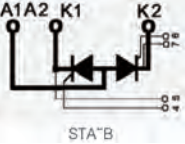
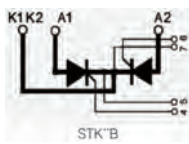
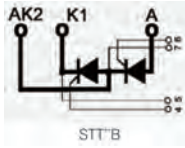


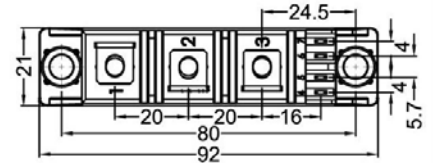
STT100GKXXB

Thyristor-Thyristor Modules



Type	V _{RSM} V _{DSM} V	V _{RRM} V _{DRM} V
STT100GK08B	900	800
STT100GK12B	1300	1200
STT100GK14B	1500	1400
STT100GK16B	1700	1600
STT100GK18B	1900	1800
STT100GK20B	2100	2000
STT100GK22B	2300	2200

Dimensions in mm (1mm=0.0394")



Symbol	Test Conditions	Maximum Ratings	Unit
I _{TRMS} , I _{FRMS} I _{TAVM} , I _{FAVM}	T _{VJ} =T _{VJM} T _C =85°C; 180° sine	180 100	A
I _{TSM} , I _{FSM}	T _{VJ} =45°C V _R =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1700 1800	A
	T _{VJ} =T _{VJM} V _R =0 t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1540 1640	
∫i ² dt	T _{VJ} =45°C V _R =0 t=10ms (50Hz), sine t=8.3ms (60Hz), sine	14450 13500	A ² s
	T _{VJ} =T _{VJM} V _R =0 t=10ms(50Hz), sine t=8.3ms(60Hz), sine	11850 11300	
(di/dt) _{cr}	T _{VJ} =T _{VJM} f=50Hz, t _p =200us V _D =2/3V _{DRM} I _G =0.45A di _G /dt=0.45A/us repetitive, I _T =250A	150	A/us
	non repetitive, I _T =I _{TAVM}	500	
(dv/dt) _{cr}	T _{VJ} =T _{VJM} ; R _{GK} =∞; method 1 (linear voltage rise) V _{DR} =2/3V _{DRM}	1000	V/us
P _{GM}	T _{VJ} =T _{VJM} I _T =I _{TAVM} t _p =30us	10	W
	t _p =300us	5	
P _{GAV}		0.5	W
V _{RGM}		10	V
T _{VJ} T _{VJM} T _{stg}		-40...+125	°C
		125	
		-40...+125	
V _{ISOL}	50/60Hz, RMS I _{ISOL} ≤1mA t=1min	3000	V~
	t=1s	3600	
M _d	Mounting torque (M5)	2.5-4.0/22-35	Nm/lb.in.
	Terminal connection torque (M5)	2.5-4.0/22-35	
Weight	Typical	110	g



STT100GKXXB

Thyristor-Thyristor Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}, I_{DRM}	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	15	mA
V_T, V_F	$I_T, I_F=300A; T_{VJ}=25^{\circ}C$	1.74	V
V_{TO}	For power-loss calculations only ($T_{VJ}=T_{VJM}$)	0.85	V
r_T		3.2	m Ω
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}	$T_{VJ}=T_{VJM};$ $V_D=2/3V_{DRM}$	0.25	V
I_{GD}	$T_{VJ}=T_{VJM};$ $V_D=2/3V_{DRM}$	10	mA
I_L	$T_{VJ}=25^{\circ}C; t_p=30\mu s; V_D=6V$ $I_G=0.45A; di_G/dt=0.45A/\mu s$	200	mA
I_H	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	150	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	0.22 0.11	K/W
R_{thJK}	per thyristor/diode; DC current per module	0.42 0.21	K/W
d_s	Creeping distance on surface	12.7	mm
d_A	Creepage distance in 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

