Fig. 2R Power dissipation per module vs. case temp.

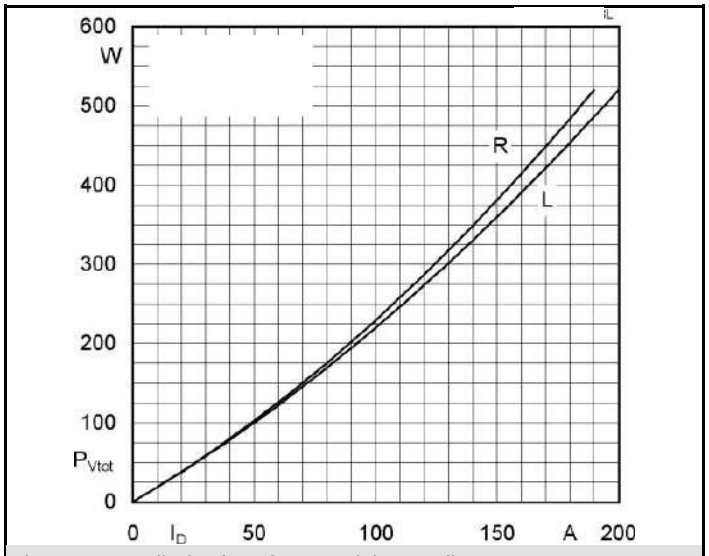


Fig. 3L Power dissipation of two modules vs. direct current

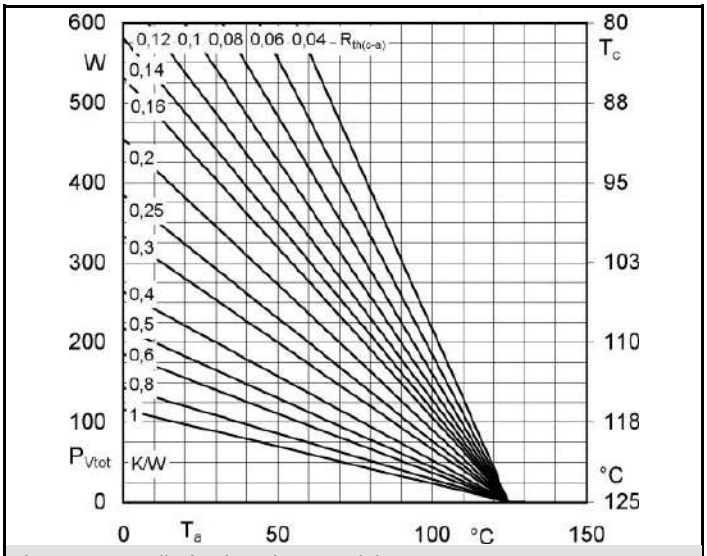


Fig. 3R Power dissipation of two modules vs. case temp.

