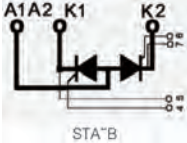
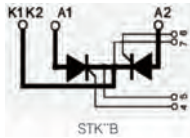
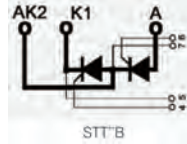


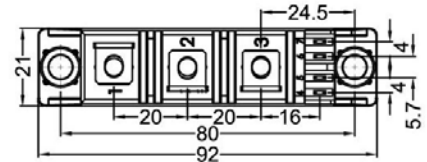
STT70GKXXB

Thyristor-Thyristor Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STT70GK08B	900	800
STT70GK12B	1300	1200
STT70GK14B	1500	1400
STT70GK16B	1700	1600
STT70GK18B	1900	1800
STT70GK20B	2100	2000
STT70GK22B	2300	2200
STT70GK24B	2500	2400

Dimensions in mm (1mm=0.0394")



Symbol	Test Conditions	Maximum Ratings	Unit
I_{TRMS} , I_{FRMS} I_{TAVM} , I_{FAVM}	$T_V = T_{VJM}$ $T_C = 85^\circ C$; 180° sine	180 70	A
I_{TSM} , I_{FSM}	$T_V = 45^\circ C$ $V_R = 0$ $t = 10ms$ (50Hz), sine $t = 8.3ms$ (60Hz), sine	1600 1700	A
	$T_V = T_{VJM}$ $V_R = 0$ $t = 10ms$ (50Hz), sine $t = 8.3ms$ (60Hz), sine	1450 1550	
$\int i^2 dt$	$T_V = 45^\circ C$ $V_R = 0$ $t = 10ms$ (50Hz), sine $t = 8.3ms$ (60Hz), sine	13500 12600	A ² s
	$T_V = T_{VJM}$ $V_R = 0$ $t = 10ms$ (50Hz), sine $t = 8.3ms$ (60Hz), sine	10600 10250	
$(di/dt)_{cr}$	$T_V = T_{VJM}$ $f = 50Hz$, $t_p = 200\mu s$ $V_D = 2/3V_{DRM}$ $I_G = 0.45A$ $di_G/dt = 0.45A/\mu s$ repetitive, $I_T = 250A$	150	A/ μs
	non repetitive, $I_T = I_{TAVM}$	500	
$(dv/dt)_{cr}$	$T_V = T_{VJM}$; $R_{GK} = \infty$; method 1 (linear voltage rise) $V_{DR} = 2/3V_{DRM}$	1000	V/ μs
P_{GM}	$T_V = T_{VJM}$ $I_T = I_{TAVM}$ $t_p = 30\mu s$ $t_p = 300\mu s$	10	W
		5	
P_{GAV}		0.5	W
V_{RGM}		10	V
T_V T_{VJM} T_{stg}		-40...+125	°C
		125	
		-40...+125	
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1mA$ $t = 1min$ $t = 1s$	3000	V~
		3600	
M_d	Mounting torque (M5) Terminal connection torque (M5)	2.5-4.0/22-35	Nm/lb.in.
		2.5-4.0/22-35	
Weight	Typical	110	g



STT70GKXXB

Thyristor-Thyristor Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}, I_{DRM}	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	5	mA
V_T, V_F	$I_T, I_F=210A; T_{VJ}=25^{\circ}C$	1.65	V
V_{TO}	For power-loss calculations only ($T_{VJ}=125^{\circ}C$)	0.85	V
r_T		3.2	$m\Omega$
V_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	1.5 1.6	V
I_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	100 200	mA
V_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	0.2	V
I_{GD}		10	mA
I_L	$T_{VJ}=25^{\circ}C; t_p=10\mu s; V_D=6V$ $I_G=0.45A; di_G/dt=0.45A/\mu s$	450	mA
I_H	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	200	mA
t_{gd}	$T_{VJ}=25^{\circ}C; V_D=1/2V_{DRM}$ $I_G=0.45A; di_G/dt=0.45A/\mu s$	2	μs
t_q	$T_{VJ}=T_{VJM}; I_T=150A; t_p=200\mu s; -di/dt=10A/\mu s$ $V_R=100V; dv/dt=20V/\mu s; V_D=2/3V_{DRM}$	185	μs
Q_s	$T_{VJ}=T_{VJM}; I_T, I_F=50A; -di/dt=6A/\mu s$	170	μC
I_{RM}		45	A
R_{thJC}	per thyristor/diode; DC current per module	0.3 0.15	K/W
R_{thJK}	per thyristor/diode; DC current per module	0.5 0.25	K/W
d_s	Creeping distance on surface	12.7	mm
d_a	Strike distance through air	9.6	mm
a	Maximum allowable acceleration	50	m/s^2

