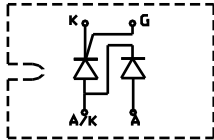


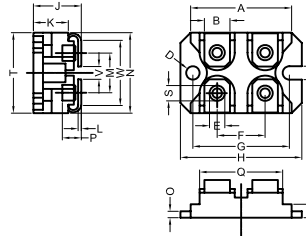
# STD40GXXS

## Thyristor-Diode Modules



Type	$V_{RSM}$	$V_{RRM}$
	$V_{DSM}$	$V_{DRM}$
	V	V
STD40G08S	900	800
STD40G12S	1300	1200
STD40G14S	1500	1400
STD40G16S	1700	1600
STD40G18S	1900	1800

Tolerance:  $\pm 0.5\text{mm}$   
Dimensions in mm (1mm=0.0394")



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	38.20	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	0.1	-0.002	0.004
V	3.30	4.57	0.130	0.180
W	0.780	0.830	0.031	0.033

Symbol	Test Conditions	Maximum Ratings	Unit
$I_{TRMS}, I_{FRMS}$ $I_{TAVM}, I_{FAVM}$	$T_{VJ}=T_{VJM}$ $T_C=85^\circ\text{C}; 180^\circ$ sine	62 40	A
$I_{TSM}, I_{FSM}$	$T_{VJ}=45^\circ\text{C}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	500 440	A
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	450 490	
$\int i^2 dt$	$T_{VJ}=45^\circ\text{C}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	1250 1220	$\text{A}^2\text{s}$
	$T_{VJ}=T_{VJM}$ $V_R=0$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	1010 1010	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ $f=50\text{Hz}, t_p=200\mu\text{s}$ $V_D=2/3V_{DRM}$ $I_G=0.45\text{A}$ $di_G/dt=0.45\text{A}/\mu\text{s}$	repetitive, $I_T=150\text{A}$ 150 non repetitive, $I_T=I_{TAVM}$ 500	A/ $\mu\text{s}$
	$T_{VJ}=T_{VJM};$ $R_{GK}=\infty;$ method 1 (linear voltage rise)	$V_{DR}=2/3V_{DRM}$ 1000	V/ $\mu\text{s}$
$P_{GM}$	$T_{VJ}=T_{VJM}$ $I_T=I_{TAVM}$ $t_p=30\mu\text{s}$ $t_p=300\mu\text{s}$	10 5	W
$P_{GAV}$		0.5	W
$V_{RGM}$		10	V
$T_{VJ}$ $T_{VJM}$ $T_{stg}$		-40...+125 125 -40...+125	$^\circ\text{C}$
$V_{ISOL}$	50/60Hz, RMS $I_{ISOL} \leq 1\text{mA}$ $t=1\text{min}$ $t=1\text{s}$	3000 3600	V~
$M_d$	Mounting torque (M4) Terminal connection torque (M4)	1.5/13 1.5/13	Nm/lb.in.
Weight	Typ.	30	g

**Sirectifier**®

# STD40GXXS

## Thyristor-Diode Modules

Symbol	Test Conditions	Characteristic Values	Unit
$I_{RRM}, I_{DRM}$	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	5	mA
$V_T, V_F$	$I_T, I_F=80A; T_{VJ}=25^{\circ}C$	1.68	V
$V_{TO}$	For power-loss calculations only ( $T_{VJ}=125^{\circ}C$ )	0.85	V
$r_T$		5.3	m $\Omega$
$V_{GT}$	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	1.5 1.6	V
$I_{GT}$	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	100 200	mA
$V_{GD}$	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	0.2	V
$I_{GD}$		10	mA
$I_L$	$T_{VJ}=25^{\circ}C; t_p=10\mu s; V_D=6V$ $I_G=0.45A; di_G/dt=0.45A/\mu s$	450	mA
$I_H$	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	200	mA
$t_{gd}$	$T_{VJ}=25^{\circ}C; V_D=1/2V_{DRM}$ $I_G=0.45A; di_G/dt=0.45A/\mu s$	2	$\mu s$
$t_q$	$T_{VJ}=T_{VJM}; I_T=120A; t_p=200\mu s; -di/dt=10A/\mu s$ $V_R=100V; dv/dt=20V/\mu s; V_D=2/3V_{DRM}$	150	$\mu s$
$Q_S$	$T_{VJ}=T_{VJM}; I_T, I_F=50A; -di/dt=0.64A/\mu s$	90	$\mu C$
$I_{RM}$		11	A
$R_{thJC}$	per thyristor/diode; DC current	0.6	K/W
$R_{thJK}$	per thyristor/diode; DC current	0.7	K/W
$d_s$	Creeping distance on surface	12.7	mm
$d_A$	Strike distance through air	9.6	mm
$a$	Maximum allowable acceleration	50	m/s <sup>2</sup>

### FEATURES

- \* International standard package SOT-227
- \* Glass passivated chips
- \* Isolation voltage 3600 V~
- \* RoHS compliant

### APPLICATIONS

- \* DC motor control
- \* Softstart AC motor controller
- \* Light, heat and temperature control

### ADVANTAGES

- \* Space and weight savings
- \* Simple mounting with two screws
- \* Improved temperature and power cycling
- \* Reduced protection circuits

