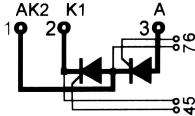


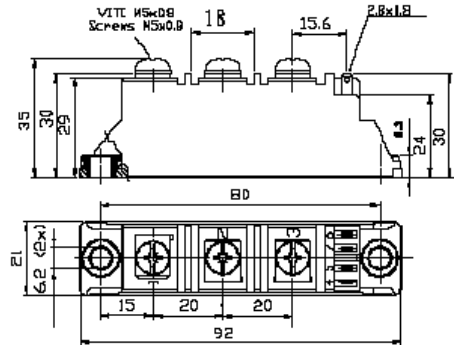
STT49GKxxB

Thyristor-Thyristor Modules



Type	V_{RSM}	V_{RRM}
	V_{DSM}	V_{DRM}
	V	V
STT49GK08B	900	800
STT49GK12B	1300	1200
STT49GK14B	1500	1400
STT49GK16B	1700	1600
STT49GK18B	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}	$T_{VJ}=T_{VJM}$ $T_C=85^\circ\text{C}; 180^\circ$ sine	76 49	A
I_{TSM}, I_{FSM}	$T_{VJ}=45^\circ\text{C}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	1150 1230	A
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	1000 1070	
$\int i^2 dt$	$T_{VJ}=45^\circ\text{C}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	6600 6280	A^2s
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	5000 4750	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ $f=50\text{Hz}, t_p=200\mu\text{s}$ $V_D=2/3V_{DRM}$ $I_G=0.45\text{A}$ $di_G/dt=0.45\text{A}/\mu\text{s}$	repetitive, $I_T=150\text{A}$ 150	A/ μs
	non repetitive, $I_T=I_{TAVM}$	500	
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM};$ $R_{GK}=\infty$; method 1 (linear voltage rise) $V_{DR}=2/3V_{DRM}$	1000	V/ μs
P_{GM}	$T_{VJ}=T_{VJM}$ $I_T=I_{TAVM}$	$t_p=30\mu\text{s}$ 10	W
		$t_p=300\mu\text{s}$ 5	
P_{GAV}		0.5	W
V_{RGM}		10	V
T_{VJ} T_{VJM} T_{stg}		-40...+125	$^\circ\text{C}$
		125	
		-40...+125	
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1\text{mA}$	$t=1\text{min}$ 3000 $t=1\text{s}$ 3600	V~
	M_d	Mounting torque (M5) Terminal connection torque (M5)	2.5-4.0/22-35 2.5-4.0/22-35
Weight	Typ.	110	g

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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}	$I_{TM}=147A; T_{VJ}=25^{\circ}C$	1.65	V
V_{TO}	For power-loss calculations only ($T_{VJ}=125^{\circ}C$)	0.85	V
r_T		5.3	$m\Omega$
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	$T_{VJ}=T_{VJM}; I_T=120A; t_p=200\mu s; -di/dt=10A/\mu s$ $V_R=100V; dv/dt=20V/\mu s; V_D=2/3V_{DRM}$	typ. 150	us
Q_s	$T_{VJ}=T_{VJM}; I_T, I_F=50A; -di/dt=0.64A/\mu s$	90	uC
I_{RM}		11	A
R_{thJC}	per thyristor/diode; DC current per module	0.53 0.265	K/W
R_{thJK}	per thyristor/diode; DC current per module	0.73 0.365	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

