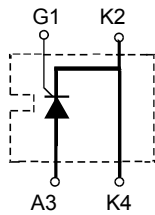
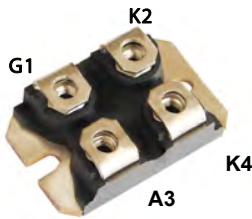
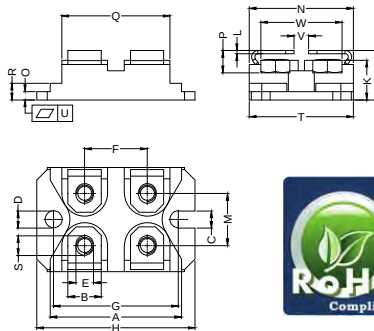


STO150GK16S

Single Thyristor Modules



Dimensions SOT-227



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	31.30	31.62	M	12.20	14.00
B	7.80	8.20	N	25.15	25.62
C	4.09	4.29	O	1.98	2.13
D	4.09	4.29	P	4.15	4.62
E	4.09	4.29	Q	25.90	26.30
F	14.91	15.11	R	3.94	4.42
G	30.12	30.30	S	4.45	4.85
H	38.20	38.56	T	24.59	25.07
J	12.30	12.90	U	0.05	0.10
K	8.92	9.60	V	3.00	4.80
L	0.76	0.84	W	19.81	21.08



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STO150GK16S	1700	1600

Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS}	$T_{VJ} = T_{VJM}$		235	A
I_{TAVM}	$T_C = 80^{\circ}\text{C}; (180^{\circ}\text{sine})$		150	
I_{TSM}	$T_{VJ}=45^{\circ}\text{C}$ $V_R=0$	$t=10\text{ms (50Hz), sine}$ $t=8.3\text{ms (60Hz), sine}$	2000 2150	A
	$T_{VJ}=T_{VJM}$ $V_R=0$	$t=10\text{ms(50Hz), sine}$ $t=8.3\text{ms(60Hz), sine}$	1750 1850	
I^2t	$T_{VJ}=45^{\circ}\text{C}$ $V_R=0$	$t=10\text{ms (50Hz), sine}$ $t=8.3\text{ms (60Hz), sine}$	20000 19400	A^2s
	$T_{VJ}=T_{VJM}$ $V_R=0$	$t=10\text{ms(50Hz), sine}$ $t=8.3\text{ms(60Hz), sine}$	15300 14400	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ $f=50\text{Hz}, t_p=200\mu\text{s}$ $V_D=2/3V_{DRM}$ $I_G=0.3\text{A}$ $di_G/dt=0.3\text{A}/\mu\text{s}$	repetitive, $I_T=150\text{A}$	150	$\text{A}/\mu\text{s}$
		non repetitive, $I_T=I_{TAVM}$	500	
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM};$ $R_{GK}=\infty; \text{method 1 (linear voltage rise)}$	$V_{DR}=2/3V_{DRM}$	1000	$\text{V}/\mu\text{s}$
P_{GM} P_{GAVM}	$T_{VJ}=T_{VJM}$ $I_T=I_{TAVM}$	$t_p=30\mu\text{s}$ $t_p=300\mu\text{s}$	10 5 0.5	W
V_{RGM}			10	
T_{VJ} T_{VJM} T_{stg}			-40...+150 150 -40...+125	$^{\circ}\text{C}$
V_{ISOL}	50/60Hz, RMS $I_{ISOL}\leq 1\text{mA}$		2500	$\text{V}\sim$
M_d	Mounting torque (M4) Terminal connection torque (M4)		1.1-1.5/9-13 1.1-1.5/9-13	$\text{Nm}/\text{lb.in.}$
Weight	typical		30	g

Sirectifier®

STO150GK16S

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	μs
t_q	$T_{VJ}=T_{VJM}; I_T=20A; t_p=200\mu s; di/dt=-10A/\mu s$ $V_R=100V; dv/dt=15V/\mu s; V_D=2/3V_{DRM}$ typ.	≤ 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

