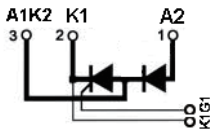
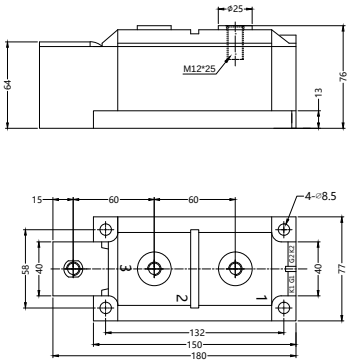
STD800GK18PT

Thyristor-Diode Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STD800GK12PT	1300	1200
STD800GK14PT	1500	1400
STD800GK16PT	1700	1600
STD800GK18PT	1900	1800
STD800GK20PT	2100	2000
STD800GK22PT	2300	2200
STD800GK24PT	2500	2400
STD800GK26PT	2700	2600
STD800GK28PT	2900	2800
STD800GK30PT	3100	3000

Dimensions in mm



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 ; Gate pulse: 20V , 5W, 1us rise time, 500us	30.0 35.0	kA
I^2t	T_{VJ}=T_{VJM} T_C=25°C		4500 6125	$A^2s \cdot 10^3$
V_{DRM}, V_{RRM}	T_{VJ}=T_{VJM} 180° half sine wave, 50Hz ; Gate open		1000/1800	v
V_{DSM}, V_{RSM}	T_{VJ}=T_{VJM} 180° half sine wave, 50Hz ; single pulse, Gate open		1100/1900	
$(di/dt)_{cr}$	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}=∞; 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	Typical		3356	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=12V; 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 per module	0.0405	K/W
R_{thJK}	DC current per module	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
* Pressure Contacts for high reliability
* Isolation voltage 3600 V~
* UL File NO.E310749
* 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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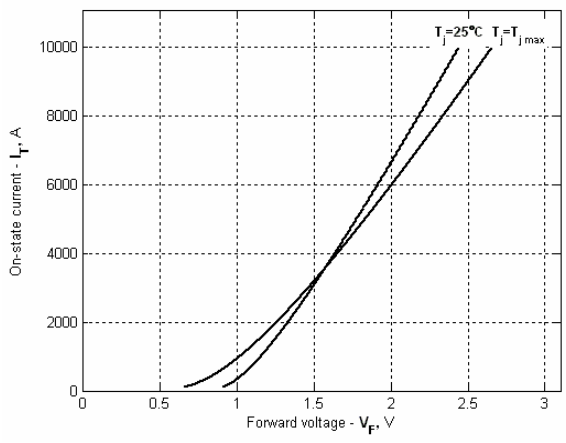

Fig 1 On-state characteristics

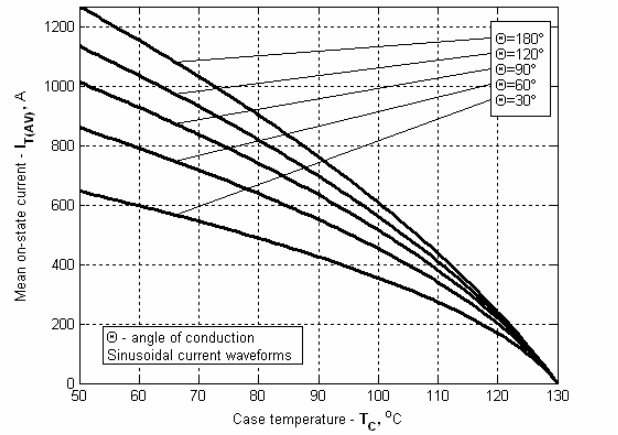

Fig 2 Mean on-state current I_{TAV} vs. Case temperature T_C
for sinusoidal current waveforms at different conduction angles, f=50Hz

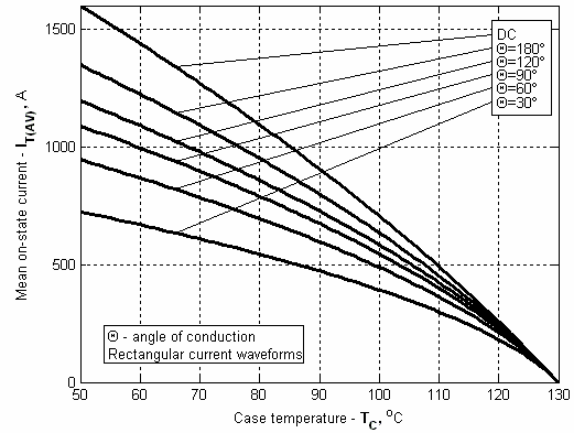

Fig 3 Mean on-state current I_{TAV} vs. Case temperature T_C
for rectangular current waveforms at different conduction angles and for DC, f=50Hz

