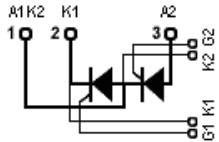
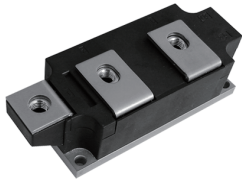


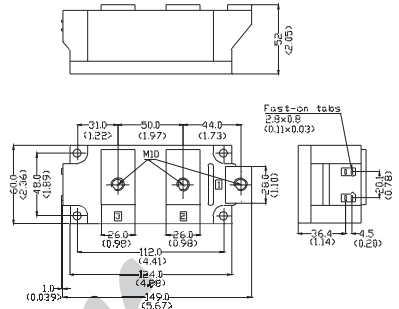
STT500GKXXBT

Thyristor-Thyristor Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STT500GK08BT	900	800
STT500GK12BT	1300	1200
STT500GK14BT	1500	1400
STT500GK16BT	1700	1600
STT500GK18BT	1900	1800

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	785 500	A
I_{TSM} , I_{FSM}	$T_V = 45^\circ C$ $V_R = 0$ $t = 10ms$ (50Hz), sine $t = 8.3ms$ (60Hz), sine	16000 18000	A
	$T_V = T_{VJM}$ $V_R = 0$ $t = 10ms$ (50Hz), sine $t = 8.3ms$ (60Hz), sine	13000 14400	
$\int i^2 dt$	$T_V = 45^\circ C$ $V_R = 0$ $t = 10ms$ (50Hz), sine $t = 8.3ms$ (60Hz), sine	1125000 1062000	A ² s
	$T_V = T_{VJM}$ $V_R = 0$ $t = 10ms$ (50Hz), sine $t = 8.3ms$ (60Hz), sine	845000 813000	
$(di/dt)_{cr}$	$T_V = T_{VJM}$ $f = 50Hz$, $t_p = 200\mu s$ $V_D = 2/3 V_{DRM}$ $I_G = 1A$ $di/dt = 1A/\mu s$	repetitive, $I_T = 960A$ 500	A/ μs
	non repetitive, $I_T = I_{TAVM}$	100	
$(dv/dt)_{cr}$	$T_V = T_{VJM}$; $R_{GK} = \infty$; method 1 (linear voltage rise)	$V_{DR} = 2/3 V_{DRM}$ 1000	V/ μs
P_{GM}	$T_V = T_{VJM}$ $I_T = I_{TAVM}$	$t_p = 30\mu s$ $t_p = 500\mu s$	120 60 W
P_{GAV}		20 W	
V_{RGM}		10 V	
T_V T_{VJM} T_{stg}		-40...+140 140 -40...+125	$^\circ C$
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1mA$	$t = 1min$ $t = 1s$	3000 3600 V~
M_d	Mounting torque (M6) Terminal connection torque (M8)	4.5-7/40-60 11-13/97-115	Nm/lb.in.
Weight	Typical	1380	g

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STT500GKXXBT

Thyristor-Thyristor Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}	$T_{VJ}=T_{VJM}; V_R=V_{RRM}$	30	mA
V_{TM}	$I_{TM}=1500A; T_{VJ}=25^{\circ}C$	1.65	V
V_{TO}	For power-loss calculations only ($T_{VJ}=T_{VJM}$)	0.8	V
r_T		0.38	m Ω
V_{GT}	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	2 3	V
I_{GT}	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	300 400	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	$T_{VJ}=25^{\circ}C; t_p=30\mu s; V_D=6V$ $I_G=1A; di_G/dt=1A/\mu s$	400	mA
I_H	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	300	mA
t_{gd}	$T_{VJ}=25^{\circ}C; V_D=1/2V_{DRM}$ $I_G=1A; di_G/dt=1A/\mu s$	2	μs
t_q	$T_{VJ}=T_{VJM}; I_T=500A; t_p=200\mu s; -di/dt=10A/\mu s$ $V_R=100V; dv/dt=50V/\mu s; V_D=2/3V_{DRM}$	350	μs
R_{thJC}	DC current	0.072	K/W
R_{thJK}	DC current	0.096	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
- * Pressure Contact Technology
- * BusBar Terminal
- * Isolation voltage 3600 V~
- * UL file NO.310749
- * RoHS compliant

APPLICATIONS

- * Motor control, softstarter
- * Power converter
- * Heat and temperature control for industrial furnaces and chemical processes
- * Lighting control
- * Solid state switches