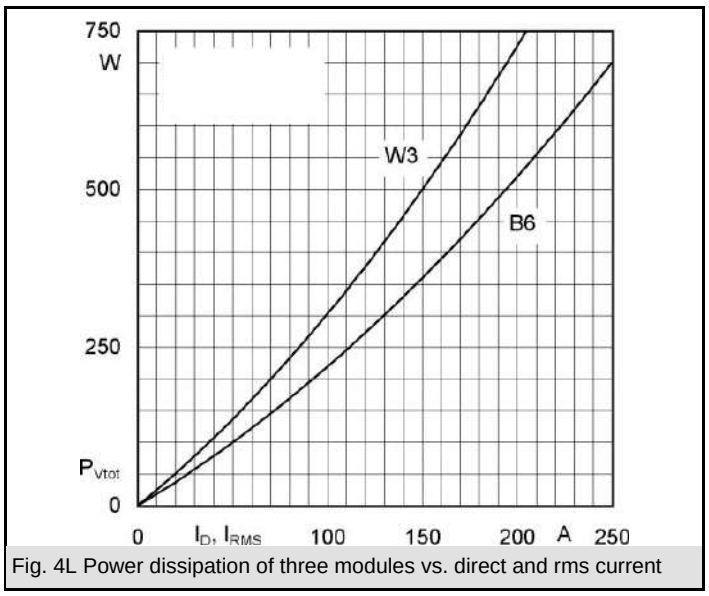


Fig. 4L Power dissipation of three modules vs. direct and rms current

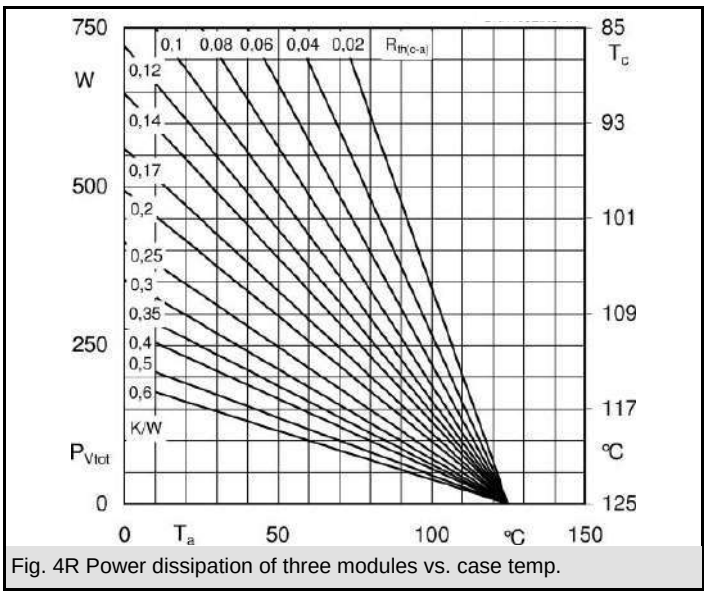


Fig. 4R Power dissipation of three modules vs. case temp.

