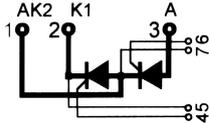


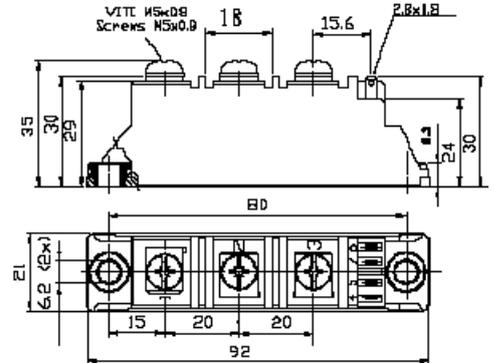
STT60GKxxB

Thyristor-Thyristor Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STT60GK08B	900	800
STT60GK12B	1300	1200
STT60GK14B	1500	1400
STT60GK16B	1700	1600
STT60GK18B	1900	1800

Tolerance: $\pm 0.5\text{mm}$
Dimensions in mm (1mm=0.0394")



Symbol	Test Conditions	Maximum Ratings	Unit
I_{TRMS} , I_{FRMS} I_{TAVM} , I_{FAVM}	$T_V = T_{VJM}$ $T_C = 85^\circ\text{C}$; 180° sine	94 60	A
I_{TSM} , I_{FSM}	$T_V = 45^\circ\text{C}$ $V_R = 0$ $t = 10\text{ms}$ (50Hz), sine $t = 8.3\text{ms}$ (60Hz), sine	1500 1600	A
	$T_V = T_{VJM}$ $V_R = 0$ $t = 10\text{ms}$ (50Hz), sine $t = 8.3\text{ms}$ (60Hz), sine	1350 1450	
$i^2 dt$	$T_V = 45^\circ\text{C}$ $V_R = 0$ $t = 10\text{ms}$ (50Hz), sine $t = 8.3\text{ms}$ (60Hz), sine	11200 10750	A ² s
	$T_V = T_{VJM}$ $V_R = 0$ $t = 10\text{ms}$ (50Hz), sine $t = 8.3\text{ms}$ (60Hz), sine	9100 8830	
$(di/dt)_{cr}$	$T_V = T_{VJM}$ $f = 50\text{Hz}$, $t_p = 200\mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.45\text{A}$ $di/dt = 0.45\text{A}/\mu\text{s}$	repetitive, $I_T = 150\text{A}$ 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)	$V_{DR} = 2/3 V_{DRM}$ 1000	V/ μs
P_{GM}	$T_V = T_{VJM}$ $I_T = I_{TAVM}$	$t_p = 30\mu\text{s}$ 10	W
		$t_p = 300\mu\text{s}$ 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 $I_{ISOL} \leq 1\text{mA}$	$t = 1\text{min}$ 3000	V~
		$t = 1\text{s}$ 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	Typ.	110	g

STT60GKxxB

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_{TM}	$I_{TM}=180A; T_{VJ}=25^{\circ}C$	1.65	V
V_{TO}	For power-loss calculations only ($T_{VJ}=125^{\circ}C$)	0.85	V
r_T		3.7	mΩ
V_{GT}	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	1.5 max 1.6 max	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	us
t_q	$T_{VJ}=T_{VJM}; I_T=150A; t_p=200\mu s; -di/dt=10A/\mu s$ $V_R=100V; dv/dt=20V/\mu s; V_D=2/3V_{DRM}$	typ. 150	us
Q_s	$T_{VJ}=T_{VJM}; I_T, I_F=50A; -di/dt=3A/\mu s$	100	uC
I_{RM}		24	A
R_{thJC}	per thyristor/diode; DC current per module	0.45 0.225	K/W
R_{thJK}	per thyristor/diode; DC current per module	0.65 0.325	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.310749
- * RoHs compliant