ADVANTAGES

- * Simple mounting
- * Improved temperature and power cycling
- * Reduced protection circuits

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Thyristor-Thyristor Modules

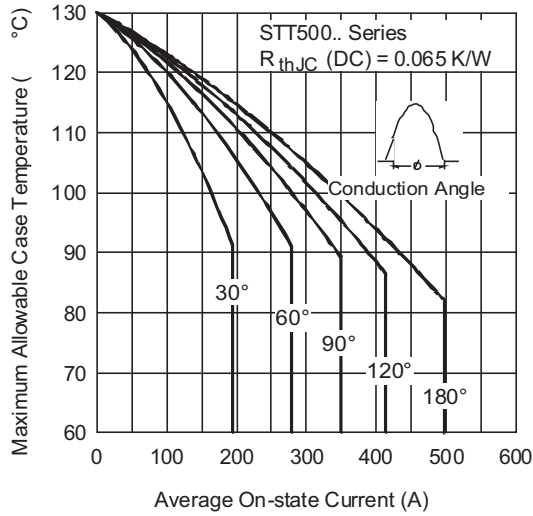


Fig. 1 - Current Ratings Characteristics

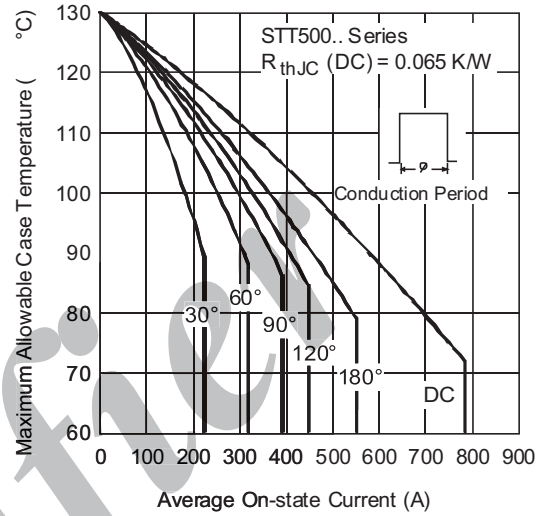


Fig. 2 - Current Ratings Characteristics

