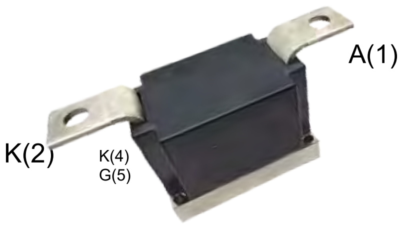
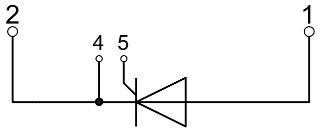
STO860GK16BT

Thyristor Module





Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STO860GK08BT	900	800
STO860GK12BT	1300	1200
STO860GK14BT	1500	1400
STO860GK16BT	1700	1600
STO860GK18BT	1900	1800
STO860GK20BT	2100	2000
STO860GK22BT	2300	2200
STO860GK24BT	2500	2400

Symbol	Test Conditions		Maximum Ratings	Unit
I_{TAV}	T_C=85°C; 180° half sine wave,50HZ		860	A
I_{TRMS}	T_C=85°C; 180° Full cycle sine wave,50HZ		1256	A
I_{TSM}	T_{VJ}=T_{VJM}	180° half sine wave,50HZ single pulse;	40.0	KA
	T_C =25°C	V_R=0;	46.0	
I^2t	T_{VJ}=T_{VJM}	Gate pulse;20V,5W	8000	A^2s .10^3
	T_C =25°C	1us rise time,500us	10580	
V_{DRM}, V_{RRM}	T_{VJ}=T_{VJM} 180° half sine wave,50HZ ;Gate open		800/2400	V
V_{DSM}, V_{RSM}	T_{VJ}=T_{VJM} 180° half sine wave,50HZ ;single pulse,Gate opent		900/2500	
(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	3500 4000	V~
M_d	Mounting torque (M6) Terminal connection torque (M12)		4.5-7/40-60 16-19/142-168	Nm/lb.in.
Weight	typical		1950	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=2400A; $T_{VJ}=25^oC$	1.75	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 $T_{VJ}=25^oC$ $T_{VJ}=-40^oC$	Max 2.5 Max 3.5	V
I_{GT}	V_D=12V $T_{VJ}=25^oC$ $T_{VJ}=-40^oC$	Max 300 Max 400	mA
V_{GD}	$T_{VJ}=T_{VJM}$; $V_D=2/3V_{DRM}$	Max 0.5	V
I_{GD}	$T_{VJ}=T_{VJM}$; $V_D=2/3V_{DRM}$	Max 10	mA
I_L	$T_{VJ}=25^oC$; t_p=30us; V_D=12V I_G=1A; di_G/dt=1A/us	Max 1000	mA
I_H	$T_{VJ}=25^oC$; V_D=6V; $R_{GK}=\infty$	Max 500	mA
t_{gd}	$T_{VJ}=25^oC$; $V_D=1/2V_{DRM}$ I_G=1A; di_G/dt=1A/us	Max 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 4000 V~
* 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

RoHS Compliant

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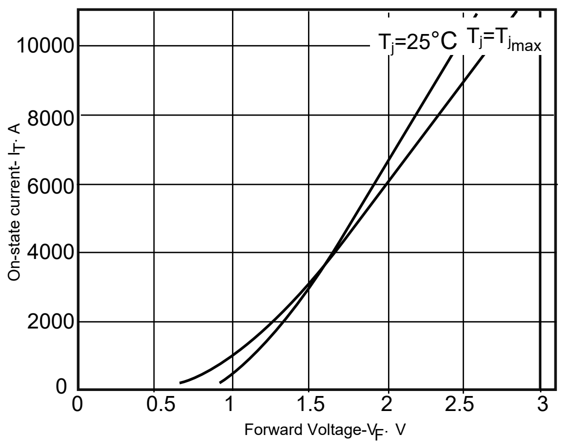

