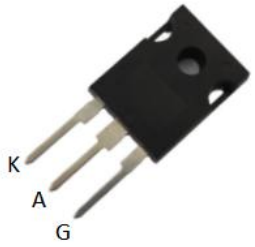
30TPS12 Thyristors

●DESRCRIPTION:

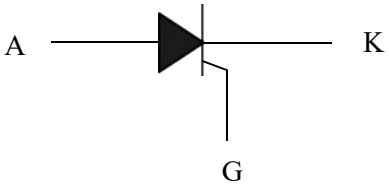
The 30TPS12 High Voltage Series of silicon controlled rectifiers are specifically designed for medium power switching and phase control applications. The glass passivation technology used has reliable operation up to 125 °C junction temperature.Typical applications are in input rectification (soft start) and these products are designed to be used with input diodes, switches and output rectifiers,which are available in identical package outlines.

● Symbol

Symbol	Value
IGT	⩽35 mA
IT(RMS)	30 A
VRRM	1200 V



TO-247



●ABSOLUTE MAX I MUM RATINGS (TC = 25°C, unless otherwise specified)

Symbol	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltage (Tj =25℃)	1200	V
V_{RRM}	Repetitive peak reverse voltage (Tj=25°C)	1200	V
IT(AV)	Average on-state current (180° conduction angle)	20	A
IT(RMS)	RMS on-state current(full sine wave)	30	A
I_{TSM}	Non repetitive surge peak on-state current (180° conduction angle, F=50Hz， TC=85°C)	300	A
I^2t	I^2t for Fusing (t = 10 ms)	450	A2s
dI /dt	Critical rate of rise of on-state current (I =2×IGT, tr ≤ 100 ns)	50	A/μs
I_{GM}	Peak Gate Current	4	A
$P_{G(AV)}$	Average Gate Power dissipation	1	W
Tstg	Storage junction temperature range	-40 ~150	°C
TJ	Operating junction temperature range	-40 ~125	°C

Please visit us on: www.yzpst.net www.yzpst.com E-mail: info@yzpst.com https://www.facebook.com/yzpst
https://www.linkedin.com/company/yzpst https://www.youtube.com/c/YangzhouPositioningTechCoLtd

●ELECTRICAL CHARACTERISTICS (Tj = 25°C, unless otherwise specified)

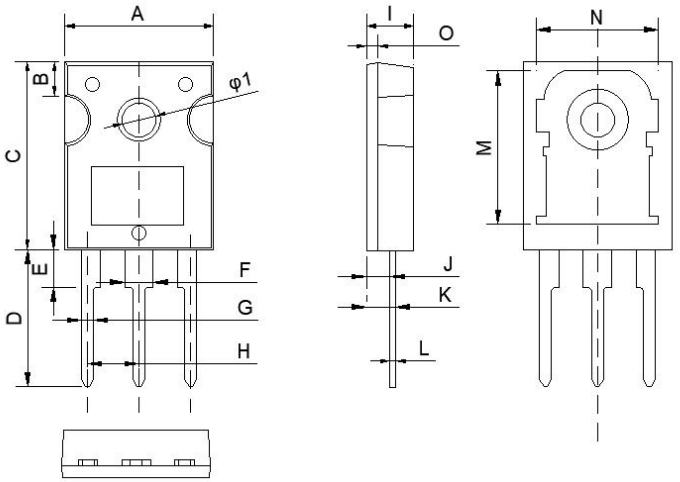
Symbol	Test Condition	Value		Unit
		Min	Max	
IGT	V =12V R =33Ω		35	mA
VGT			1.3	V
VGD	VD=VDRM Tj=125°C	0.2		V
IL	IG=1.2IGT		180	mA
IH	IT=500mA		120	mA
dV/dt	VD=2/3VDRM Gate Open Tj=125°C	500		V/μs
VTM	ITM =45A tp=380μs		1.7	V
IDRM	VD=VDRM VR=VRRM		20	μA
IRRM			4	mA

●THERMAL RESISTANCES

Symbol	Test Condition	Value	Unit
Rth(j-c)	Junction to case (DC)	0.8	°C/W

●PACKAGE MECHANICAL DATA

TO-247



Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	15.5	16.5	0.610	0.650
B	3	3.6	0.118	0.142
C	19.5	20.5	0.768	0.807
D	14	15	0.551	0.591
E	3.8	4.3	0.150	0.169
F	2.8	3.4	0.110	0.134
G	1.1	1.4	0.043	0.055
H	5.32	5.58	0.209	0.220
I	4.9	5.1	0.193	0.201
J	2.2	2.6	0.087	0.102
K	3.05	3.15	0.120	0.124
L	0.49	0.56	0.019	0.022
M	16	16.4	0.630	0.646
N	13.2	13.8	0.520	0.543
0	1.1	1.4	0.043	0.055
ϕ 1	3.56	3.76	0.140	0.148

● ELECTRICAL CHARACTERISTICS (CURVES)