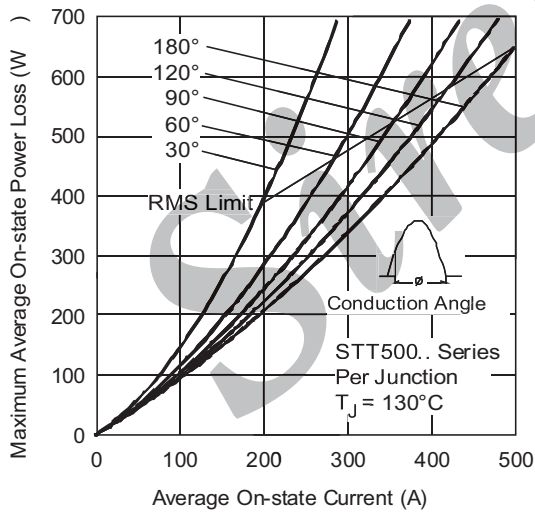


Fig. 3 - On-state Power Loss Characteristics

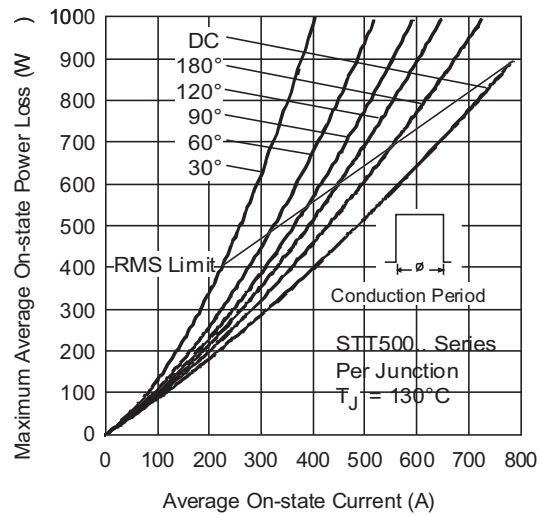


Fig. 4 - On-state Power Loss Characteristics

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Thyristor-Thyristor Modules

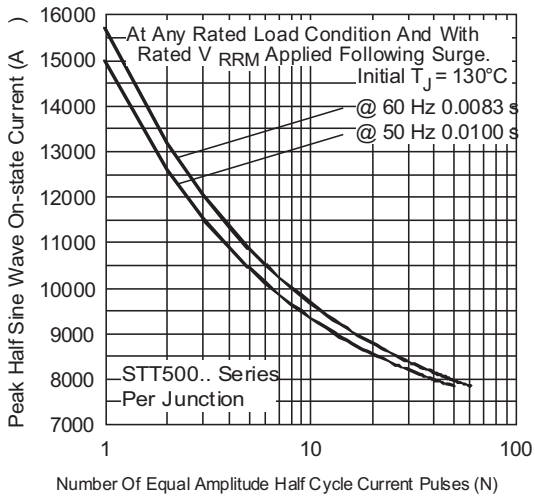


Fig. 5 - Maximum Non-Repetitive Surge Current

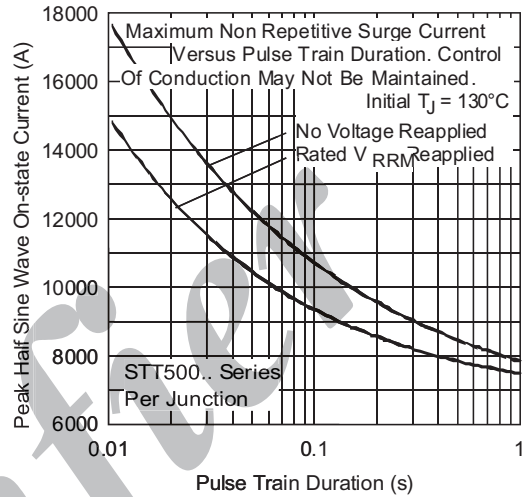


