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V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 95 A (maximum value for continuous operation) I_{TAV} = 55 A (sin. 180; T_c = 80 °C)		
900	800			
1300	1200			
1500	1400			
1700	1600	BTT 57/16		
1900	1800			

Thyristor / Diode Modules

BTT 57/16

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	50 (35)	A
I_D	P3/180; T_a = 45 °C; B2 / B6	57 / 68	A
	P3/180F; T_a = 35 °C; B2 / B6	100 /130	A
I_{RMS}	P3/180F; T_a = 35 °C; W1 / W3	130 / 3 x 100	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	1500	A
	T_{vj} = 125 °C; 10 ms	1250	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	11000	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	8000	A²s
V_T	T_{vj} = 25 °C; I_T = 200 A	max. 1,65	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. 15	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 ,	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	0,57 / 0,29	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,6 / 0,3	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,64 / 0,32	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
Case	BTT	A 46	
		A 48	
		A 47	

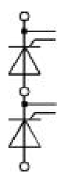
Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered jounts 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



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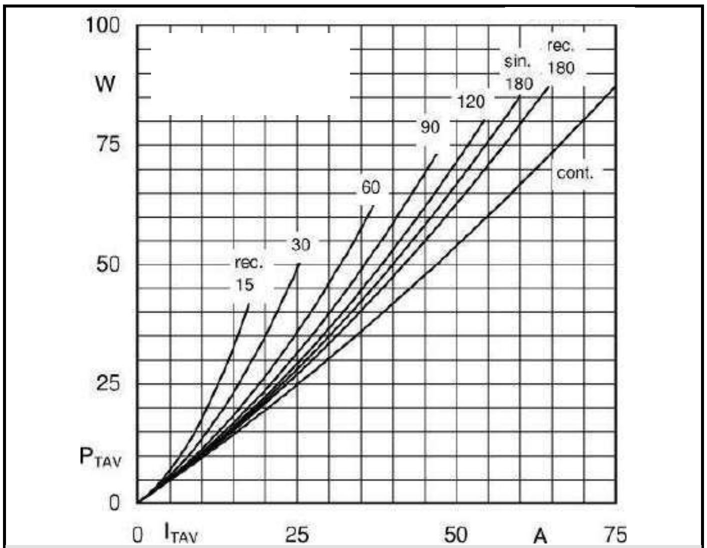


Fig. 1L Power dissipation per thyristor vs. on-state current

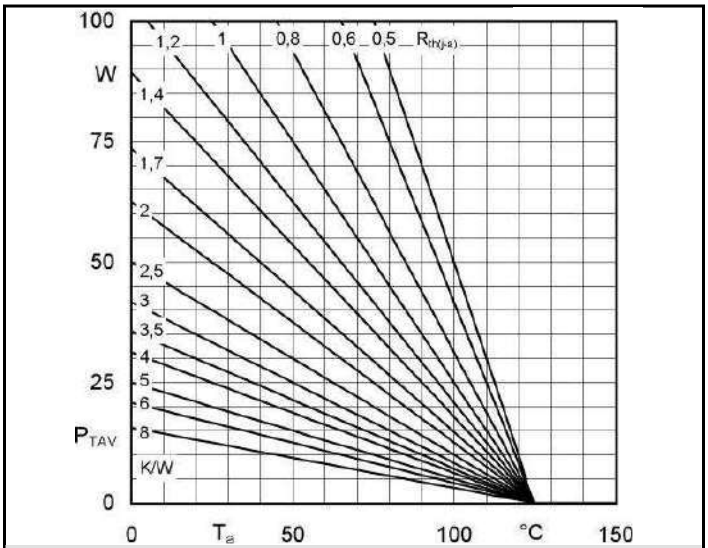


Fig. 1R Power dissipation per thyristor vs. ambient temp.

