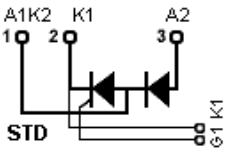
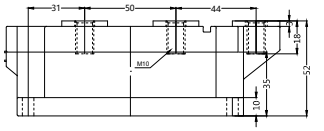
STD240GK42BT

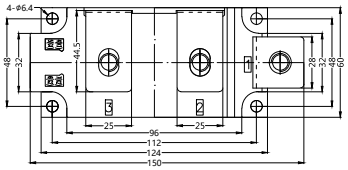
Thyristor-Diode Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STD240GK30BT	3400	3000
STD240GK32BT	3600	3200
STD240GK34BT	3800	3400
STD240GK36BT	4000	3600
STD240GK38BT	4200	3800
STD240GK40BT	4400	4000
STD240GK42BT	4600	4200

Dimensions in mm (1mm=0.0394")





Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS}, I_{FRMS} I_{TAVM}, I_{FAVM}	$T_{VJ}=T_{VJM}$ $T_C=85^oC$; 180^o sine		377 240	A
I_{TSM}, I_{FSM}	$T_{VJ}=45^oC$ $V_R=0$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	9000 10900	A
	$T_{VJ}=T_{VJM}$ $V_R=0$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	8000 9600	
$\int i^2dt$	$T_{VJ}=45^oC$ $V_R=0$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	470000 565000	A^2s
	$T_{VJ}=T_{VJM}$ $V_R=0$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	414000 496000	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ f=50Hz, t_p=200us $V_D=2/3V_{DRM}$ I_G=1A di_G/dt=1A/us	repetitive non repetitive, $I_T=I_{TAVM}$	150 500	A/us
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM}$; $V_{DR}=2/3V_{DRM}$ $R_{GK}=\infty$; method 1 (linear voltage rise)		1000	V/us
P_{GM}	$T_{VJ}=T_{VJM}$ $I_T=I_{TAVM}$	t_p=30us t_p=500us	120 60	W
P_{GAV}			8	W
V_{RGM}			10	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 (M10)		4.5-7/40-60 11-13/97-115	Nm/lb.in.
Weight	Typical		1500	g

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STD240GK42BT

Thyristor-Diode Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}	$T_{VJ}=T_{VJM}$; $V_R=V_{RRM}$	50	mA
V_{TM}	$I_{TM}=720A$; $T_{VJ}=25^oC$	3.50	V
V_{TO}	For power-loss calculations only ($T_{VJ}=T_{VJM}$)	1.560	V
r_T		2.14	mΩ
V_{GT}	$V_D=6V$; $T_{VJ}=25^oC$ $T_{VJ}=-40^oC$	3 4	V
I_{GT}	$V_D=6V$; $T_{VJ}=25^oC$ $T_{VJ}=-40^oC$	200 300	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	$T_{VJ}=25^oC$; $t_p=30us$; $V_D=6V$ $I_G=1A$; $di_G/dt=1A/us$	400	mA
I_H	$T_{VJ}=25^oC$; $V_D=6V$; $R_{GK}=\infty$	300	mA
t_{gd}	$T_{VJ}=25^oC$; $V_D=1/2V_{DRM}$ $I_G=1A$; $di_G/dt=1A/us$	2	us
t_q	$T_{VJ}=T_{VJM}$; $I_T=240A$; $t_p=200us$; $-di/dt=10A/us$ typ. $V_R=100V$; $dv/dt=50V/us$; $V_D=2/3V_{DRM}$	250	us
R_{thJC}	DC current	0.0320	K/W
R_{thJK}	DC current	0.048	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~
* 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-Diode Modules

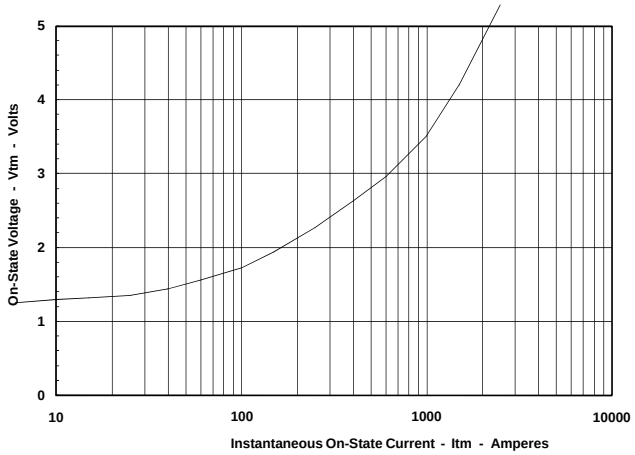

Fig.1 Maximum On-State Forward Voltage Drop(Tj = 125°C)