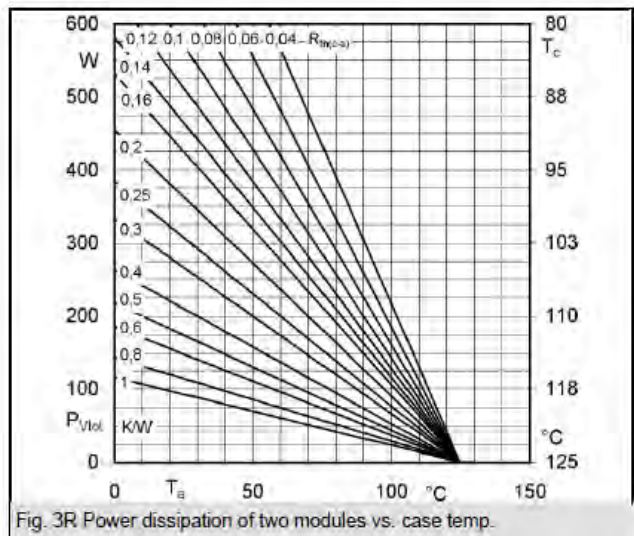
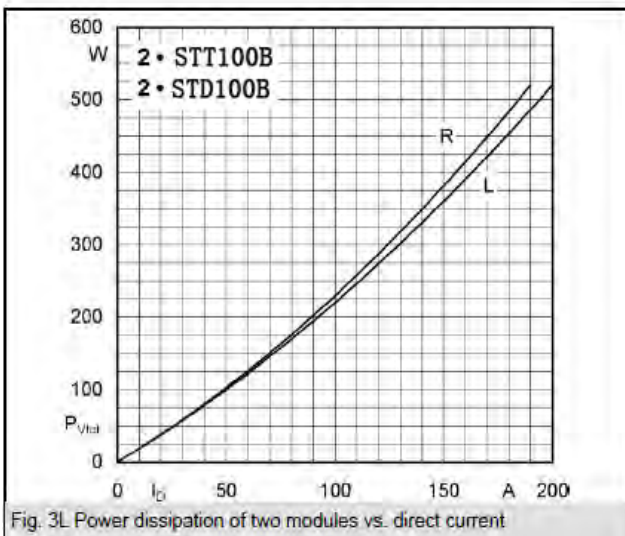
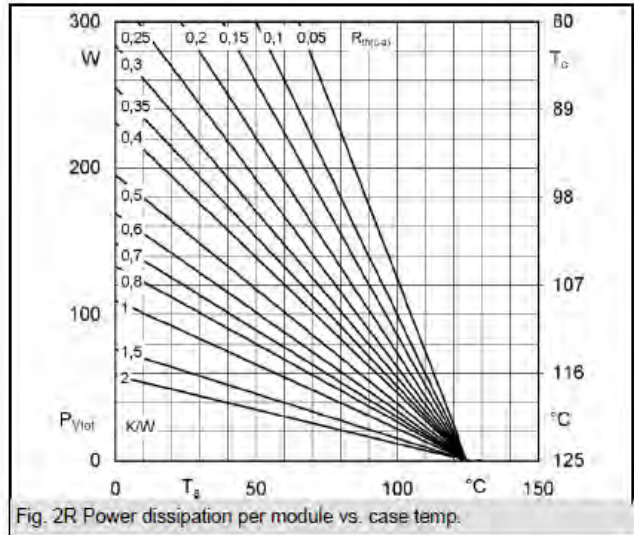
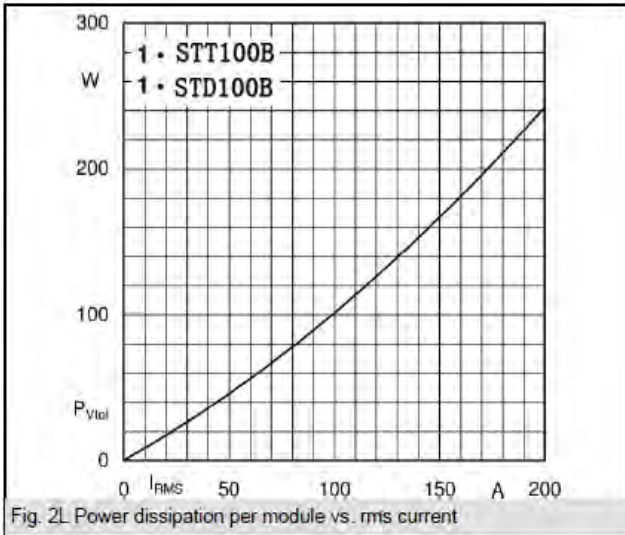
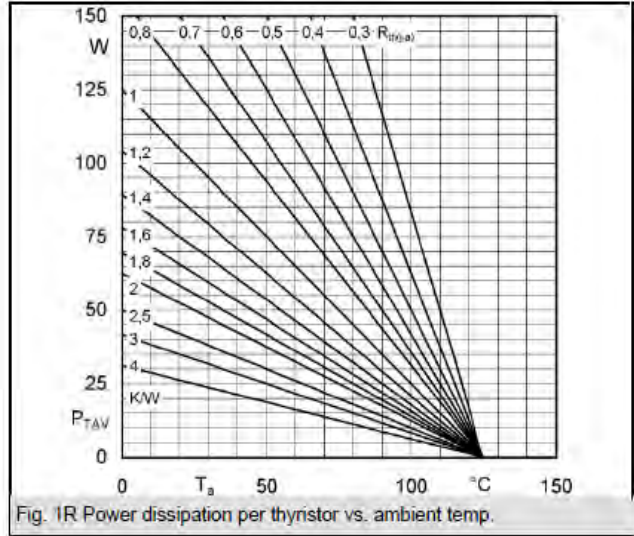
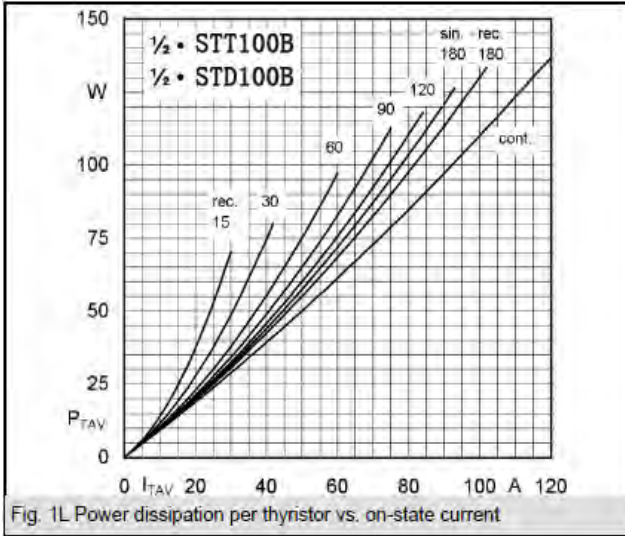
ADVANTAGES