FEATURES

- * International standard package
- * Copper base plate
- * Glass passivated chips
- * Isolation voltage 3600 V~
- * UL file NO.E310749
- * RoHS compliant

APPLICATIONS

- * DC motor control
- * Softstart AC motor controller
- * Light, heat and temperature control

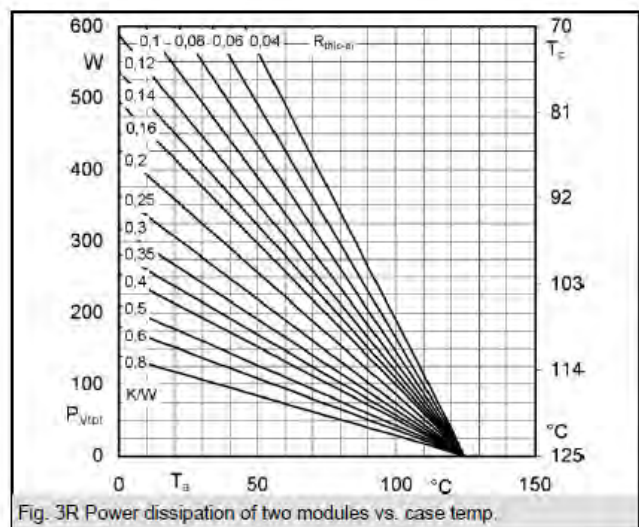
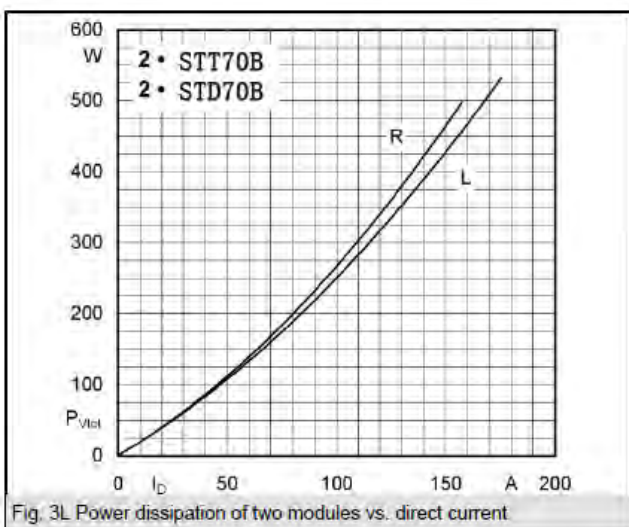
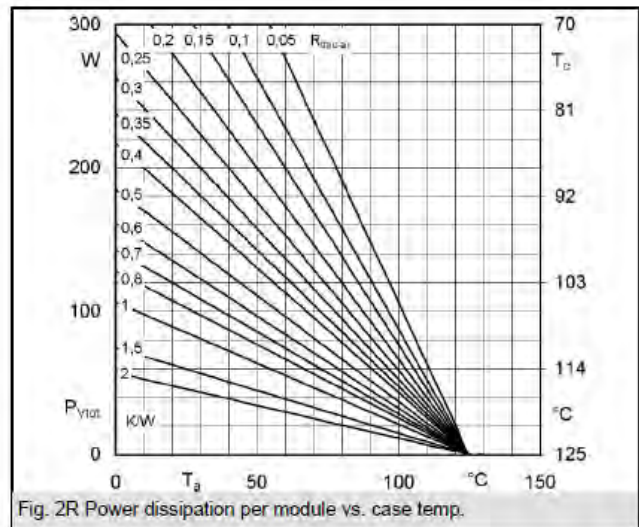
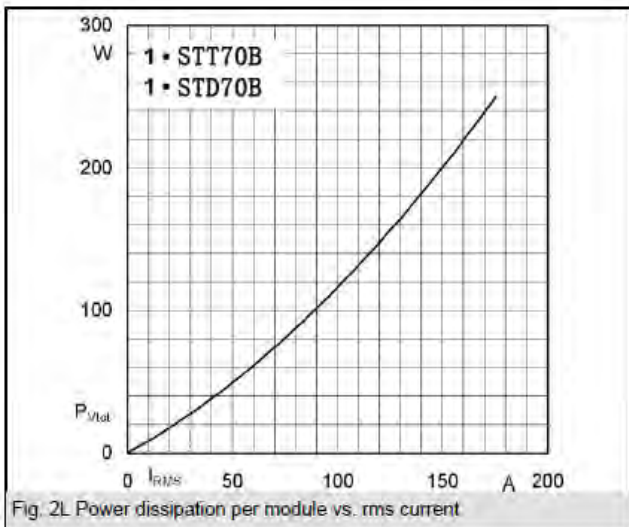
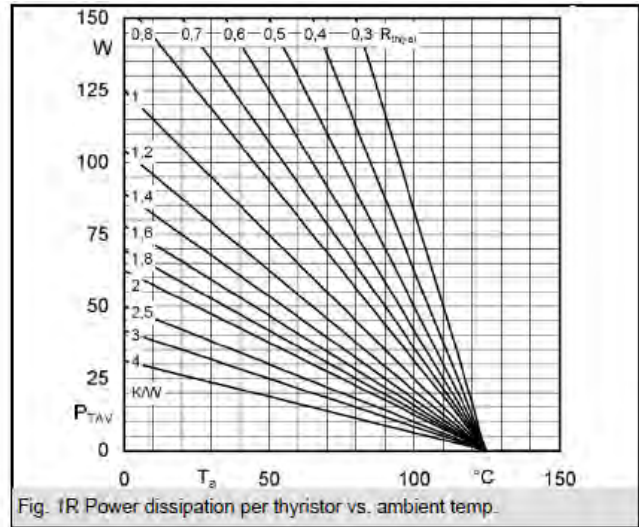
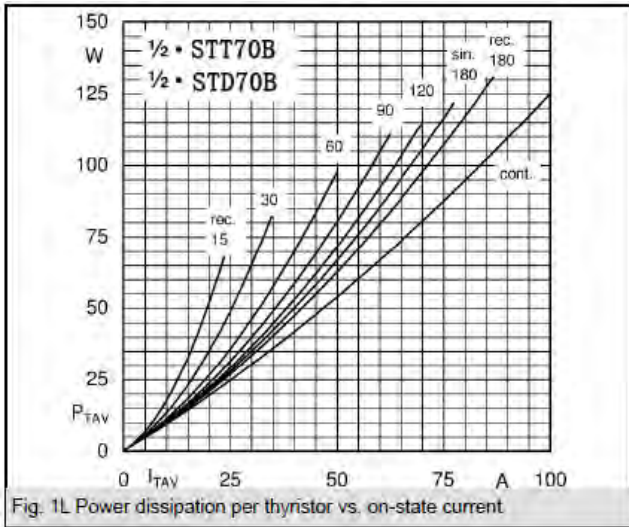
ADVANTAGES