Fig. 6 - Maximum Non-Repetitive Surge Current

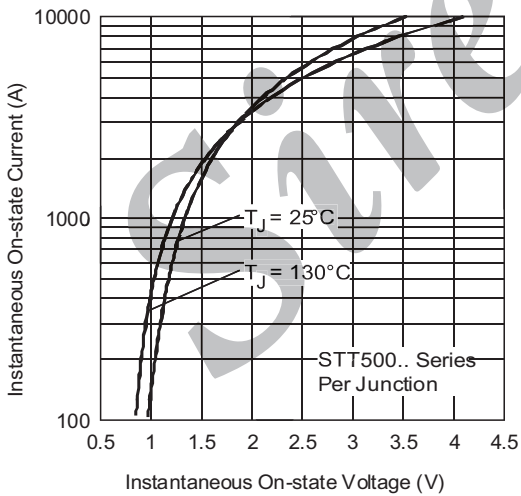


Fig. 7 - On-state Voltage Drop Characteristics

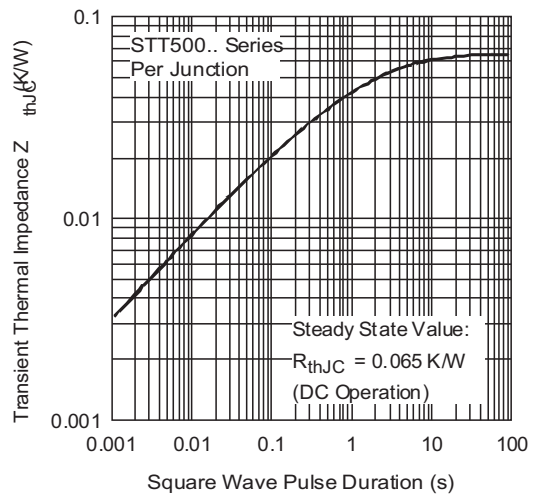


Fig. 8 - Thermal Impedance Z_{thJC} Characteristics

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Thyristor-Thyristor Modules

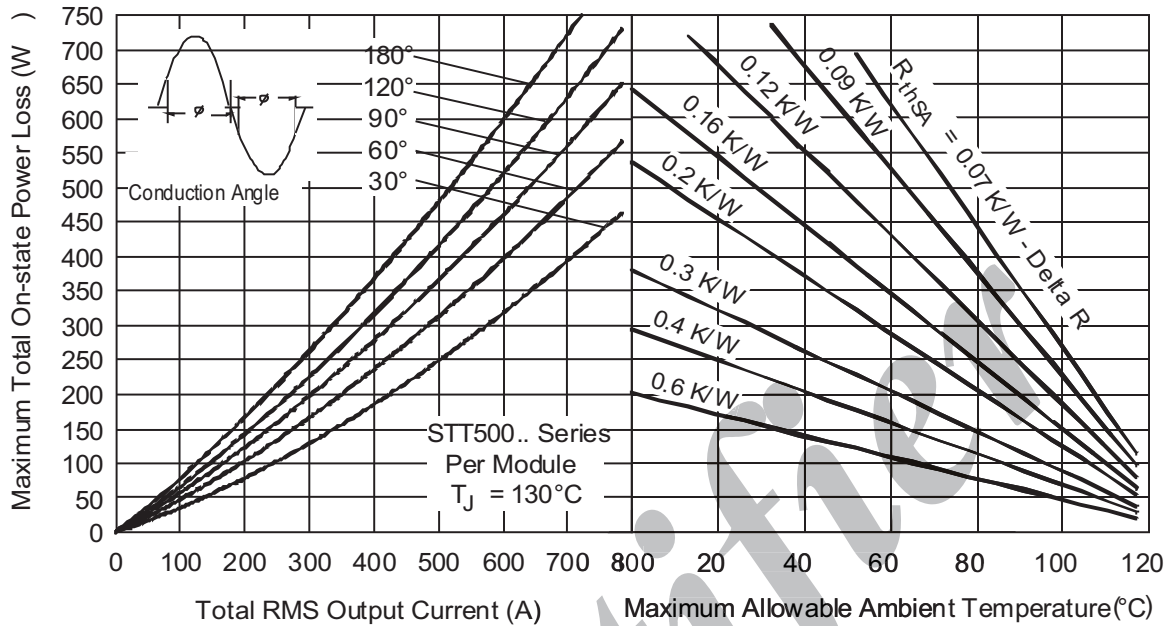


