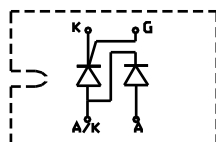


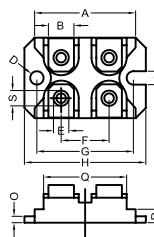
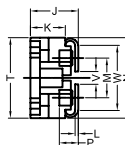
STD40GXXS

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}	$T_V = T_{VJM}$ $T_C = 85^\circ\text{C}; 180^\circ \text{ sine}$	62 40	A
I_{TSM}, I_{FSM}	$T_V = 45^\circ\text{C}$ $V_R = 0$ $t = 10\text{ms (50Hz), sine}$	500	A
	$T_V = T_{VJM}$ $V_R = 0$ $t = 8.3\text{ms (60Hz), sine}$	440	
$\int i^2 dt$	$T_V = 45^\circ\text{C}$ $V_R = 0$ $t = 10\text{ms (50Hz), sine}$	450	A^2s
	$T_V = T_{VJM}$ $V_R = 0$ $t = 8.3\text{ms (60Hz), sine}$	490	
$(di/dt)_{cr}$	$T_V = T_{VJM}$ $f = 50\text{Hz}, t_p = 200\mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.45\text{A}$ $di/dt = 0.45\text{A}/\mu\text{s}$ repetitive, $I_T = 150\text{A}$	150	A/ μs
	non repetitive, $I_T = I_{TAVM}$	500	
$(dv/dt)_{cr}$	$T_V = T_{VJM}; V_{DR} = 2/3 V_{DRM}$ $R_{GK} = \infty$; method 1 (linear voltage rise)	1000	V/ μs
P_{GM}	$T_V = T_{VJM}$ $I_T = I_{TAVM}$ $t_p = 30\mu\text{s}$ $t_p = 300\mu\text{s}$	10 5	W
P_{GAV}		0.5	W
V_{RGM}		10	V
T_V 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 Ω
V_{GT}	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	1.5 1.6	V
I_{GT}	$V_D=6V; T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	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	μs
t_q	$T_{VJ}=T_{VJM}; I_T=120A; t_p=200\mu s; -di/dt=10A/\mu s$ $V_R=100V; dv/dt=20V/\mu s; V_D=2/3V_{DRM}$ typ.	150	μs
Q_s	$T_{VJ}=T_{VJM}; I_T, I_F=50A; -di/dt=0.64A/\mu s$	90	μC
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 ²

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

Sirectifier®