Fig 1 On-state characteristics

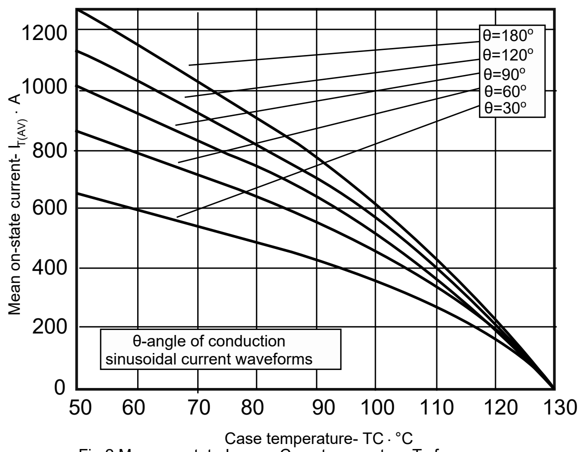

Fig 2 Mean on-state I_{TAV} vs. Case temperature T_C for sinusoidal current waveforms at different conduction angles,f=50H z

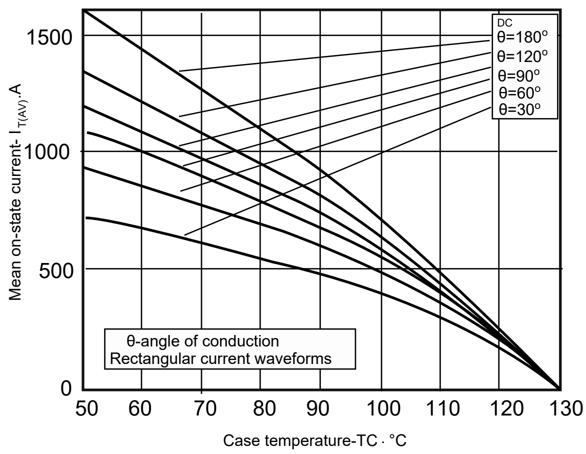

Fig 3 Mean on-state I_{TAV} vs. Case temperature T_C for rectangular current waveforms at different conduction angles and for DC,f=50Hz

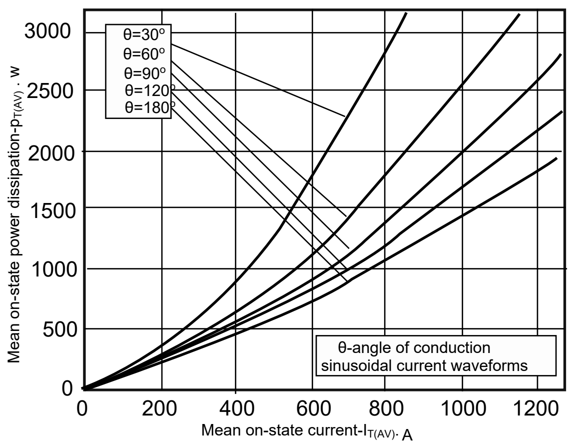

Fig 4 Mean on-state power dissipation P_{TAV} vs. Mean on-state current I_{TAV} for sinusoidal current waveforms at different conduction angles,f=50Hz

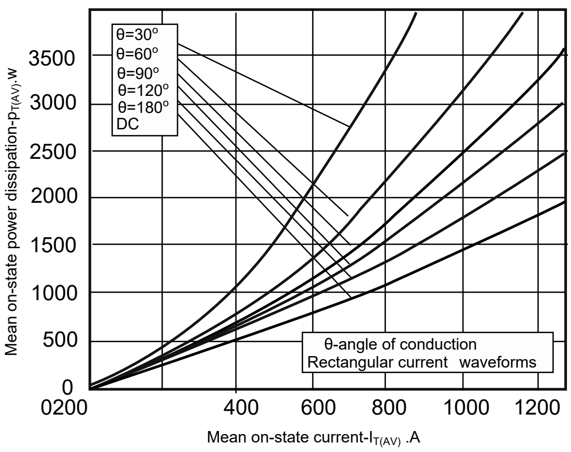

Fig 5 Mean on-state power dissipation P_{TAV} vs. Mean on-state current I_{TAV} for rectangular current waveforms at different conduction angles and for DC,f=50Hz

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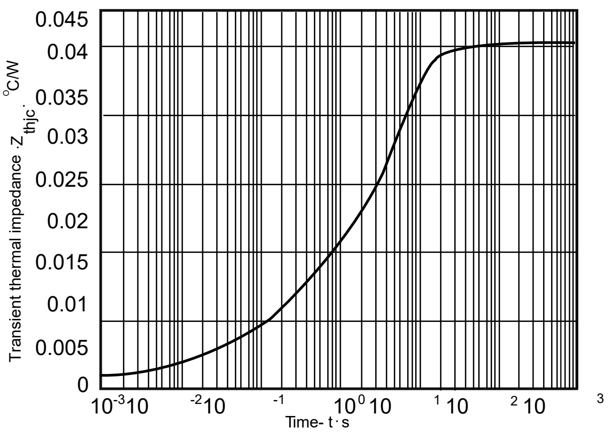