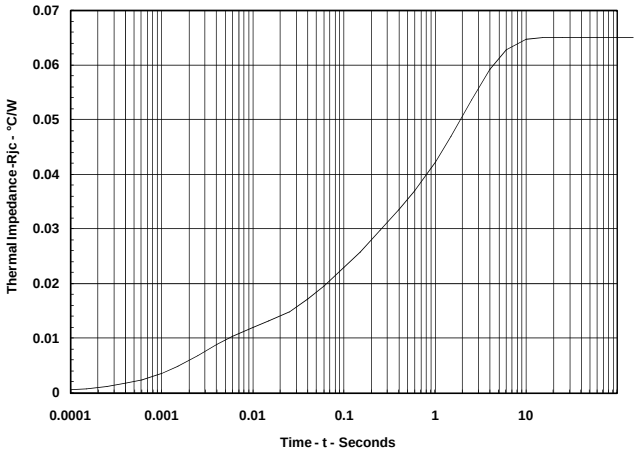

Fig.2 Maximum Transient Thermal Impedance(Junction to Case)

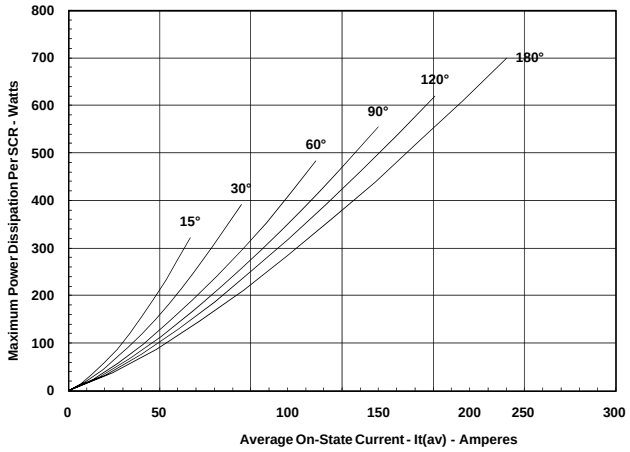

Fig.3 Maximum On-State Power Dissipation (Sinusoidal Waveform)

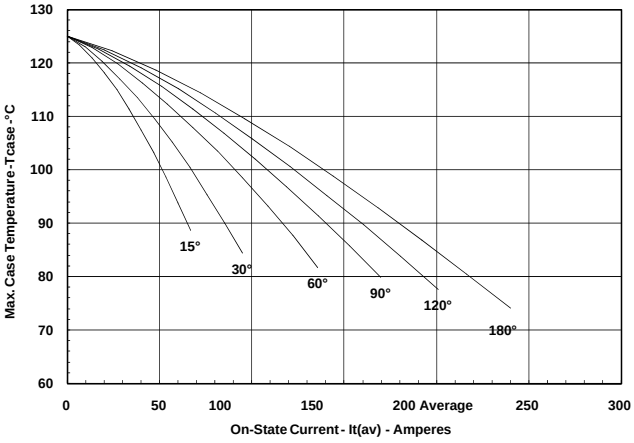

Fig.4 Maximum Allowable Case Temperature (Sinusoidal Waveform)

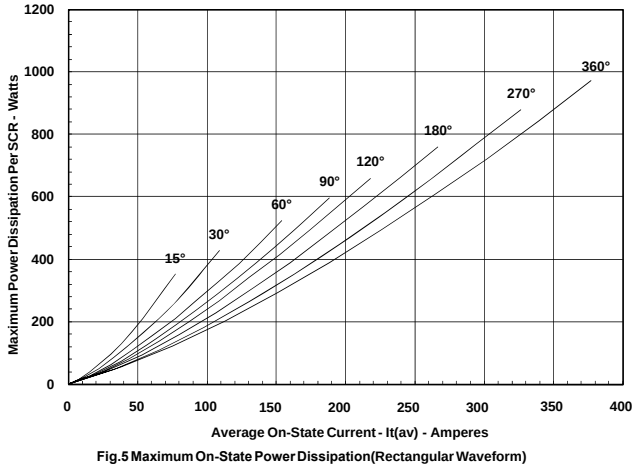

Fig.5 Maximum On-State Power Dissipation(Rectangular Waveform)

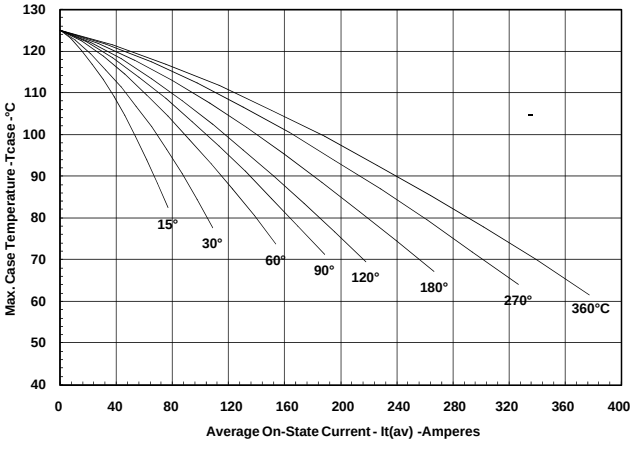

Fig.6 Maximum Allowable Case Temperature (Rectangular Waveform)

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