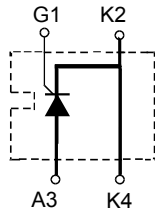
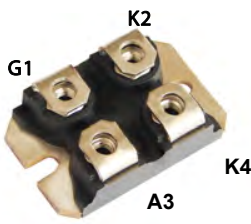
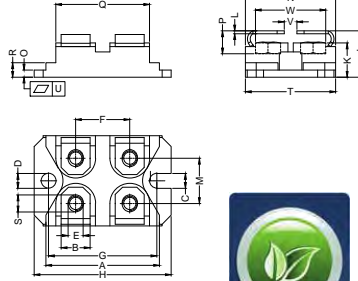


# STO50GK08S

## 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 <sub>RSM</sub> V <sub>DSM</sub> V	V <sub>RRM</sub> V <sub>D RM</sub> V
STO50GK08S	900	800



Symbol	Test Conditions	Maximum Ratings	Unit
I <sub>TRMS</sub>	T <sub>VJ</sub> = T <sub>VJM</sub>	78	A
I <sub>TAVM</sub>	T <sub>C</sub> = 80°C; (180°sine)	50	
I <sub>TSM</sub>	T <sub>VJ</sub> = 45°C V <sub>R</sub> = 0 t = 10ms (50Hz), sine t = 8.3ms (60Hz), sine	740 800	A
	T <sub>VJ</sub> = T <sub>VJM</sub> V <sub>R</sub> = 0 t = 10ms (50Hz), sine t = 8.3ms (60Hz), sine	650 700	
I <sup>2</sup> t	T <sub>VJ</sub> = 45°C V <sub>R</sub> = 0 t = 10ms (50Hz), sine t = 8.3ms (60Hz), sine	2740 2700	A <sup>2</sup> s
	T <sub>VJ</sub> = T <sub>VJM</sub> V <sub>R</sub> = 0 t = 10ms (50Hz), sine t = 8.3ms (60Hz), sine	2100 2100	
(di/dt) <sub>cr</sub>	T <sub>VJ</sub> = T <sub>VJM</sub> f = 50Hz, t <sub>p</sub> = 200us V <sub>D</sub> = 2/3 V <sub>D RM</sub> I <sub>G</sub> = 0.3A dig/dt = 0.3A/us repetitive, I <sub>T</sub> = 78A	150	A/us
	non repetitive, I <sub>T</sub> = I <sub>TAVM</sub>	500	
(dv/dt) <sub>cr</sub>	T <sub>VJ</sub> = T <sub>VJM</sub> ; R <sub>GK</sub> = ∞; method 1 (linear voltage rise) V <sub>DR</sub> = 2/3 V <sub>D RM</sub>	1000	V/us
P <sub>GM</sub> P <sub>GA VM</sub>	T <sub>VJ</sub> = T <sub>VJM</sub> I <sub>T</sub> = I <sub>TAVM</sub> t <sub>p</sub> = 30us t <sub>p</sub> = 300us	10	W
		5	
VRGM		0.5	V
T <sub>VJ</sub> T <sub>VJM</sub> T <sub>stg</sub>		-40...+125 125 -40...+125	°C
V <sub>ISOL</sub>	50/60Hz, RMS I <sub>ISOL</sub> ≤ 1mA	2500	V~
M <sub>d</sub>	Mounting torque (M4) Terminal connection torque (M4)	1.1-1.5/9-13	Nm/lb.in.
		1.1-1.5/9-13	
Weight	typical	30	g

**Sirectifier**®

# STO50GK08S

## Single Thyristor Modules

Symbol	Test Conditions	Characteristic Values	Unit
$I_R, I_D$	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	$\leq 3$	mA
$V_T$	$I_T=50A; T_{VJ}=25^\circ C$	$\leq 1.30$	V
$V_{TO}$	For power-loss calculations only	$\leq 0.90$	V
$r_T$		$\leq 5.8$	m $\Omega$
$V_{GT}$	$V_D=6V; T_{VJ}=25^\circ C$ $T_{VJ}=-40^\circ C$	$\leq 1.4$ $\leq 1.6$	V
$I_{GT}$	$V_D=6V; T_{VJ}=25^\circ C$ $T_{VJ}=-40^\circ C$	$\leq 100$ $\leq 150$	mA
$V_{GD}$	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	$\leq 0.2$	V
$I_{GD}$		$\leq 5$	mA
$I_L$	$T_{VJ}=25^\circ C; t_p=10\mu s$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	$\leq 450$	
$I_H$	$T_{VJ}=25^\circ C; V_D=6V; R_{GK}=\infty$	$\leq 200$	us
$t_{gd}$	$T_{VJ}=25^\circ C; V_D=1/2V_{DRM}$ $I_G=0.3A; di_G/dt=0.3A/\mu s$	$\leq 2$	
$t_q$	$T_{VJ}=T_{VJM}; I_T=20A; t_p=200\mu s; di/dt=-10A/\mu s$ $V_R=100V; dv/dt=15V/\mu s; V_D=2/3V_{DRM}$	typ. $\leq 150$	K/W
$R_{thJC}$	DC current	$\leq 0.72$	
$R_{thCH}$	DC current	$\leq 0.40$	
$d_s$	Creeping distance on surface	$\leq 8$	mm
$d_A$	Creepage distance in air	$\leq 4$	
$a$	Max. allowable acceleration	$\leq 50$	m/s <sup>2</sup>

### 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