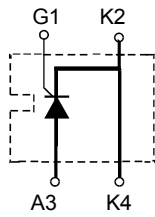
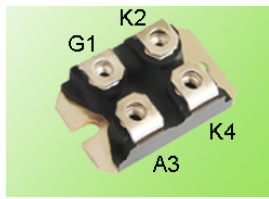
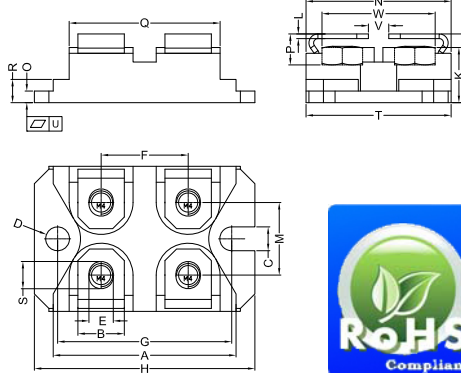


STO150GKXXS

Single Thyristor Modules



SOT-227B (ISOTOP)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	31,50	31,88	1,240	1,255
B	7,80	8,20	0,307	0,323
C	4,09	4,29	0,161	0,169
D	4,09	4,29	0,161	0,169
E	4,09	4,29	0,161	0,169
F	14,91	15,11	0,587	0,595
G	30,12	30,30	1,186	1,193
H	37,80	38,23	1,489	1,505
J	11,68	12,22	0,460	0,481
K	8,92	9,60	0,351	0,378
L	0,76	0,84	0,030	0,033
M	12,60	12,85	0,496	0,506
N	25,15	25,42	0,990	1,001
O	1,98	2,13	0,078	0,084
P	4,95	5,97	0,195	0,235
Q	26,54	26,90	1,045	1,059
R	3,94	4,42	0,155	0,174
S	4,72	4,85	0,186	0,191
T	24,59	25,07	0,968	0,987
U	0,05	0,10	0,002	0,004
V	3,30	4,57	0,130	0,180
W	19,81	21,08	0,780	0,830

Type	V _{RSM} V _{DSTM} V	V _{RDM} V _{VDRM} V
STO150GK08S	900	800
STO150GK12S	1300	1200
STO150GK16S	1700	1600

Symbol	Test Conditions	Maximum Ratings	Unit	
I _{TRMS}	T _{VJ} = T _{VJM}	235	A	
I _{TAVM}	T _C = 80°C; (180° sine)	150		
I _{TSM}	T _{VJ} = 45°C V _R = 0 t = 10ms (50Hz), sine t = 8.3ms (60Hz), sine	2000 2150	A	
	T _{VJ} = T _{VJM} V _R = 0 t = 10ms(50Hz), sine t = 8.3ms(60Hz), sine	1750 1850		
I ² t	T _{VJ} = 45°C V _R = 0 t = 10ms (50Hz), sine t = 8.3ms (60Hz), sine	20000 19400	A ² s	
	T _{VJ} = T _{VJM} V _R = 0 t = 10ms(50Hz), sine t = 8.3ms(60Hz), sine	15300 14400		
(di/dt) _{cr}	T _{VJ} = T _{VJM} f = 50Hz, t _p = 200us V _D = 2/3V _{DORM} I _G = 0.3A dig/dt = 0.3A/us	repetitive, I _T = 150A non repetitive, I _T = I _{TAVM}	150 500	A/us
	(dv/dt) _{cr}	T _{VJ} = T _{VJM} ; R _{GK} = ∞; method 1 (linear voltage rise)	V _{DR} = 2/3V _{DORM}	1000
P _{GM}	T _{VJ} = T _{VJM} I _T = I _{TAVM}	t _p = 30us t _p = 300us	10 5	W
P _{GAVM}			0.5	
V _{RGM}			10	V
T _{VJ}			-40...+150	°C
T _{VJM}			150	
T _{stg}			-40...+125	
V _{ISOL}	50/60Hz, RMS I _{ISOL} ≤ 1mA		2500	V~
M _d	Mounting torque (M4)		1.1-1.5/9-13	Nm/lb.in.
	Terminal connection torque (M4)		1.1-1.5/9-13	
Weight	typical		30	g

Sirectifier®

STO150GKXXS

Single Thyristor Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_R, I_D	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	≤ 10	mA
V_T	$I_T=450A; T_{VJ}=25^\circ C$	≤ 1.45	V
V_{TO}	For power-loss calculations only	≤ 0.80	V
r_T		≤ 3.8	m Ω
V_{GT}	$V_D=6V; T_{VJ}=25^\circ C$ $T_{VJ}=-40^\circ C$	≤ 1.5 ≤ 1.6	V
I_{GT}	$V_D=6V; T_{VJ}=25^\circ C$ $T_{VJ}=-40^\circ C$	≤ 150 ≤ 200	mA
V_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	≤ 0.2	V
I_{GD}		≤ 5	mA
I_L	$T_{VJ}=25^\circ C; t_p=10\mu s$ $I_G=0.3A; di/dt=0.3A/\mu s$	≤ 450	
I_H	$T_{VJ}=25^\circ C; V_D=6V; R_{GK}=\infty$	≤ 200	
t_{gd}	$T_{VJ}=25^\circ C; V_D=1/2V_{DRM}$ $I_G=0.3A; di/dt=0.3A/\mu s$	≤ 2	us
t_q	$T_{VJ}=T_{VJM}; I_T=20A; t_p=200\mu s; di/dt=-10A/\mu s$ typ. $V_R=100V; dv/dt=15V/\mu s; V_D=2/3V_{DRM}$	≤ 150	
R_{thJC}	DC current	≤ 0.20	K/W
R_{thCH}	DC current	≤ 0.10	
d_s	Creeping distance on surface	≤ 8	mm
d_A	Creepage distance in air	≤ 4	
a	Max. allowable acceleration	≤ 50	m/s ²