FIG.1 Maximum power dissipation versus Average on-state current

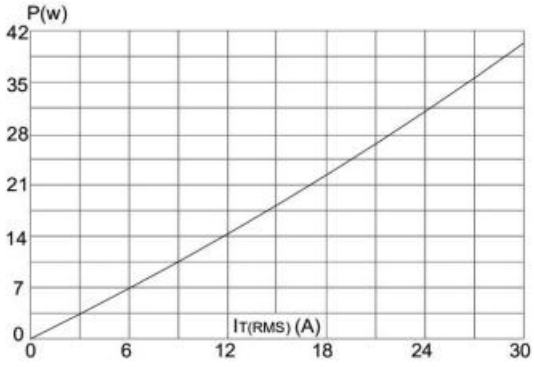


FIG.2: on-state current versus case temperature

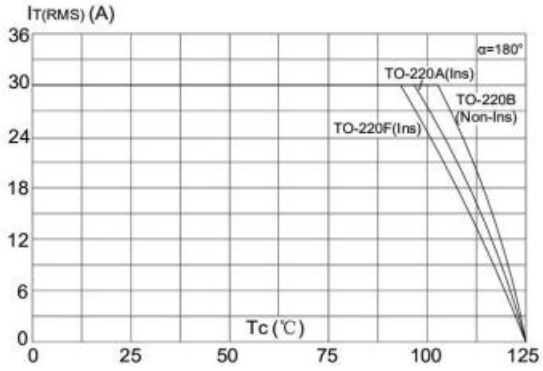


FIG.3: Surge peak on-state current versus number of cycles

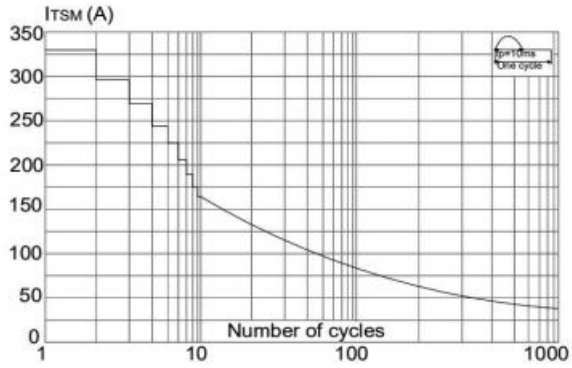


FIG.4: On-state characteristics (maximum values)

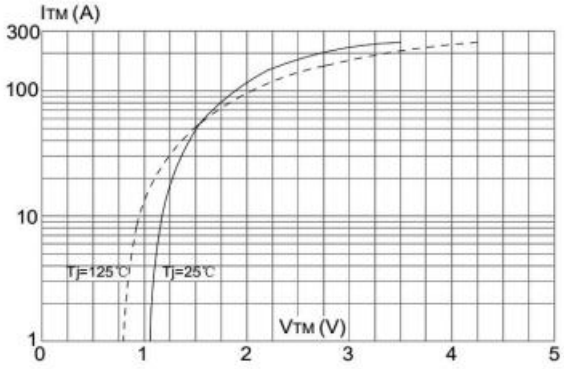


FIG.5: Non-repetitive surge peak on-state currentfor a sinusoidal pulse with width tp<10ms, and corresponding value of I2 t (dI/dt < 50A/µs)

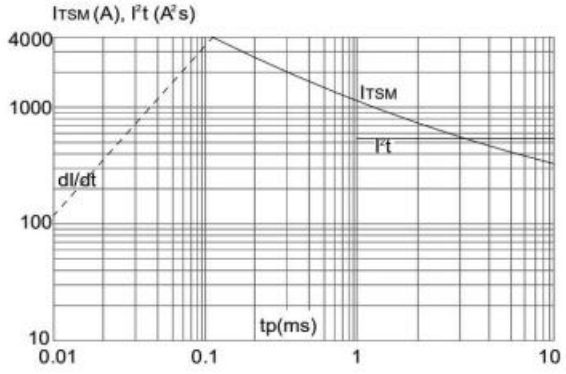
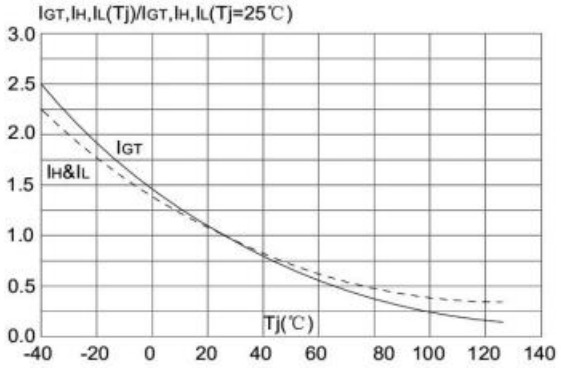


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature



Please visit us on: www.yzpst.net www.yzpst.com E-mail: info@yzpst.com https://www.facebook.com/yzpst
https://www.linkedin.com/company/yzpst https://www.youtube.com/c/YangzhouPositioningTechCoLtd