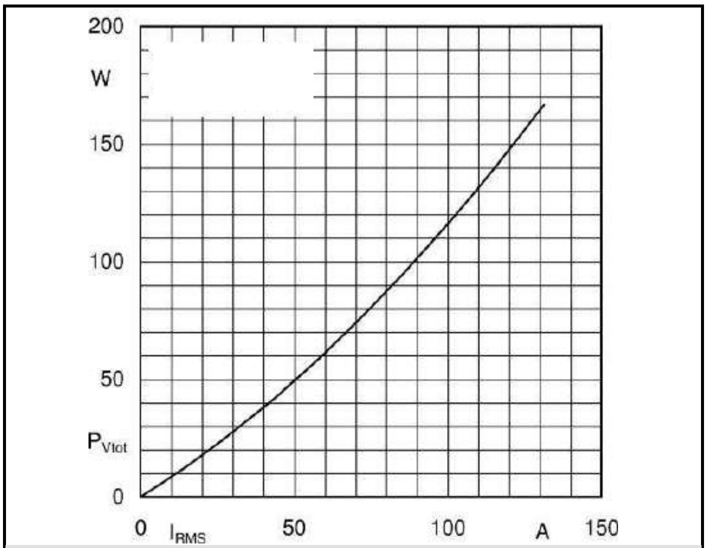


Fig. 2L Power dissipation per module vs. rms current

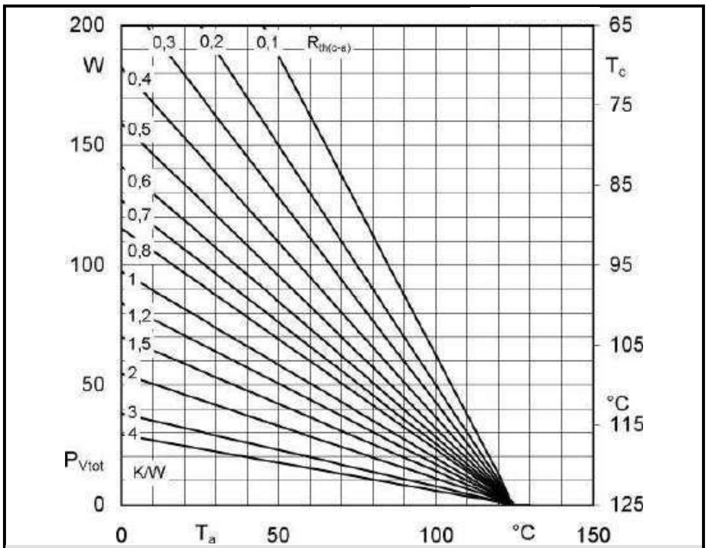


Fig. 2R Power dissipation per module vs. case temp.

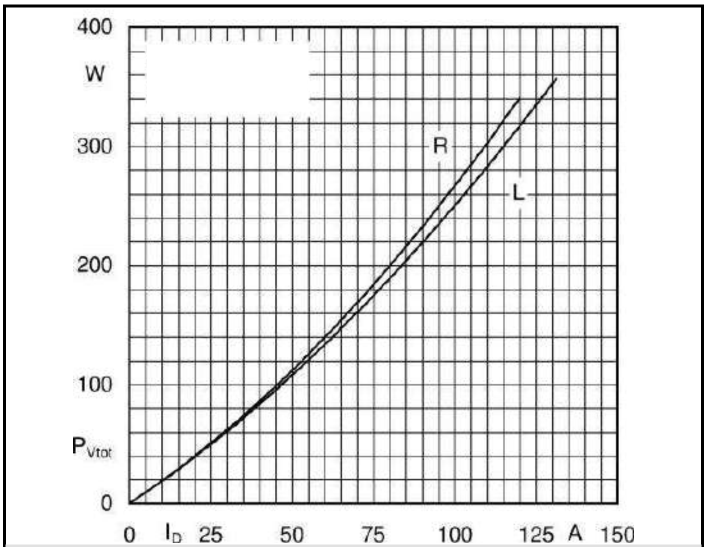


Fig. 3L Power dissipation of two modules vs. direct current

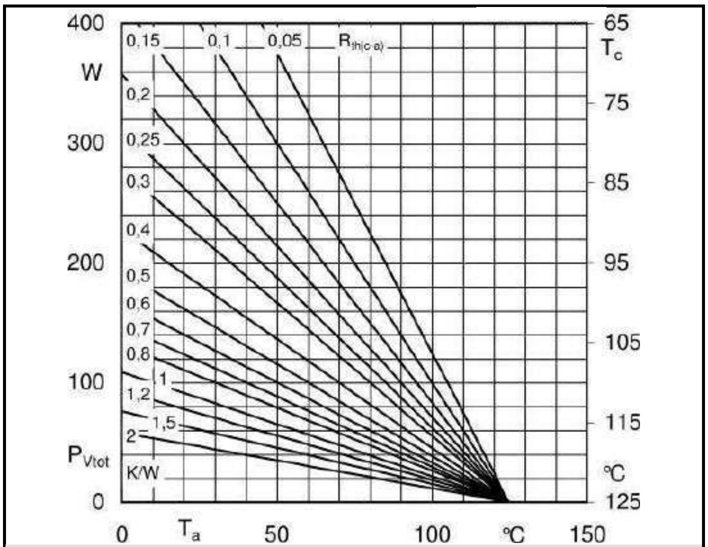


Fig. 3R Power dissipation of two modules vs. case temp.