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



STT100GKXXB

Thyristor-Thyristor Modules



STT100GKXXB

Thyristor-Thyristor Modules

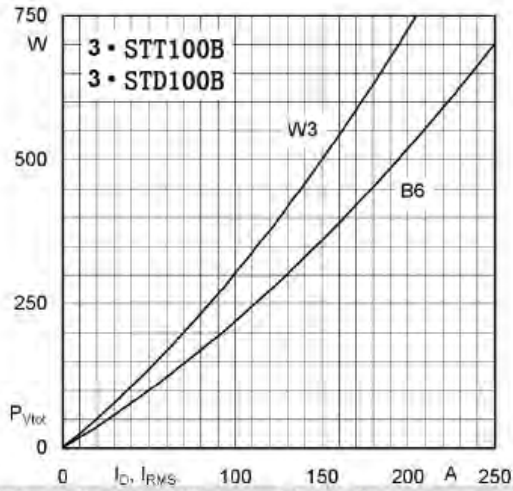


Fig. 4L Power dissipation of three modules vs. direct and rms current

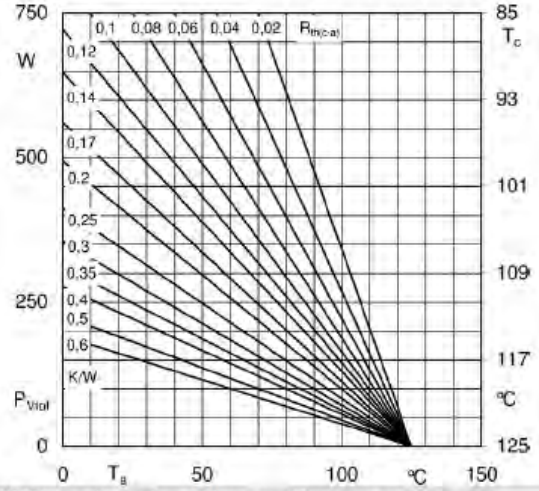


Fig. 4R Power dissipation of three modules vs. case temp.