- * Space and weight savings
- * Simple mounting with two screws
- * Improved temperature and power cycling
- * Reduced protection circuits



STT70GKXXB

Thyristor-Thyristor Modules



STT70GKXXB

Thyristor-Thyristor Modules

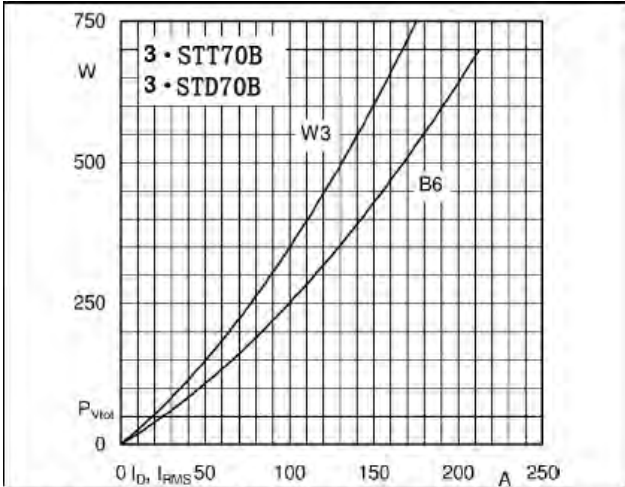


Fig. 4L Power dissipation of three modules vs. direct and rms current

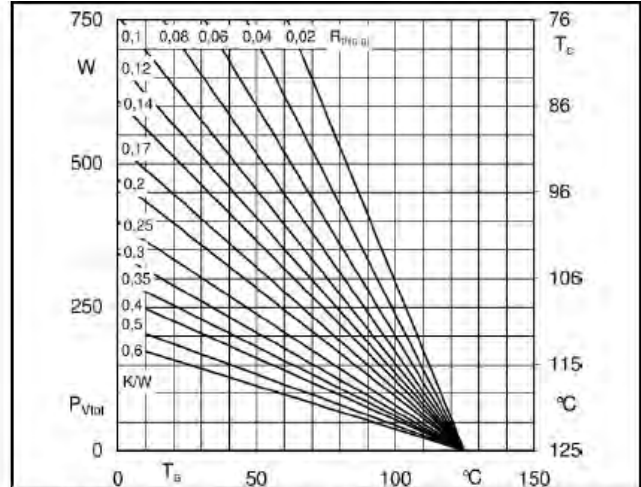


Fig. 4R Power dissipation of three modules vs. case temp.