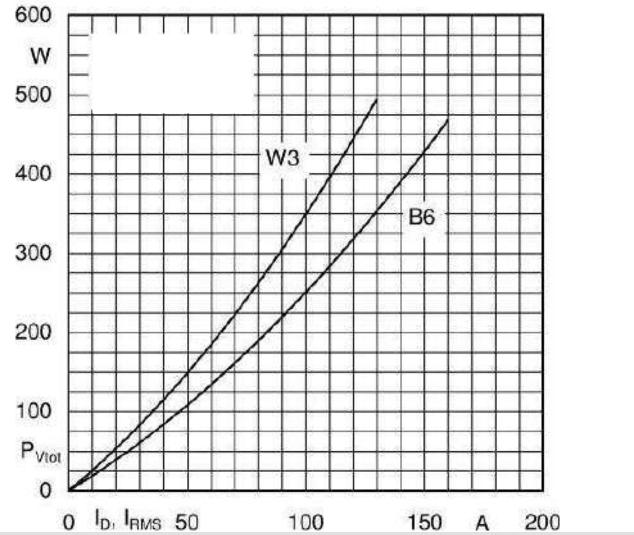


Fig. 4L Power dissipation of three modules vs. direct and rms current

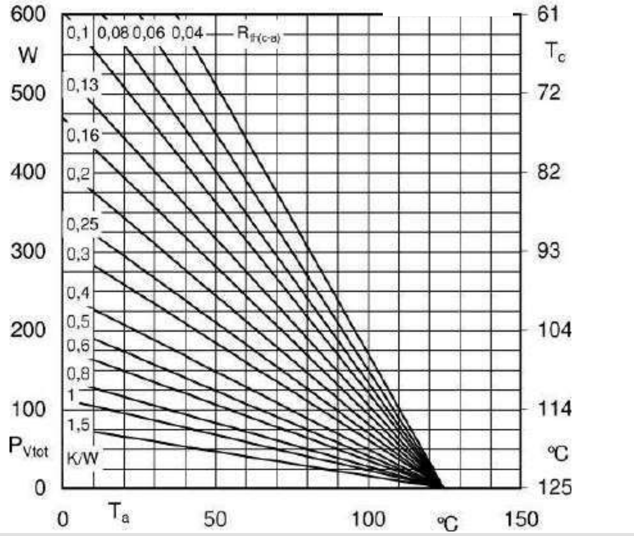


Fig. 4R Power dissipation of three modules vs. case temp.