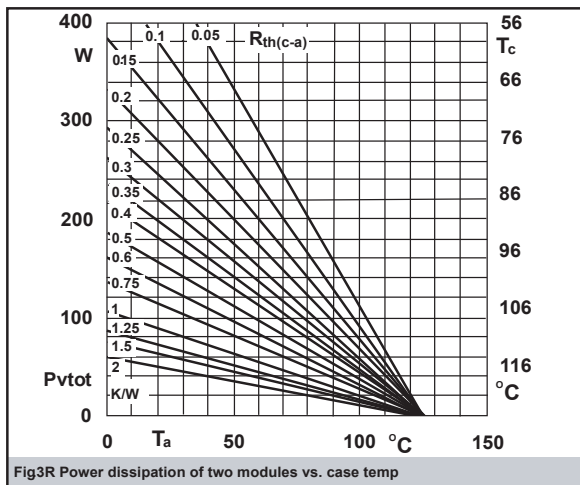
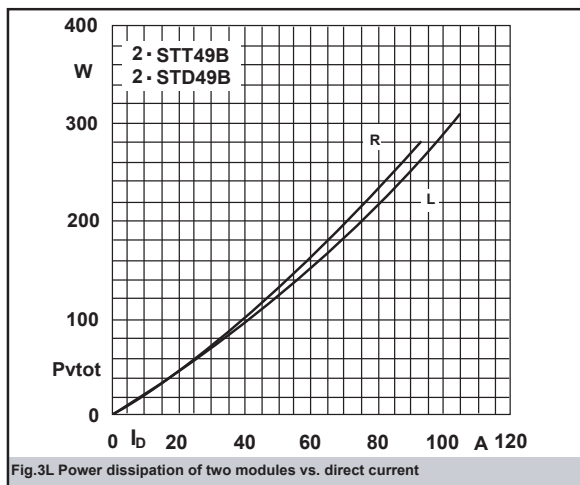
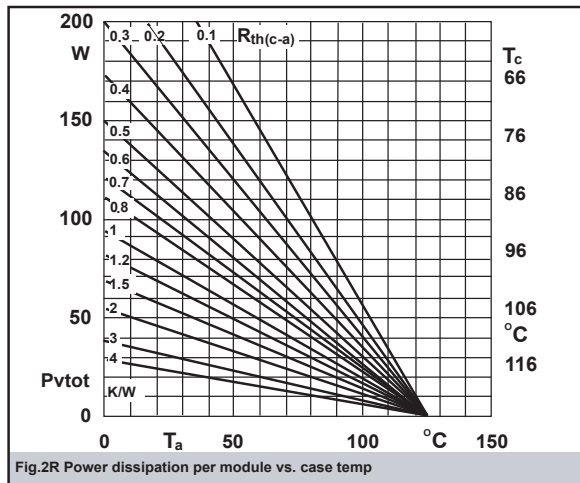
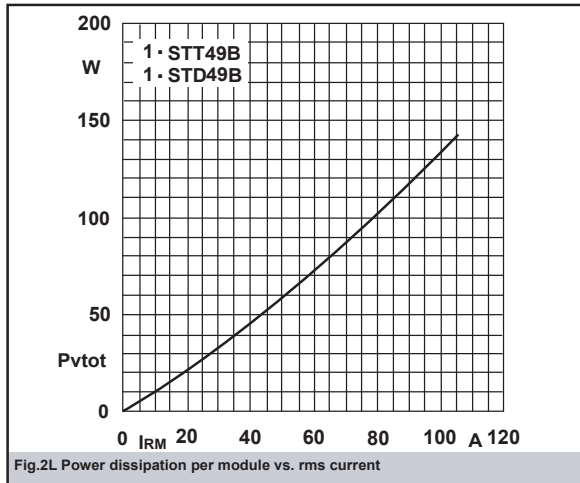
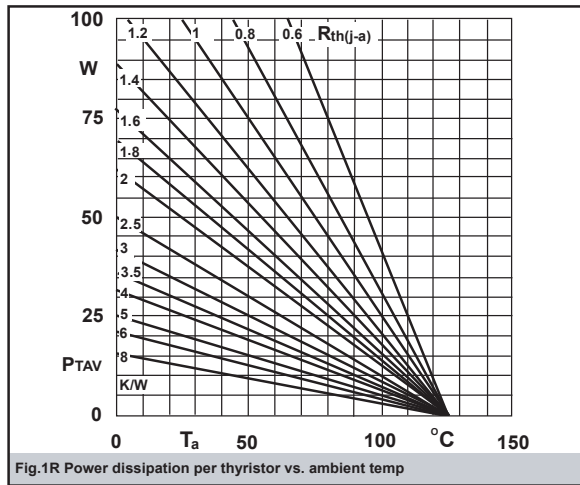
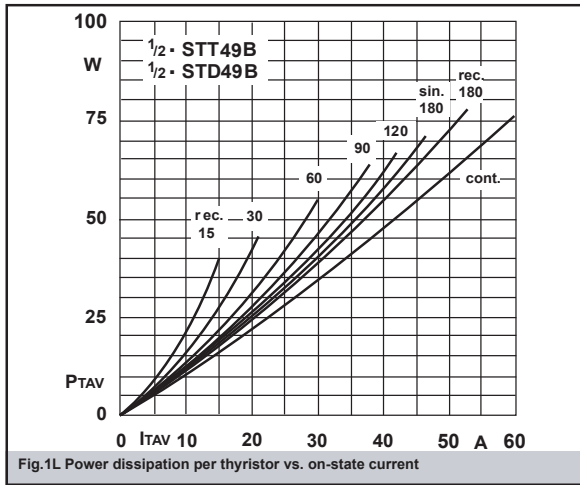
ADVANTAGES

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

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