FEATURES

- *Thyristor controller for AC for mains frequency
- *International standard package SOT-227B (ISOTOP compatible)
- *Isolation voltage 2500V~
- *Glass passivated chips
- *UL File NO. E310749
- *RoHS compliant

APPLICATIONS

- *Switching and control of single and three phase AC Softstart
- *AC motor controller
- *Solid states switches
- *Light and temperature control

ADVANTAGES

- *Easy to mount with two screws
- *Space and weight savings
- *Improved temperature and power cycling
- *High power density

Sirectifier®

STO150GKXXS

Single Thyristor Modules

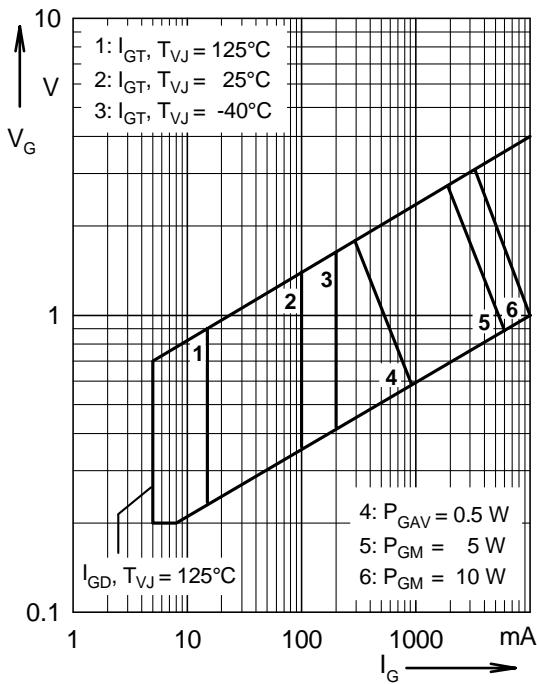


Fig. 1 Gate trigger characteristics

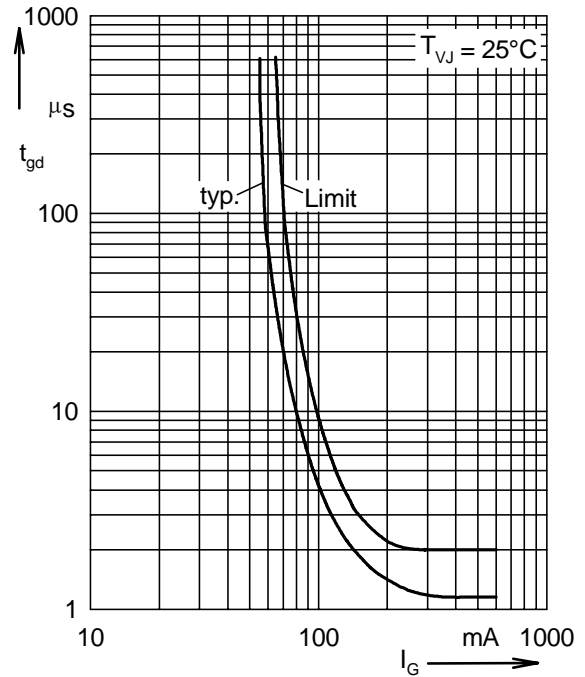


Fig. 2 Gate trigger delay time

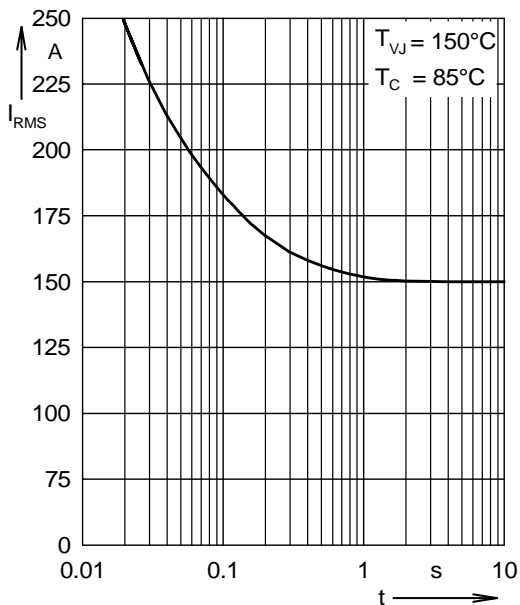


Fig.3 Rated RMS current versus time (360° conduction)

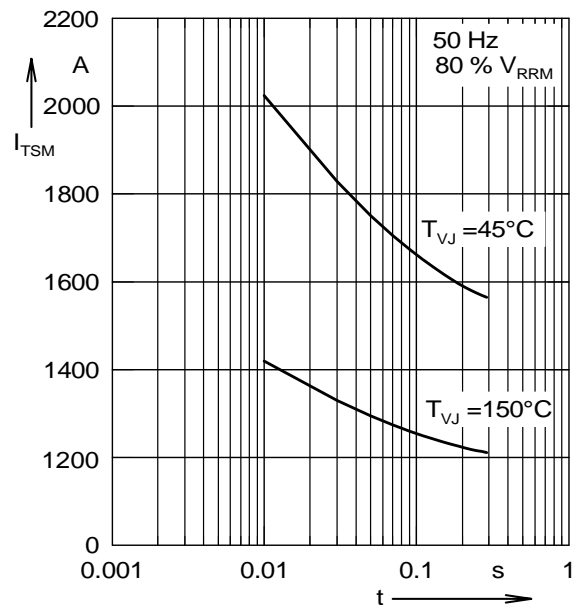


Fig.4 Surge overload current