

P/N: YZPST-S3025 30A SCRs

FEATURES

- High thermal cycling performance
- High voltage capacity
- Very high current surge capability

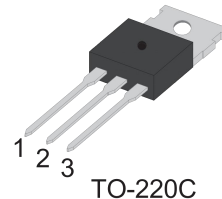
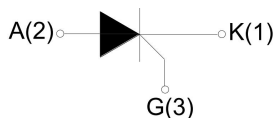
●APPLICATIONS

- Line rectifying 50/60 Hz
- Softstart AC motor control
- DC Motor control
- Power converter
- AC power control
- Lighting and temperature control



Parameters Summary

VD/VR:1200V IT(RMS) :30A IGT :25mA



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T _{stg}	-40 ~150	°C
Operating junction temperature range	T _j	-40~125	°C
Repetitive peak off-state voltage (T =25°C)	V _{DRM}	1200	V
Repetitive peak reverse voltage (T =25°C)	V _{RRM}	1200	V
Non repetitive surge peak Off-state voltage	V _{DSM}	V _{DRM} +100	V
Non repetitive peak reverse voltage	V _{RSM}	V _{RRM} +100	V
RMS on-state current	I _{T(RMS)}	30	A
Non repetitive surge peak on-state current (180° conduction angle, F=50Hz)	I _{TSM}	300	A
Average on-state current (180° conduction angle)	I _{T(AV)}	19	A
I ² t value for fusing (tp=10ms)	I ² t	450	A ² S
Critical rate of rise of on-state current (I =2×IGT, tr ≤ 100 ns)	dI/dt	50	A/μS
Peak gate current	I _{GM}	4	A
Average gate power dissipation	P _{G(AV)}	1	W

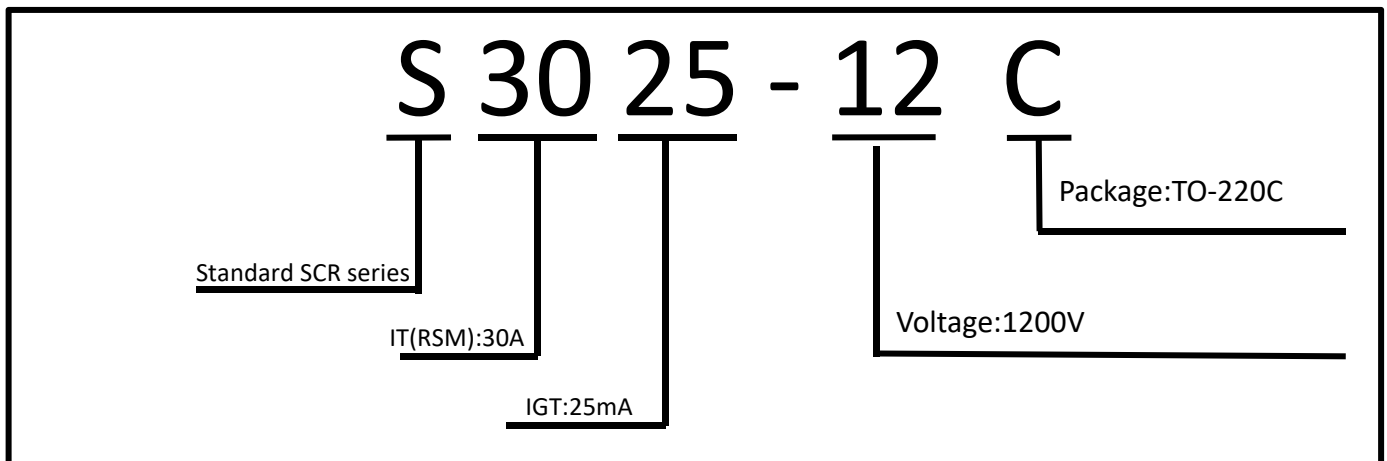
Thermal Resistances

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to case	0.80	°C/W
R _{th(j-a)}	junction to ambient	60	

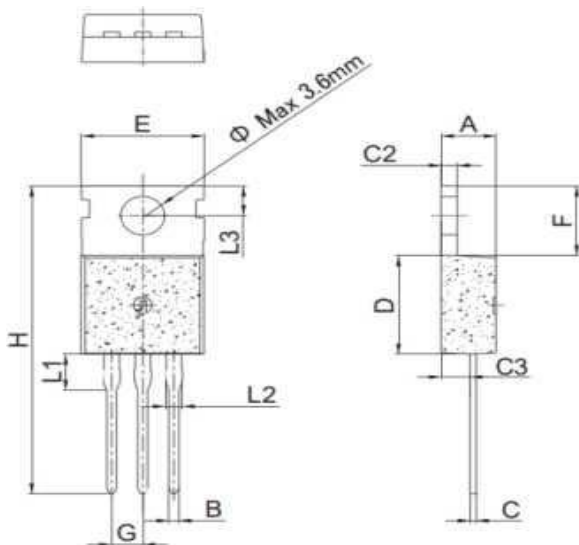
ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)				
Symbol	Test Condition		Value	Unit
I_{GT}	$V_D = 12V$	MAX.	25	mA
V_{GT}		MAX.	1.3	V
V_{GD}	$V_D = V_{DRM}$ $T_j = 125^\circ C$	MIN.	0.2	V
I_L	$I_G = 1.2I_{GT}$	MAX.	180	mA
I_H	$I_T = 500mA$	MAX.	120	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$	MIN.	500	V/ μs