Fig. 9 - On-state Power Loss Characteristics

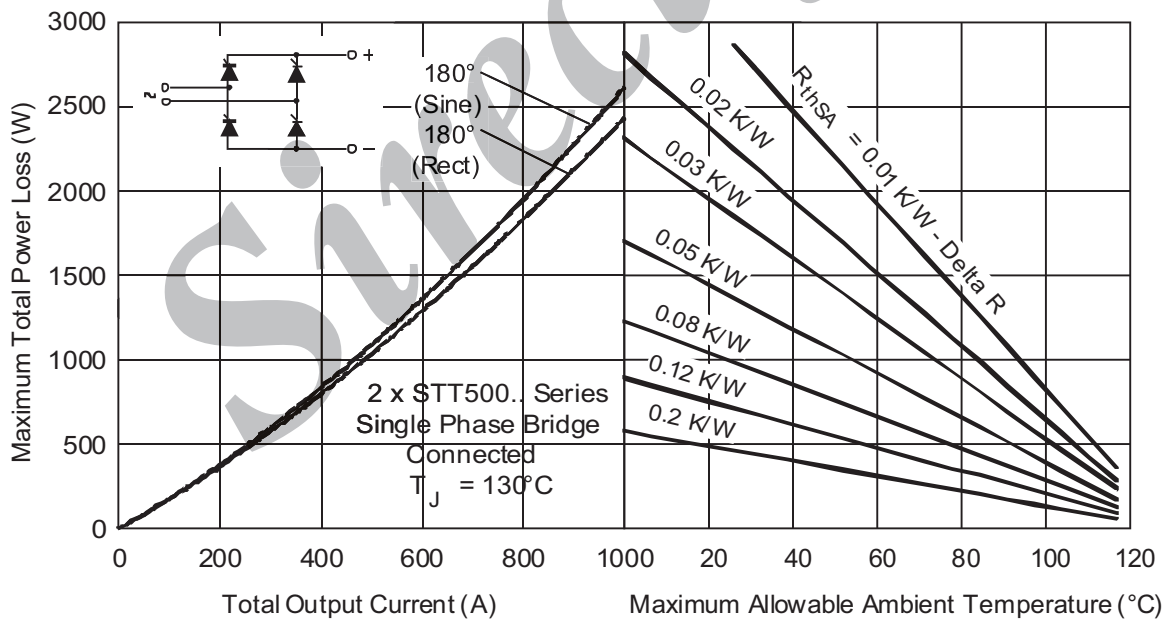


Fig. 10 - On-state Power Loss Characteristics



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Thyristor-Thyristor Modules

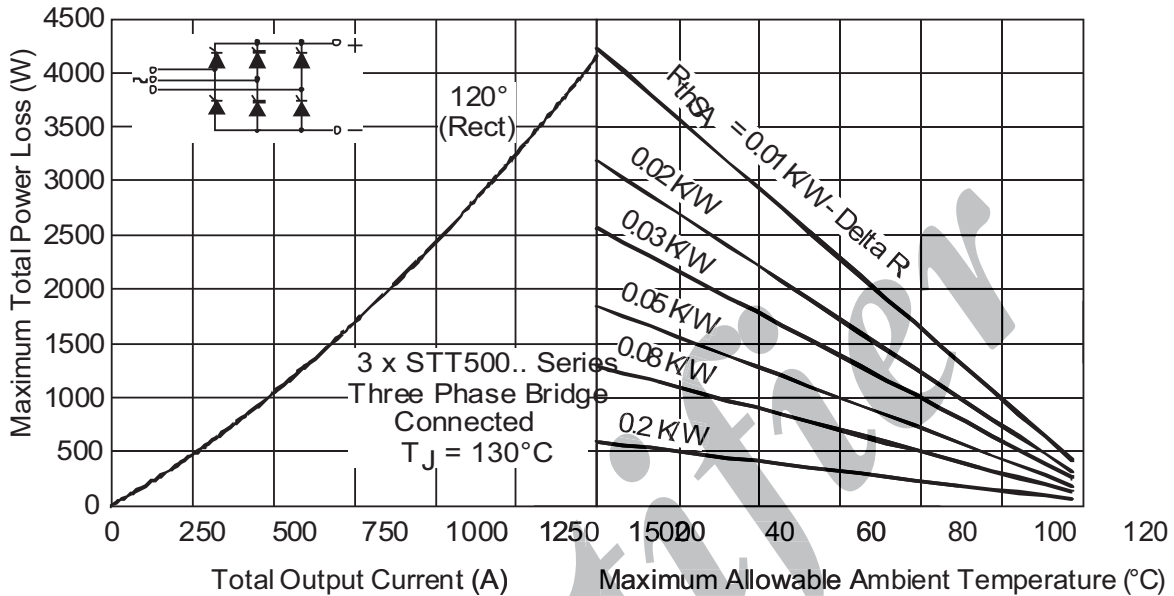


Fig. 11 - On-state Power Loss Characteristics

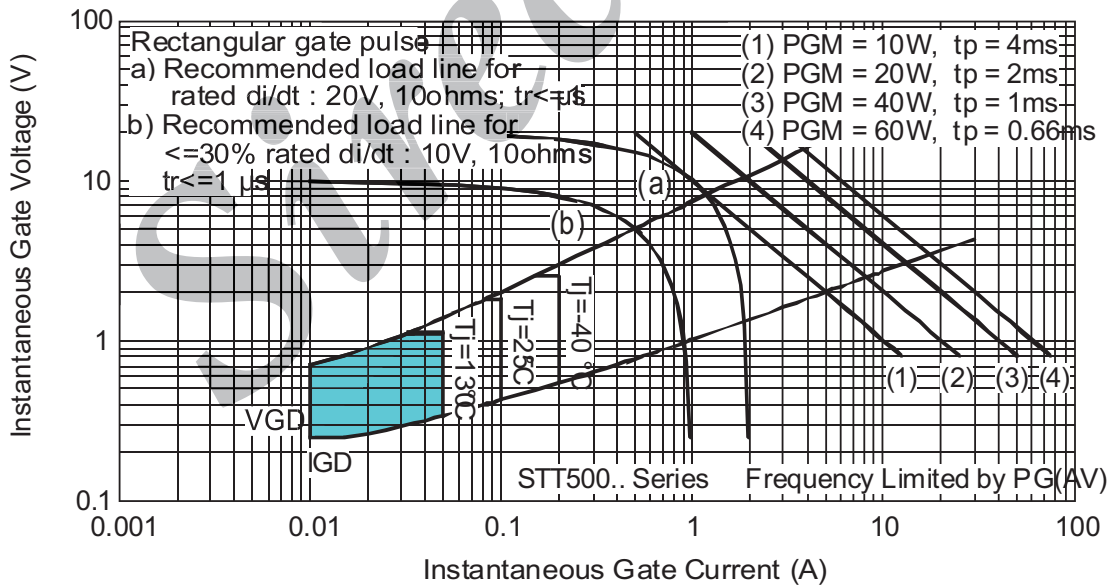


Fig. 12 - Gate Characteristics