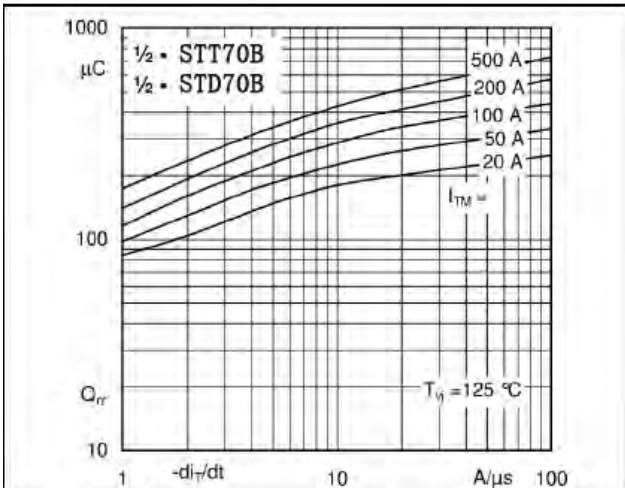


Fig. 5 Recovered charge vs. current decrease

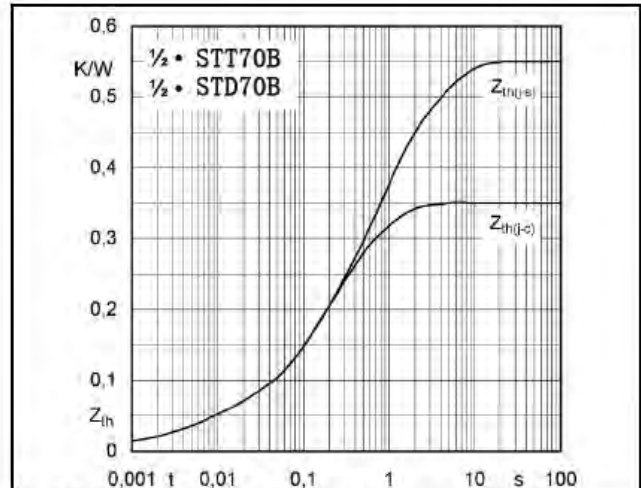


Fig. 6 Transient thermal impedance vs. time

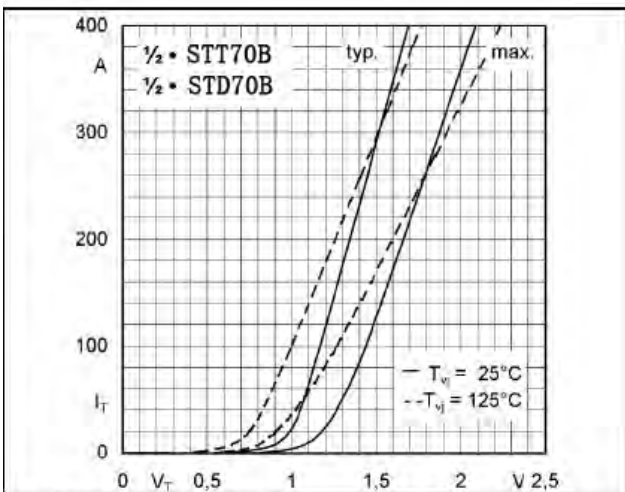


Fig. 7 On-state characteristics

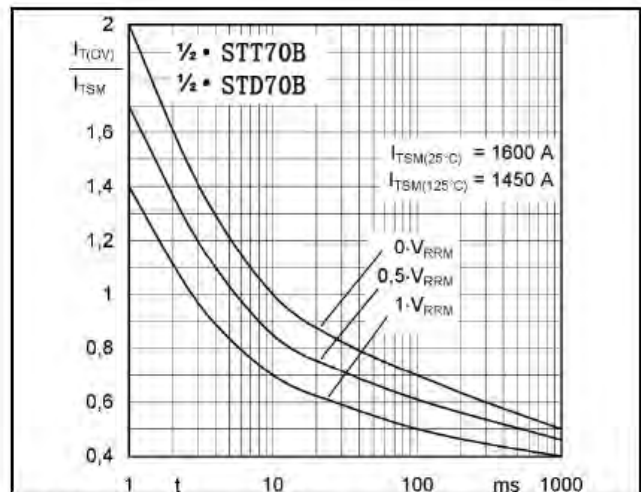


Fig. 8 Surge overload current vs. time