Fig 6 Transient thermal impedance junction to case Z_{thjc} per arm for DC

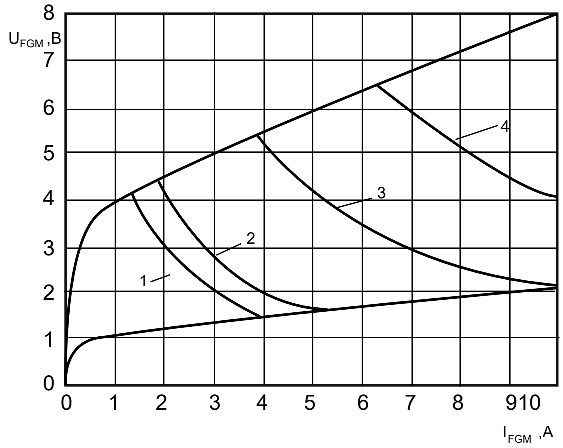
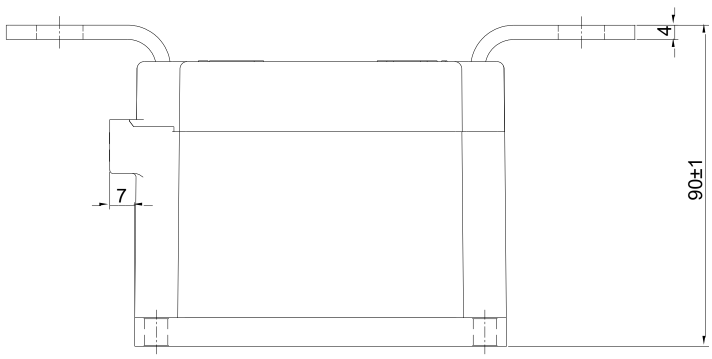
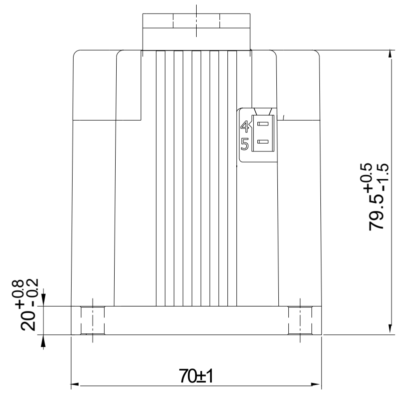
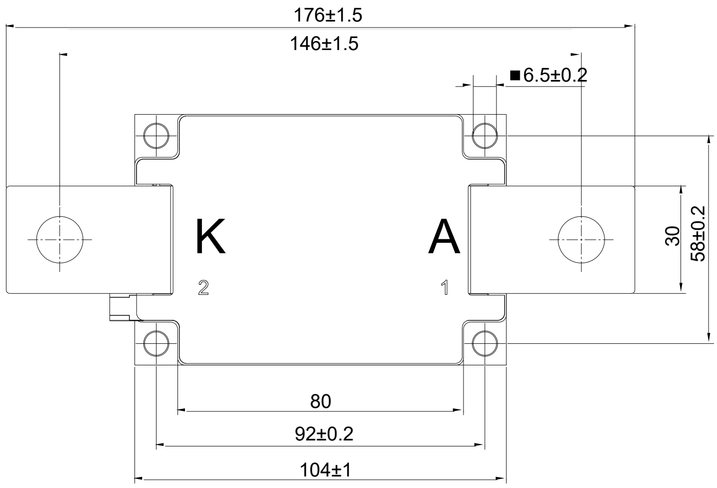


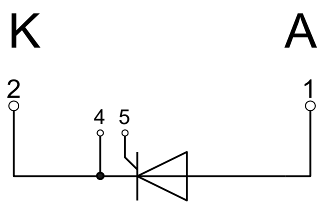
Fig 7 Gate characteristic

Tolerance: +/- 0.5mm
Dimensions in mm (1mm=0.0394")









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