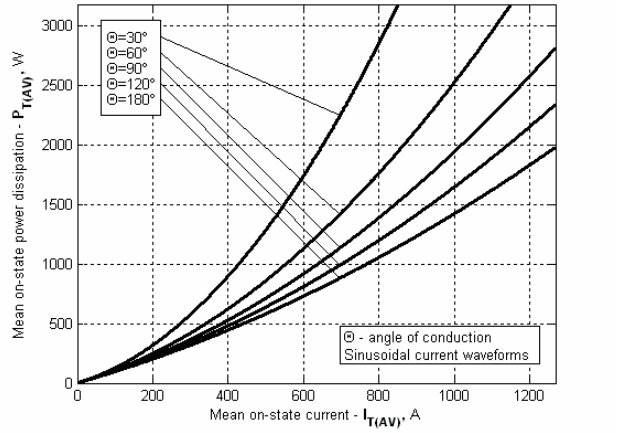

Fig 4 Mean on-state power dissipation P_{TAV} vs. Mean on-state current I_{TAV}
for sinusoidal current waveforms at different conduction angles,f=50Hz

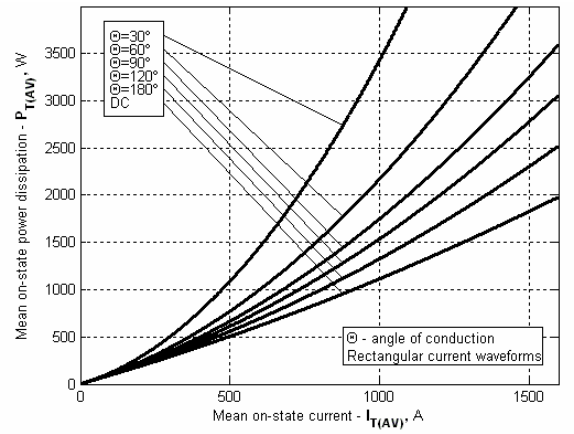

Fig 5 Mean on-state power dissipation P_{TAV} vs. Mean on-state current I_{TAV}
for rectangular current waveforms at different conduction angles and for DC, f=50Hz

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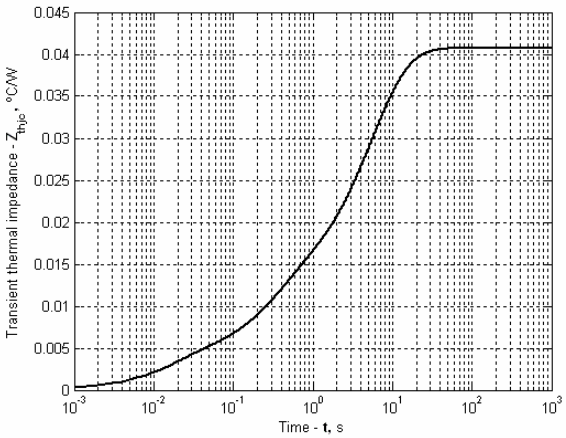

Fig 6 Transient thermal impedance junction to case Z_{thjc} per arm for DC

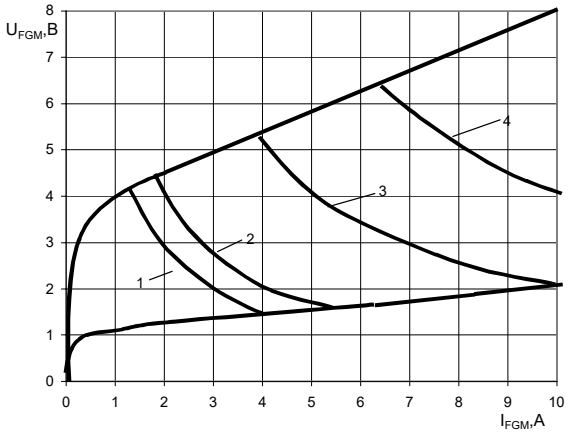

Fig 7 Gate characteristic

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