STO150GK16S

Single Thyristor Modules

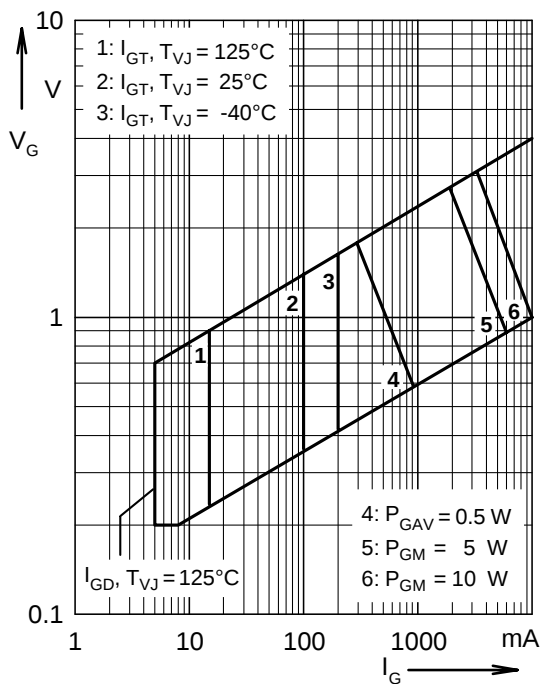


Fig. 1 Gate trigger characteristics

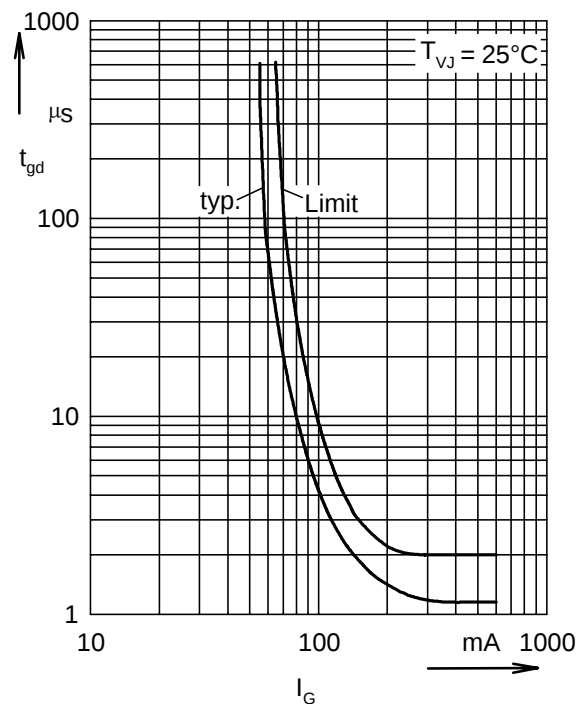


Fig. 2 Gate trigger delay time

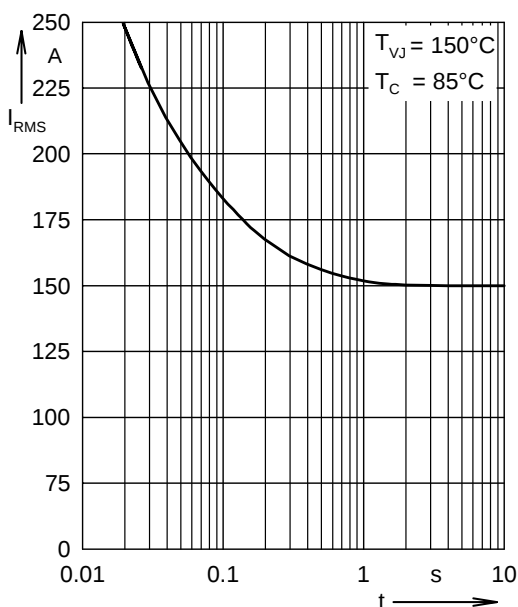


Fig.3 Rated RMS current versus time (360° conduction)

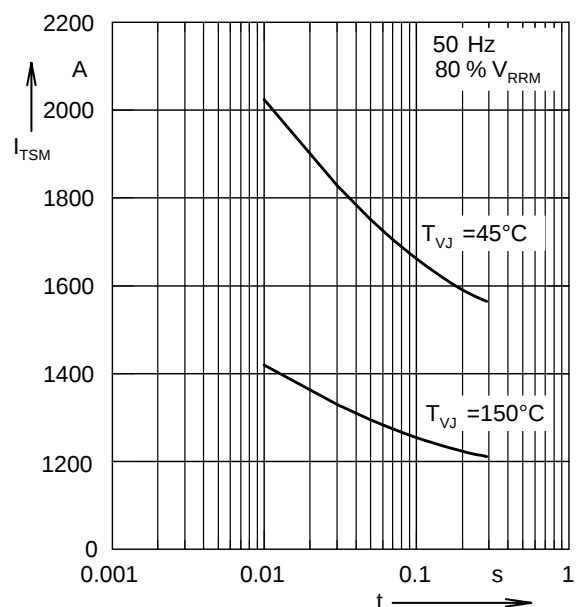


Fig.4 Surge overload current