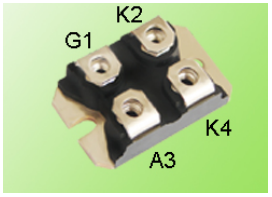
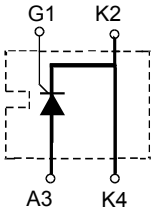
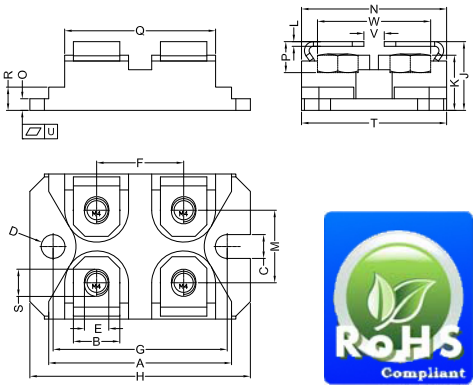
STO50GKxxS

Single Thyristor Modules





SOT-227B



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_{DSM} V	V_{RRM} V_{DRM} V
STO50GK08S	900	800
STO50GK12S	1300	1200
STO50GK16S	1700	1600

Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS} I_{TAVM}	T_{VJ}= T_{VJM} T_C = 80°C; (180° sine)		78 50	A
I_{TSM}	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	740 800	A
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	650 700	
I^2t	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	2740 2700	A^2s
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	2100 2100	
$(di/dt)_{cr}$	T_{VJ}=T_{VJM} f=50Hz, t_p=200us V_D=2/3V_{DRM} I_G=0.3A di_G/dt=0.3A/us	repetitive, I_T=78A 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_{DRM}	1000	V/us
P_{GM} P_{GAVM}	T_{VJ}=T_{VJM} I_T=I_{TAVM}	t_p=30us t_p=300us	10 5 0.5	W
V_{RGM}			10	V
T_{VJ} T_{VJM} T_{stg}			-40...+125 125 -40...+125	°C
V_{ISOL}	50/60Hz, RMS I_{ISOL}≤1mA		2500	V~
M_d	Mounting torque (M4) Terminal connection torque (M4)		1.1-1.5/9-13 1.1-1.5/9-13	Nm/lb.in.
Weight	typical		30	g

Sirectifier®

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STO50GKxxS

Single Thyristor Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_R, I_D	$T_{VJ}=T_{VJM}$; $V_R=V_{RRM}$; $V_D=V_{DRM}$	≤ 3	mA
V_T	I_T=50A; T_{VJ} =25°C	≤ 1.30	V
V_{TO}	For power-loss calculations only	≤ 0.90	V
r_T		≤ 5.8	mΩ
V_{GT}	V_D=6V; T_{VJ}=25°C T_{VJ}=-40°C	≤ 1.4 ≤ 1.6	V
I_{GT}	V_D=6V; T_{VJ}=25°C T_{VJ}=-40°C	≤ 100 ≤ 150	mA
V_{GD}	$T_{VJ}=T_{VJM}$; V_D=2/3V_{DRM}	≤ 0.2	V
I_{GD}		≤ 5	mA
I_L	T_{VJ}=25°C; t_p=10us I_G=0.3A; di_G/dt=0.3A/us	≤ 450	
I_H	T_{VJ}=25°C; V_D=6V; R_{GK}=∞	≤ 200	
t_{gd}	T_{VJ}=25°C; V_D=1/2V_{DRM} I_G=0.3A; di_G/dt=0.3A/us	≤ 2	us
t_q	$T_{VJ}=T_{VJM}$; I_T=20A; t_p=200us; di/dt=-10A/us typ. V_R=100V; dv/dt=15V/us; V_D=2/3V_{DRM}	≤ 150	
R_{thJC}	DC current	≤ 0.72	K/W
R_{thCH}	DC current	≤ 0.40	
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 witches
*Light and temperature control

ADVANTAGES

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

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