APPLICATIONS

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

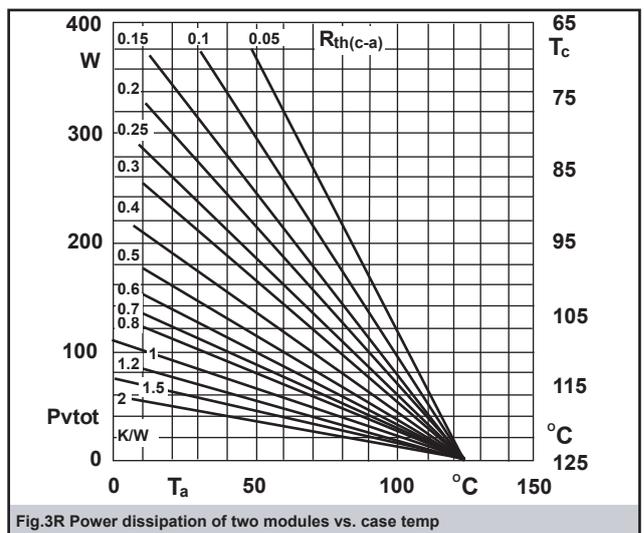
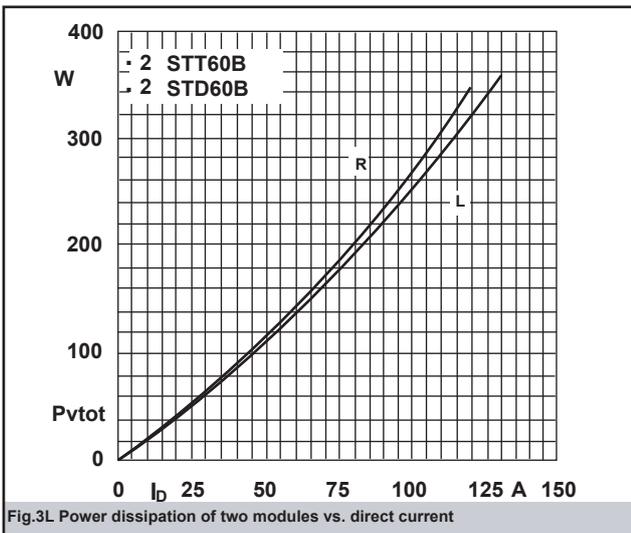
