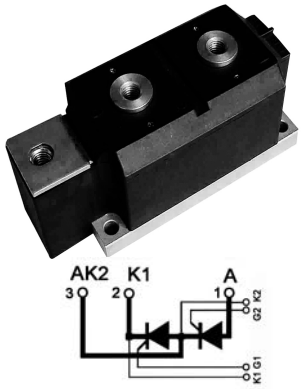
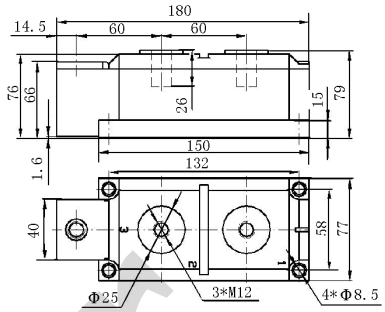
STT800GKxxPT

Thyristor-Thyristor Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STT800GK08PT	900	800
STT800GK12PT	1300	1200
STT800GK14PT	1500	1400
STT800GK16PT	1700	1600
STT800GK18PT	1900	1800

Colerance:±0.5mm
Dimensions in mm (1mm=0.0394")



Symbol	Test Conditions		Maximum Ratings	Unit
I_{TAV}	T_C=85°C; 180° half sine wave,50HZ		800	A
I_{TRMS}	T_C=85°C; 180° Full cycle sine wave,50HZ		1256	A
I_{TSM}	$T_{VJ}=T_{VJM}$ T_C =25°C	180° half sine wave,50HZ single pulse; V_R=0;	30.0 35.0	A
I^2t	$T_{VJ}=T_{VJM}$ T_C =25°C	Gate pulse;20V,5W 1us rise time,500us	4500 6125	A
V_{DRM}, V_{RRM}	$T_{VJ}=T_{VJM}$ 180° half sine wave,50HZ ;Gate open		1000/1800	A^2s
V_{DSM}, V_{RSM}	$T_{VJ}=T_{VJM}$ 180° half sine wave,50HZ ;single pulse,Gate open		1100/1900	A^2s
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ f=50Hz, t_p=200us V_D=2/3V_{DRM} I_G=1A di_G/dt=1A/us	repetitive, I_T=960A non repetitive, $I_T=I_{TAVM}$	100 200	A/us
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM}$; $R_{GK}=\infty$; method 1 (linear voltage rise)	V_{DR}=2/3V_{DRM}	1000	V/us
P_{GM}	$T_{VJ}=T_{VJM}$		40	W
P_{GAV}	$T_{VJ}=T_{VJM}$		6	W
V_{RGM}	$T_{VJ}=T_{VJM}$		5	V
T_{VJ} T_{VJM} T_{stg}			-40...+140 140 -40...+125	°C
V_{ISOL}	50/60Hz, RMS I_{ISOL}≤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	Typ.		3249	g

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Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}	$T_{VJ}=T_{VJM}$; $V_R=V_{RRM}$	70	mA
V_T	I_T=1200A; T_{VJ}=25°C	1.55	V
V_{TO}	For power-loss calculations only ($T_{VJ}=T_{VJM}$)	0.9	V
r_T		0.21	mΩ
V_{GT}	V_D=12V T_{VJ}=25°C T_{VJ}=-40°C	2.5 3.5	V
I_{GT}	V_D=12V T_{VJ}=25°C T_{VJ}=-40°C	300 400	mA
V_{GD}	$T_{VJ}=T_{VJM}$; $V_D=2/3V_{DRM}$	0.5	V
I_{GD}	$T_{VJ}=T_{VJM}$; $V_D=2/3V_{DRM}$	10	mA
I_L	T_{VJ}=25°C; t_p=30us; V_D=12V I_G=1A; di_G/dt=1A/us	1000	mA
I_H	T_{VJ}=25°C; V_D=6V; R_{GK}=∞	500	mA
t_{gd}	T_{VJ}=25°C; $V_D=1/2V_{DRM}$ I_G=1A; di_G/dt=1A/us	10	us
t_q	$T_{VJ}=T_{VJM}$; I_T=500A; t_p=200us; -di/dt=10A/us typ. V_R=100V; dv/dt=50V/us; $V_D=2/3V_{DRM}$	200	us
R_{thJC}	DC current	0.0405	K/W
R_{thJK}	DC current	0.01	K/W
d_S	Creeping distance on surface	12.7	mm
d_A	Creepage distance in air	9.6	mm
a	Maximum allowable acceleration	59.81	m/s^2

FEATURES
* International standard package
* Copper base plate
* Pressure Contact Technology
* Isolation voltage 3600 V~
* UL file NO.310749
* RoHs compliance

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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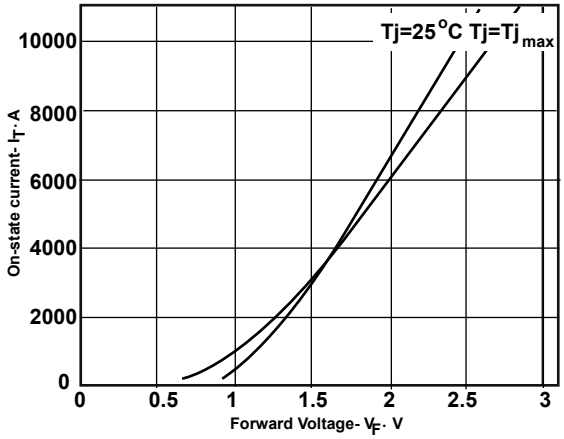