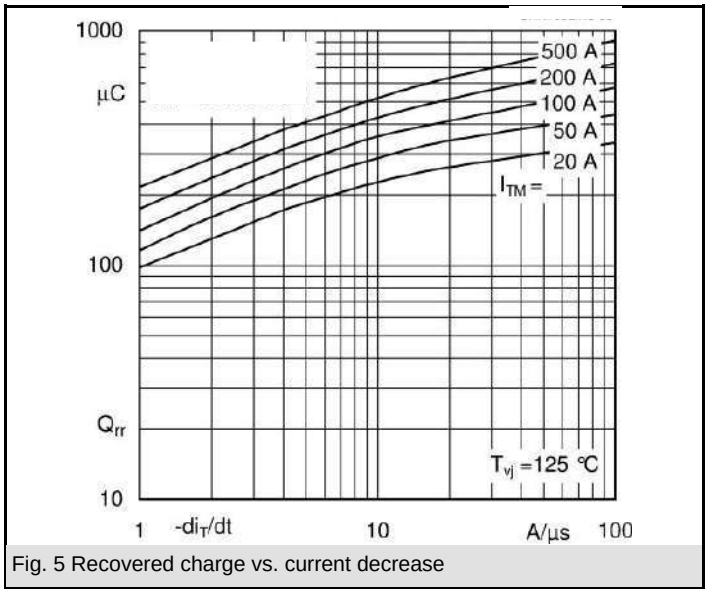


Fig. 5 Recovered charge vs. current decrease

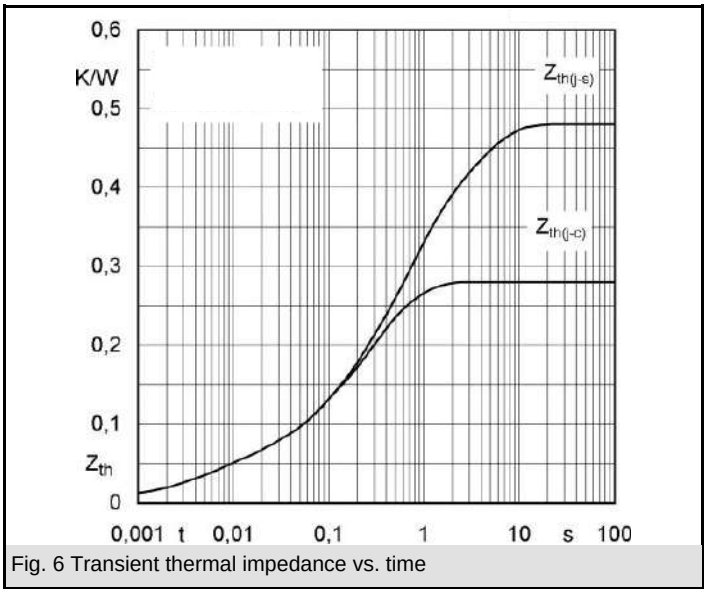


Fig. 6 Transient thermal impedance vs. time

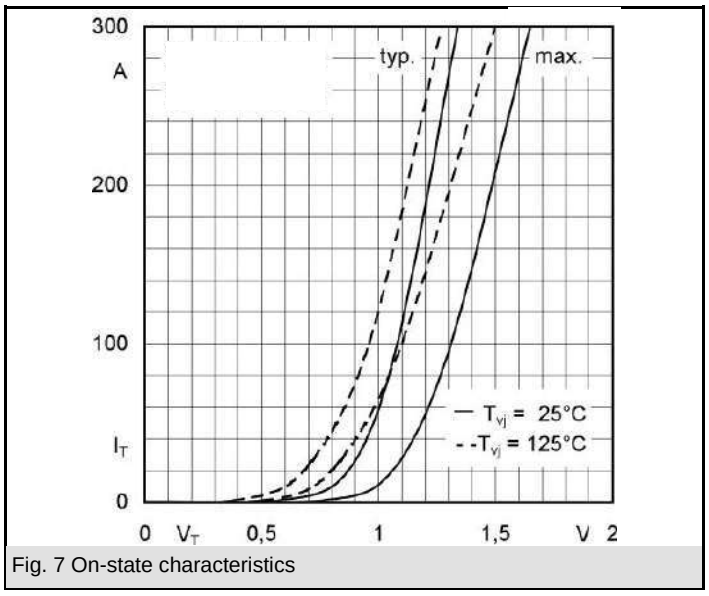


Fig. 7 On-state characteristics

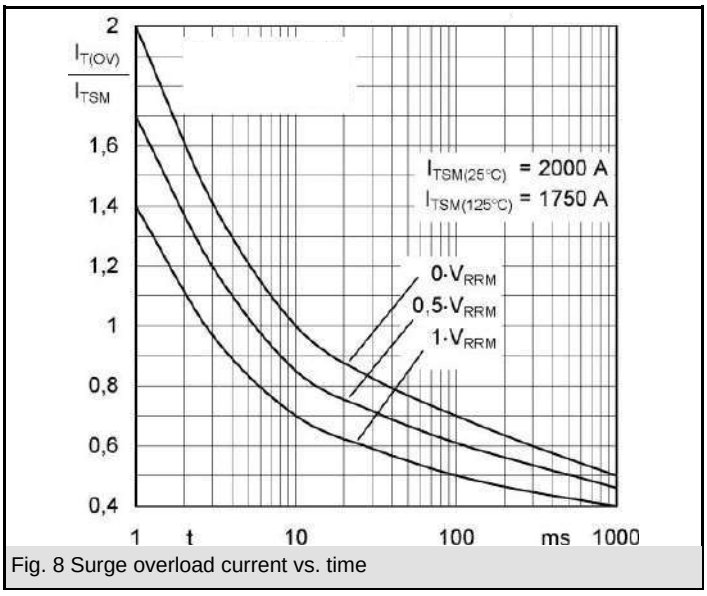


Fig. 8 Surge overload current vs. time