STATIC CHARACTERISTICS				
Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_T = 55A$ $t_p = 380\mu s$	$T_j = 25^\circ C$	1.65	V
I_{DRM} / I_{RRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ C$	20	μA
		$T_j = 125^\circ C$	4	mA

Ordering Information Scheme



TO-220C Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.30		1.48	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
e		3.6			0.142	

FIG.1 Maximum power dissipation versus on-state current

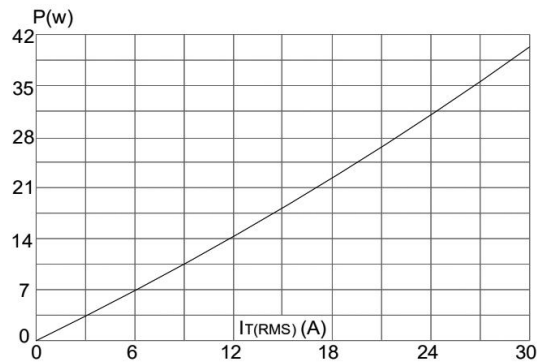


FIG.2: on-state current versus case temperature

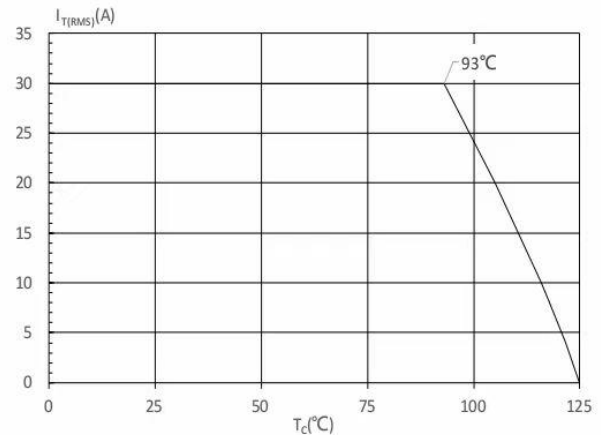


FIG.3: Surge peak on-state current versus number of cycles

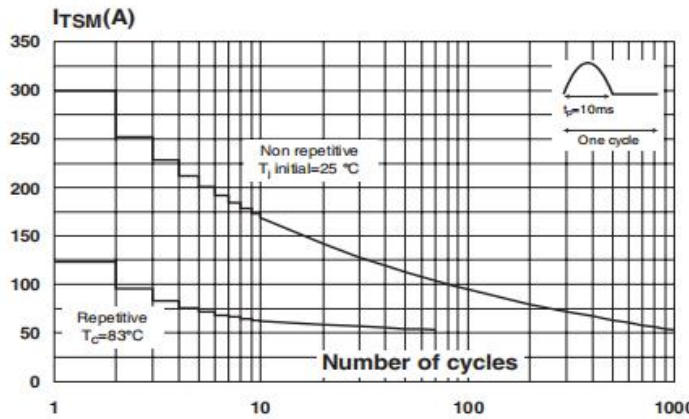


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I^2 t$

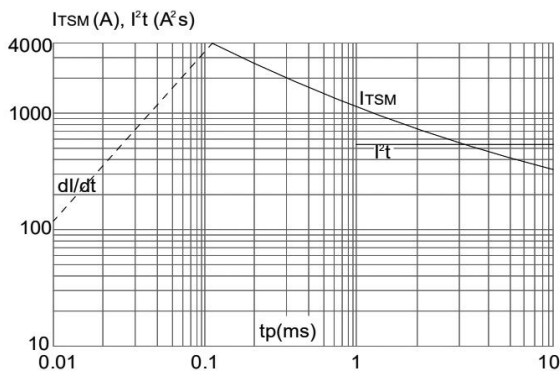


FIG.4: On-state characteristics (maximum values)

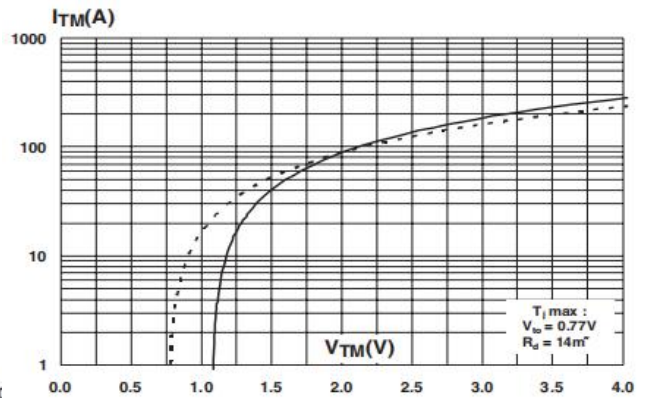


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