Fig 1 On-state characteristics

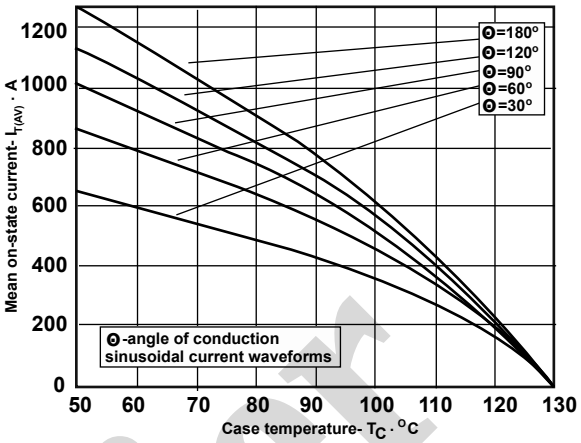

Fig 2 Mean on-state I_{TAV} vs. Case temperature T_C
for sinusoidal current waveforms at different conduction angles,f=50Hz

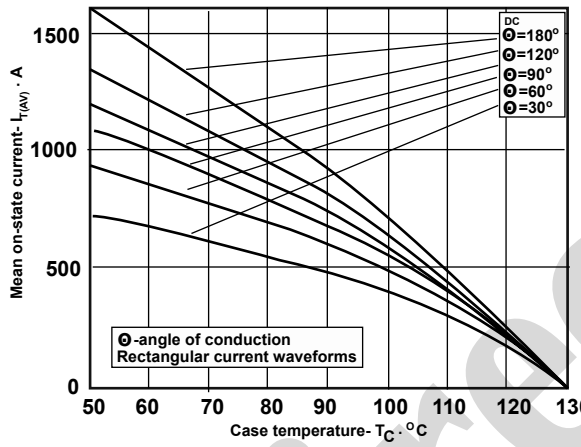

Fig 3 Mean on-state I_{TAV} vs. Case temperature T_C
for rectangular current waveforms at different conduction angles and for DC,
f=50Hz

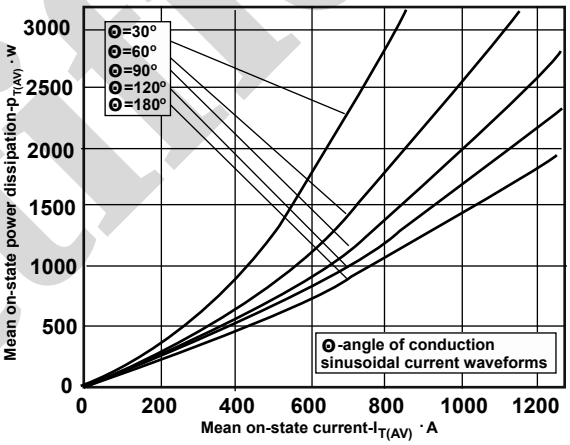

Fig 4 Mean on-state power dissipation P_{TAV} vs. Mean on-state current I_{TAV}
for sinusoidal current waveforms at different conduction angles,f=50Hz

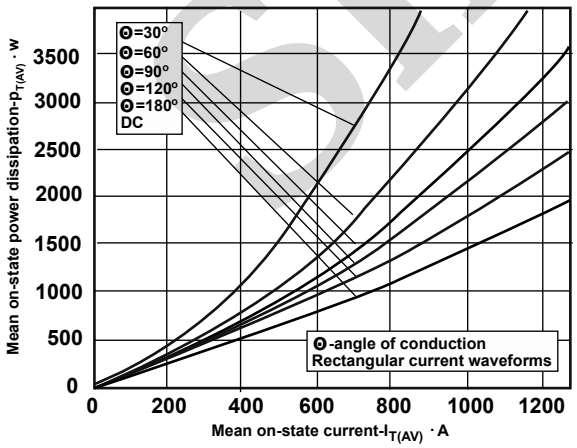

Fig 5 Mean on-state power dissipation P_{TAV} vs. Mean on-state current I_{TAV}
for rectangular current waveforms at different conduction angles and for DC,
f=50Hz

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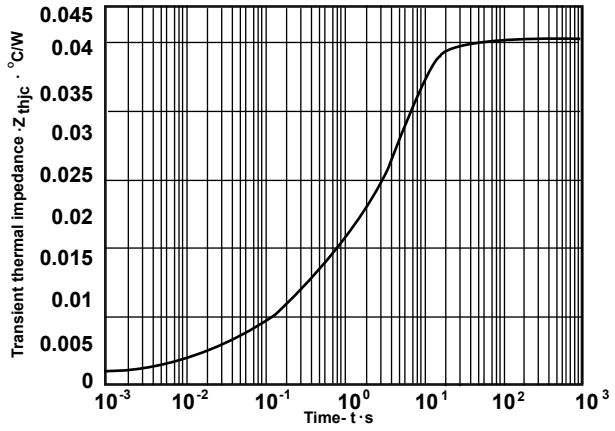

Fig 6 Transient thermal impedance junction to case Z_{thjc} per arm for DC

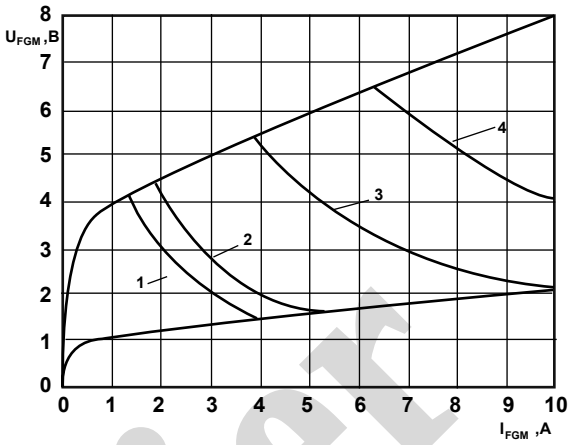

Fig 7 Gate characteristic