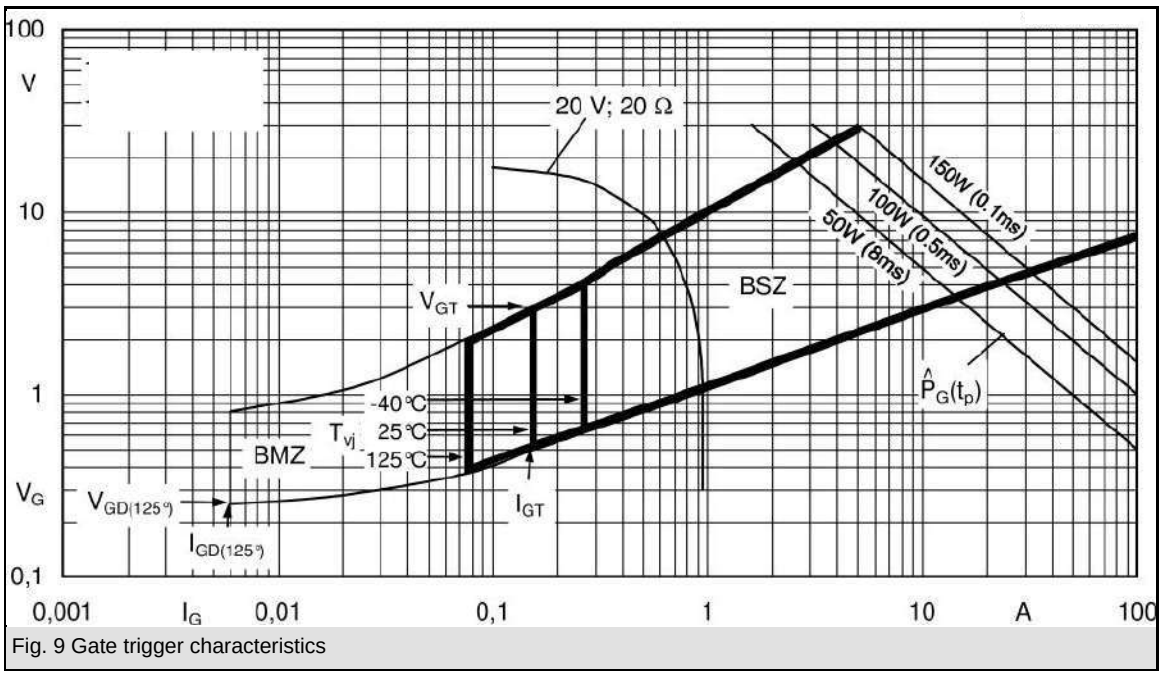
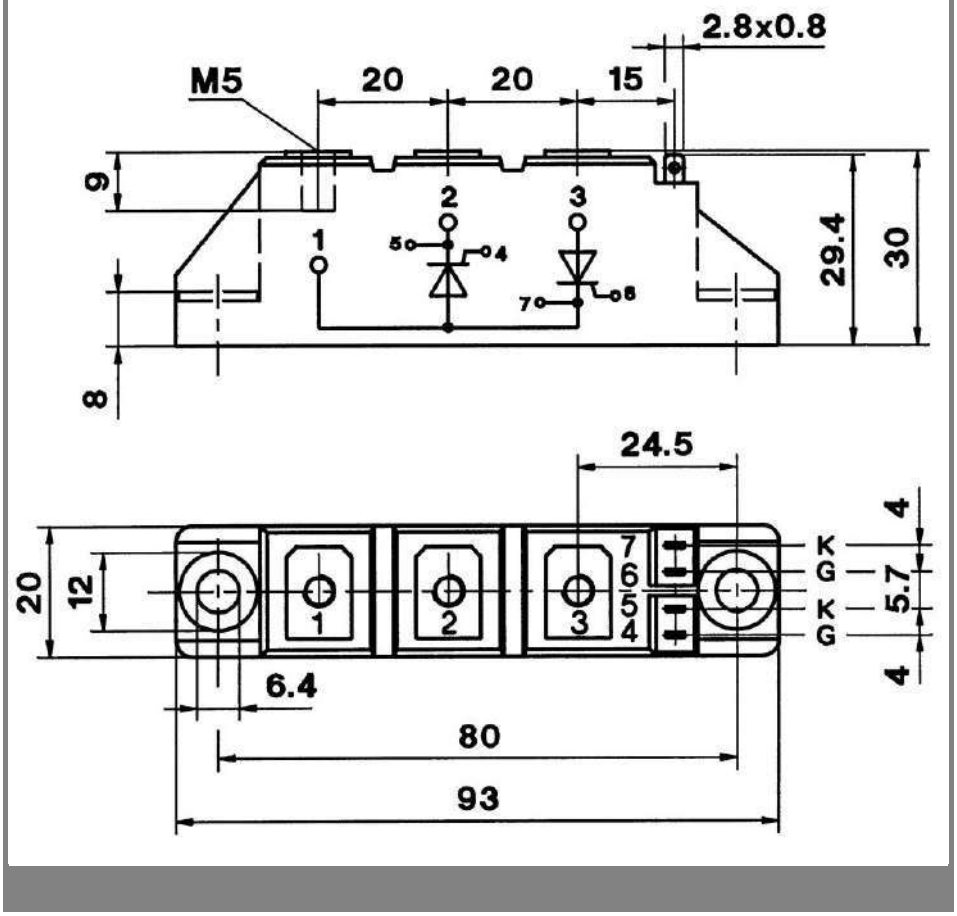
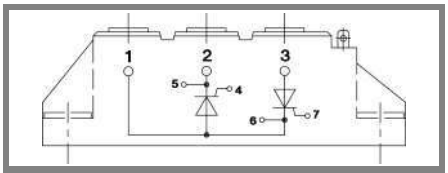
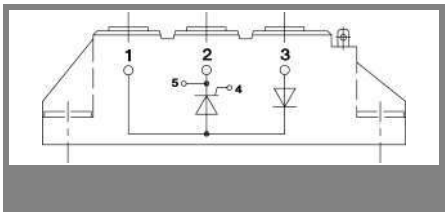


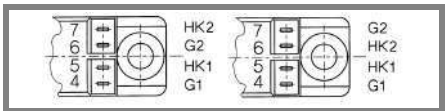
Fig. 9 Gate trigger characteristics

Dimensions in mm









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