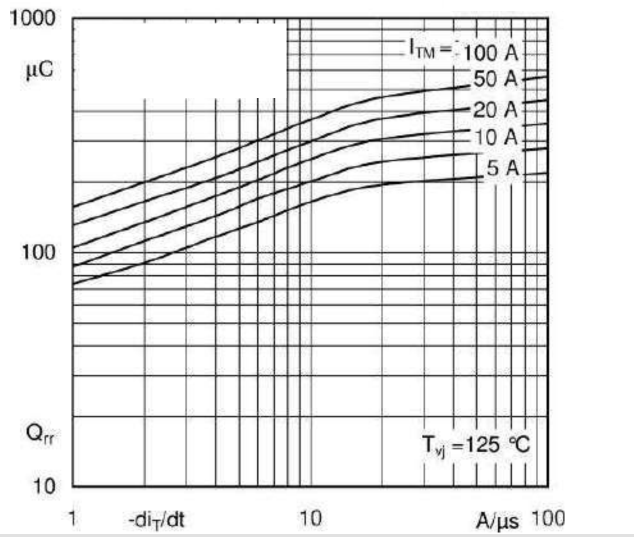


Fig. 5 Recovered charge vs. current decrease

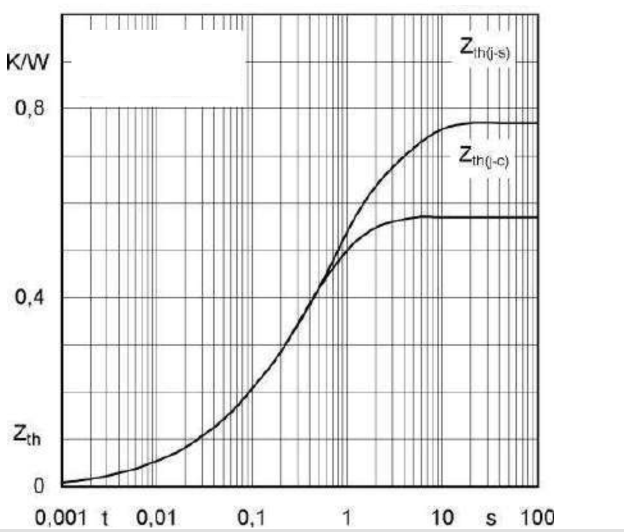


Fig. 6 Transient thermal impedance vs. time

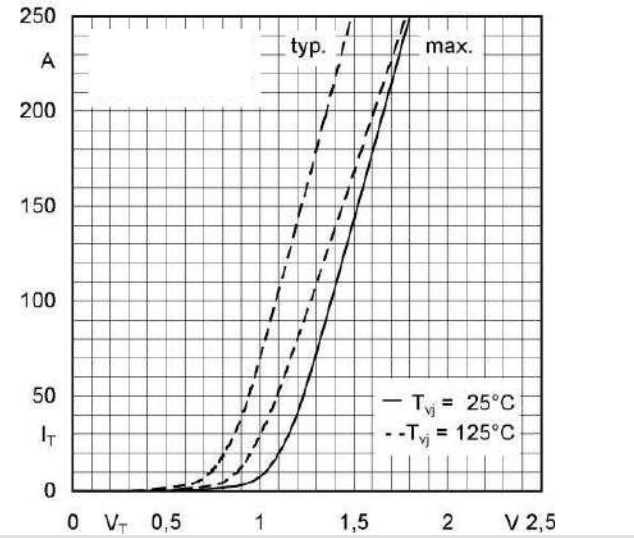


Fig. 7 On-state characteristics

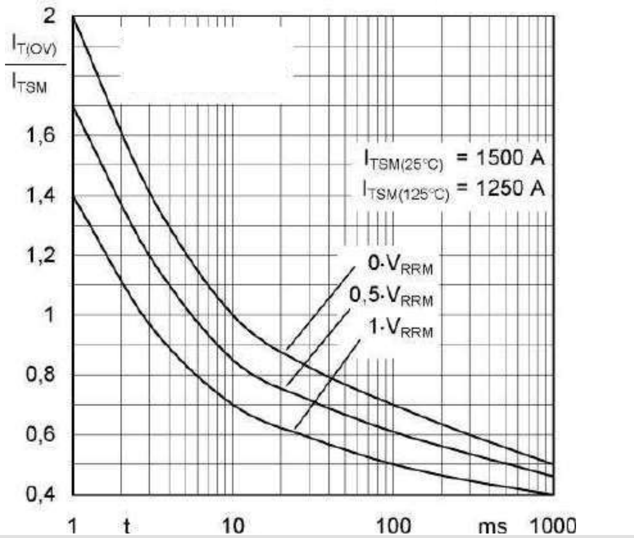


Fig. 8 Surge overload current vs. time

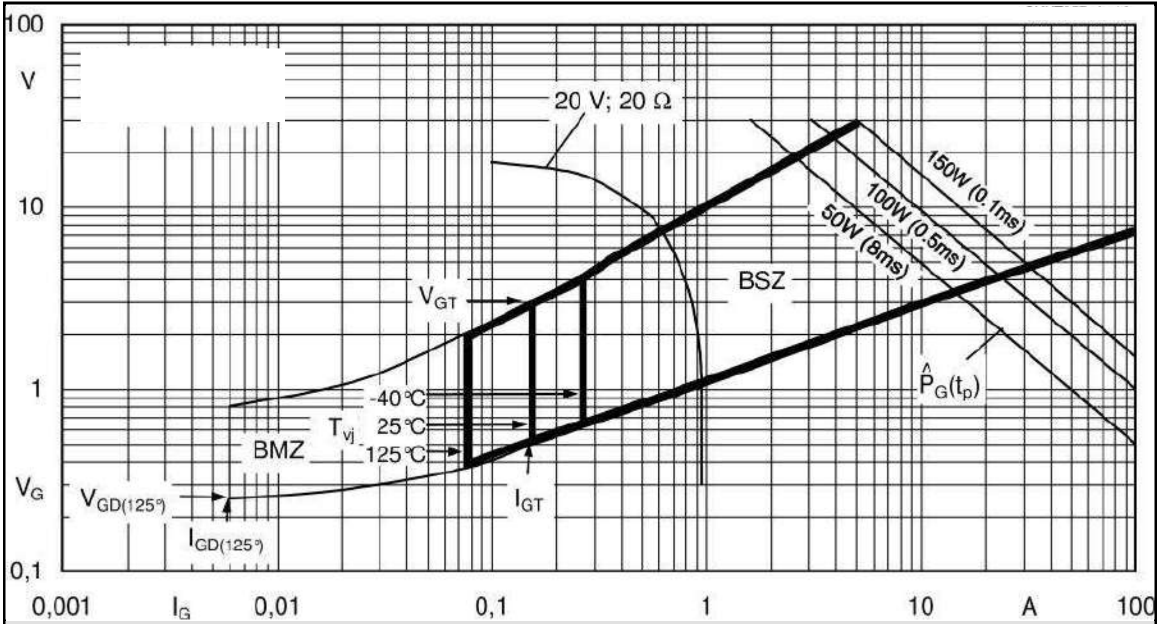
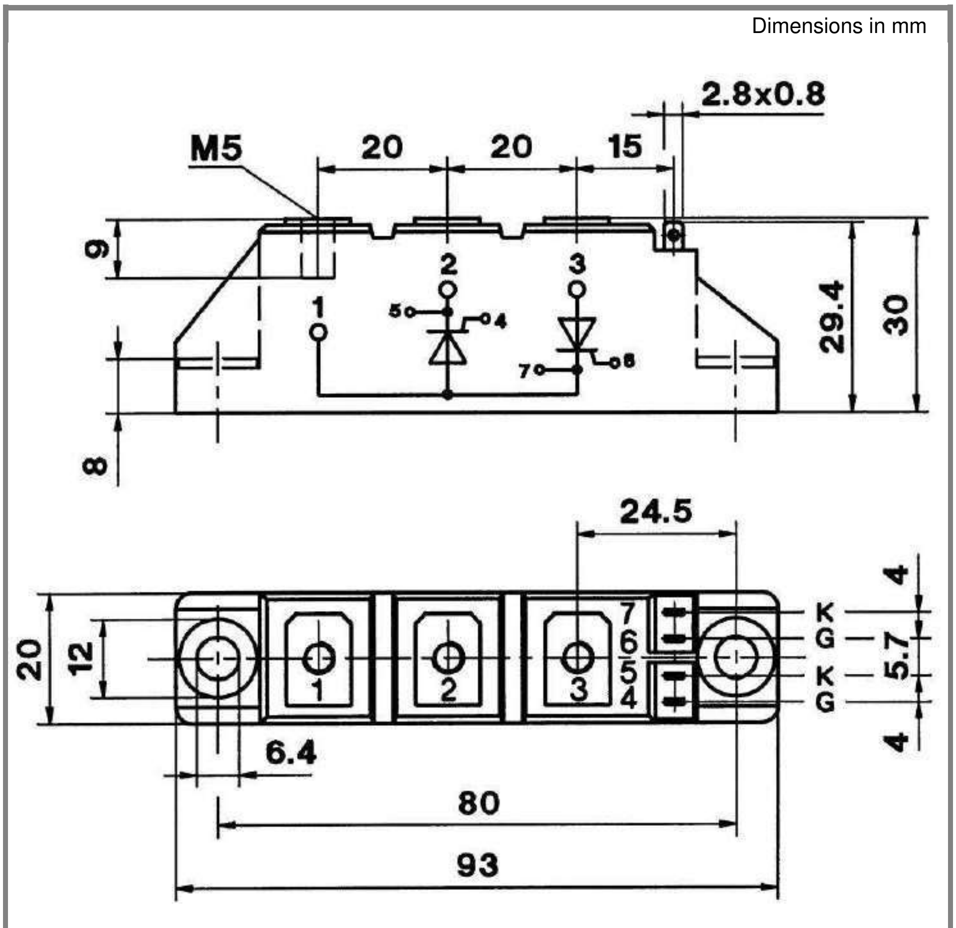


Fig. 9 Gate trigger characteristics



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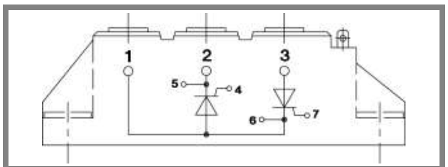

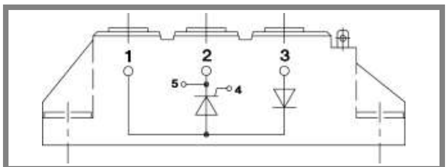

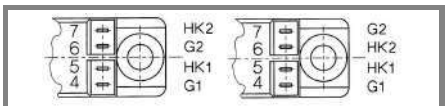

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* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of Biltek products in life support appliances and systems is subject to prior specification and written approval by Biltek. We therefore strongly recommend prior consultation of our staff.