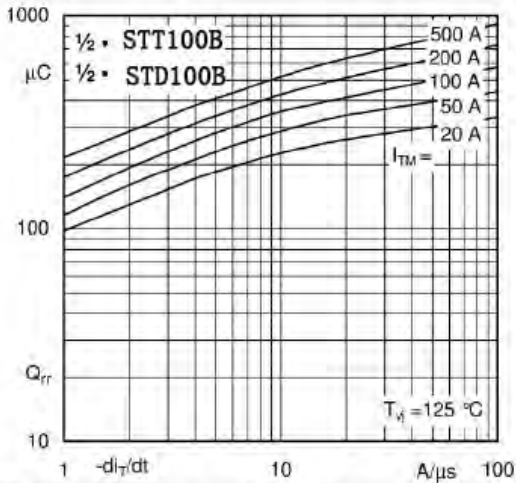


Fig. 5 Recovered charge vs. current decrease

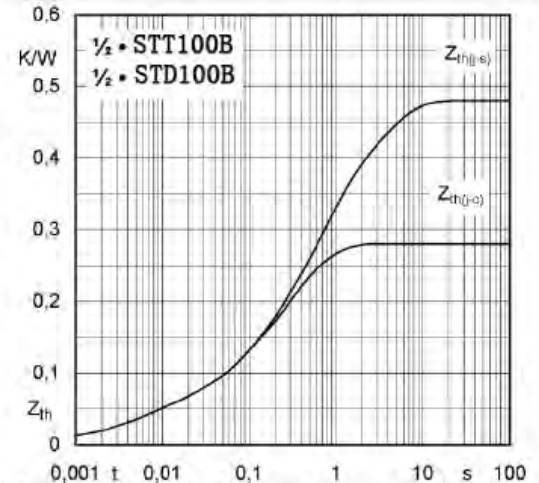


Fig. 6 Transient thermal impedance vs. time

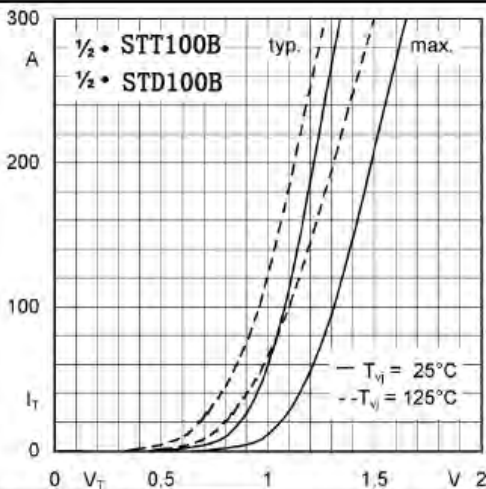


Fig. 7 On-state characteristics

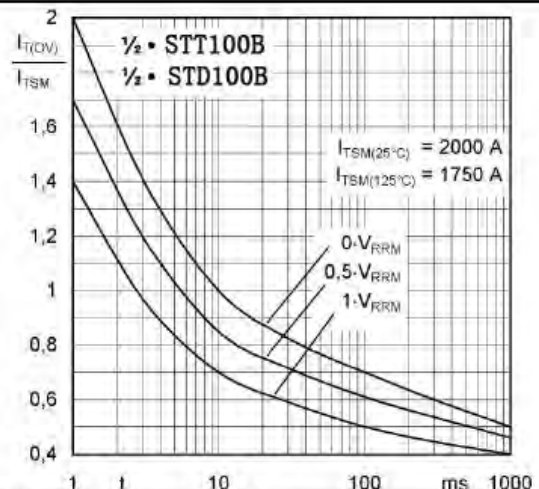


Fig. 8 Surge overload current vs. time