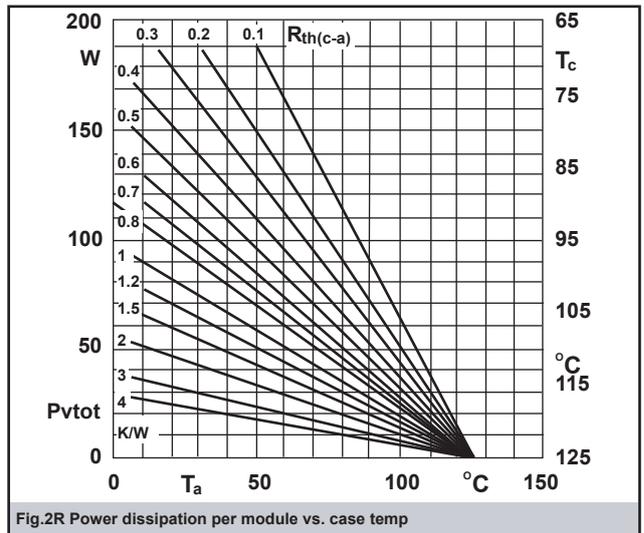
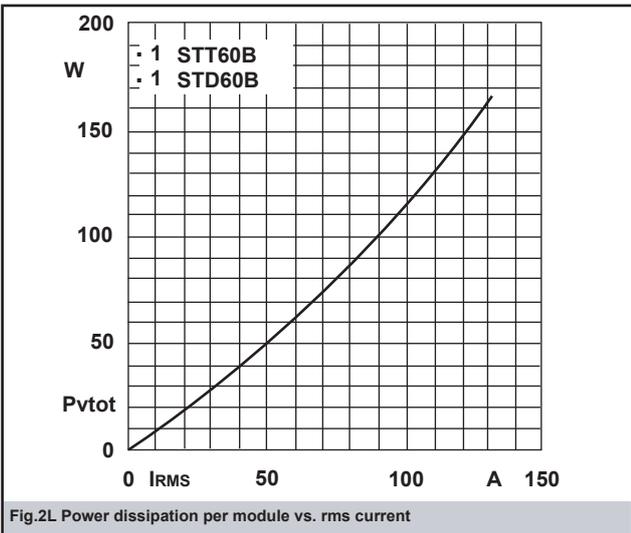
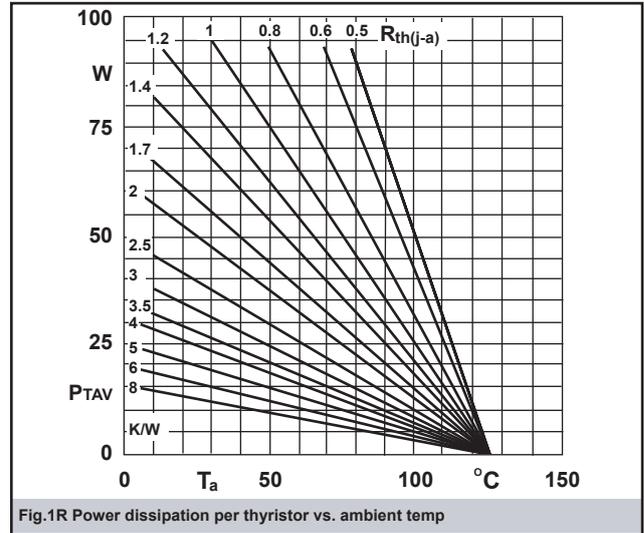
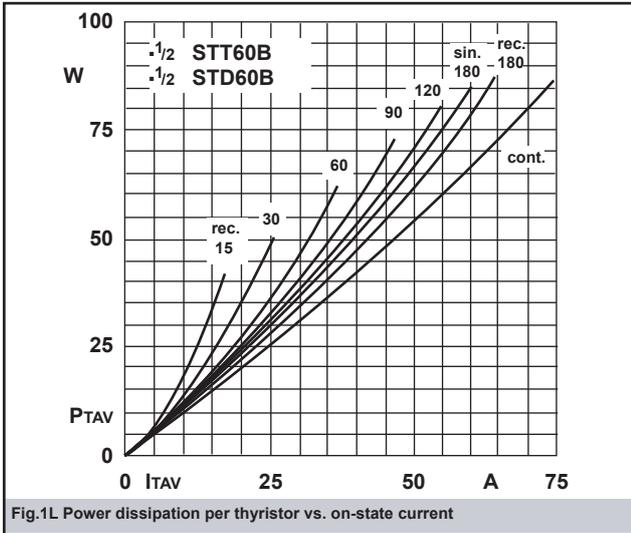
ADVANTAGES

