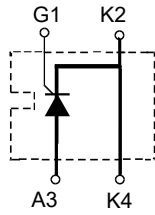
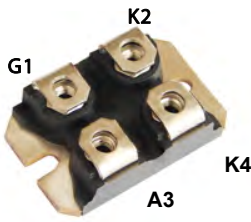
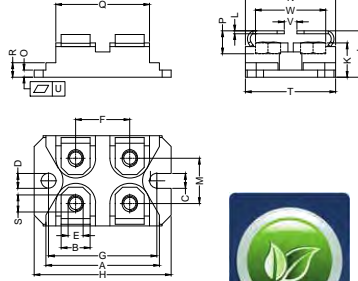


STO50GK12S

Single Thyristor Modules



Dimensions SOT-227



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	31.30	31.65	M	12.00	13.00
B	7.80	8.40	N	25.15	25.65
C	4.00	4.30	O	1.95	2.15
D	∅4.00	∅4.30	P	5.60	6.60
E	4.00	4.30	Q	25.30	26.30
F	14.90	15.20	R	3.90	4.30
G	30.10	30.30	S	4.45	4.85
H	38.00	38.50	T	24.50	25.10
J	12.10	12.90	U	0.05	0.10
K	9.00	9.60	V	3.00	4.80
L	0.75	0.85	W	19.30	20.50

Type	V _{RSM} V _{DSM} V	V _{RRM} V _{D RM} V
STO50GK12S	1300	1200



Symbol	Test Conditions	Maximum Ratings	Unit
I _{TRMS}	T _{VJ} = T _{VJM}	78	A
I _{TAVM}	T _C = 80°C; (180°sine)	50	
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 ² t	T _{VJ} = 45°C V _R = 0 t = 10ms (50Hz), sine t = 8.3ms (60Hz), sine	2740 2700	A ² s
	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 = 2/3 V _{D RM} I _G = 0.3A dig/dt = 0.3A/us	repetitive, I _T = 78A 150	A/us
		non repetitive, I _T = I _{TAVM} 500	
(dv/dt) _{cr}	T _{VJ} = T _{VJM} ; R _{GK} = ∞; method 1 (linear voltage rise)	V _{DR} = 2/3 V _{D RM} 1000	V/us
P _{GM}	T _{VJ} = T _{VJM} I _T = I _{TAVM} t _p = 30us	10	W
P _{GA VM}	t _p = 300us	5	
V _{RG M}		0.5	V
T _{VJ}		10	°C
T _{VJM}		-40...+125	
T _{stg}		125	
V _{ISOL}	50/60Hz, RMS I _{ISOL} ≤ 1mA	-40...+125	V~
M _d	Mounting torque (M4)	2500	Nm/lb.in.
	Terminal connection torque (M4)	1.1-1.5/9-13 1.1-1.5/9-13	
Weight	typical	30	g

Sirectifier®

STO50GK12S

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	$I_T=50A; T_{VJ}=25^\circ C$	≤ 1.30	V
V_{TO}	For power-loss calculations only	≤ 0.90	V
r_T		≤ 5.8	m Ω
V_{GT}	$V_D=6V; T_{VJ}=25^\circ C$ $T_{VJ}=-40^\circ C$	≤ 1.4 ≤ 1.6	V
I_{GT}	$V_D=6V; T_{VJ}=25^\circ C$ $T_{VJ}=-40^\circ C$	≤ 100 ≤ 150	mA
V_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	≤ 0.2	V
I_{GD}		≤ 5	mA
I_L	$T_{VJ}=25^\circ C; t_p=10\mu s$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	≤ 450	
I_H	$T_{VJ}=25^\circ C; V_D=6V; R_{GK}=\infty$	≤ 200	us
t_{gd}	$T_{VJ}=25^\circ C; V_D=1/2V_{DRM}$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	≤ 2	
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	K/W
R_{thJC}	DC current	≤ 0.72	
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