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

Sirectifier[®]

STT60GKxxB

Thyristor-Thyristor Modules



STT60KxxB

Thyristor-Thyristor Modules

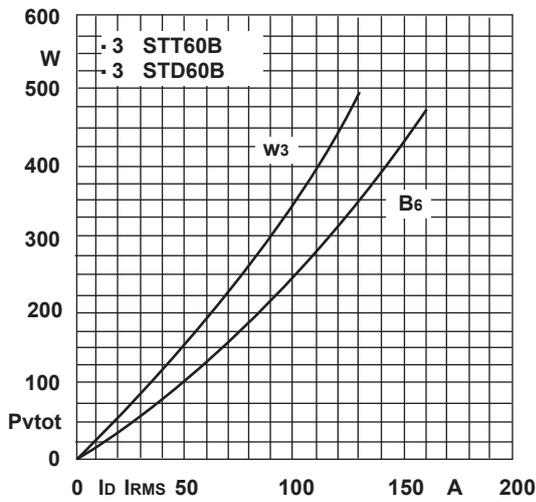


Fig.4L Power dissipation of three modules vs. direct and rms current

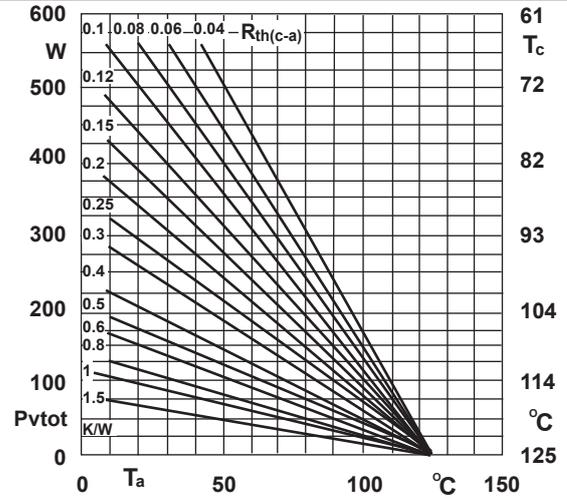


Fig.4R Power dissipation of three modules vs. case temp

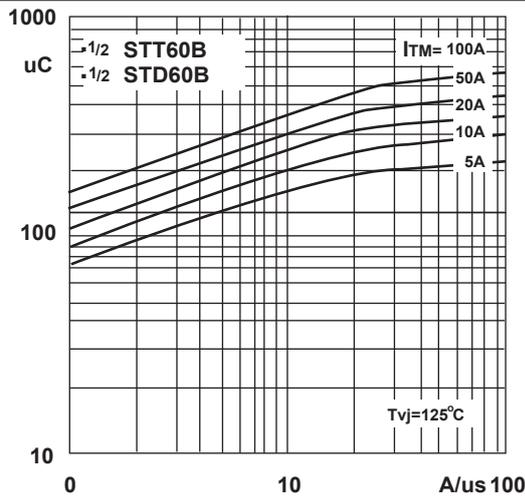


Fig.5 Recovered charge vs. current decrease

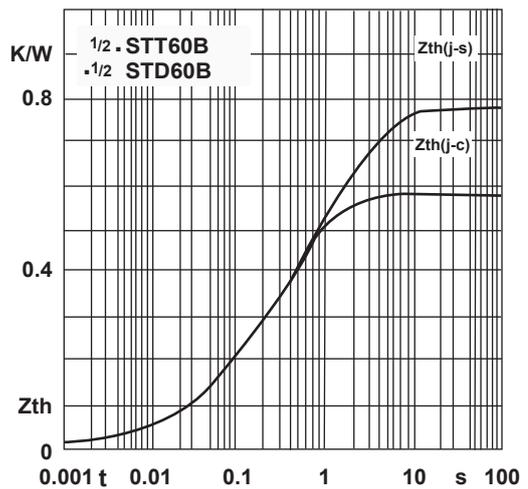


Fig.6 Transient thermal impedance vs. time

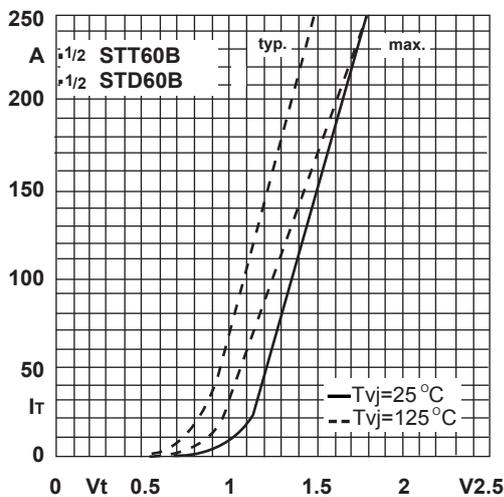


Fig.7 On-state characteristics

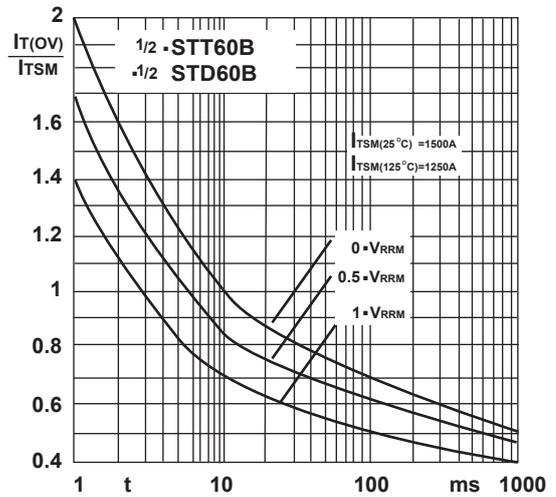


Fig.8 Surge overload current vs. time