

P/N: YZPST-S3530 35A 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:1600V IT(RMS) :35A IGT :30mA	
	<p>TO-220F Insulated</p>

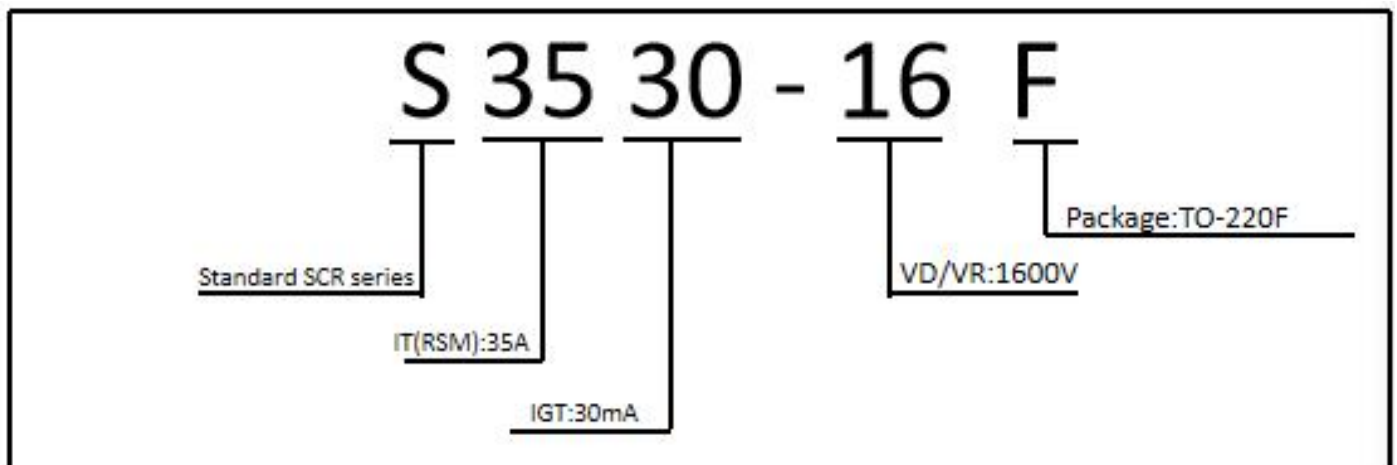
ABSOLUTE MAXIMUM RATINGS			
Parameter	Symbol	Value	Unit
Storage junction temperature range	Tstg	-40 ~150	°C
Operating junction temperature range	Tj	-40~125	°C
Repetitive peak off-state voltage (T =25°C)	V _{DRM}	1600	V
Repetitive peak reverse voltage (T =25°C)	V _{RRM}	1600	V
Non repetitive surge peak Off-state voltage	V _{DSM}	V _{DRM} +100	V
Non repetitive peak reverse voltage	V _{RSM}	V _{RRM} +100	V
RMS on-state current (T =110°C)	I _{T(RMS)}	35	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)}	23	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
Rth(j-c)	Junction to case (DC)	2.5	°C/W

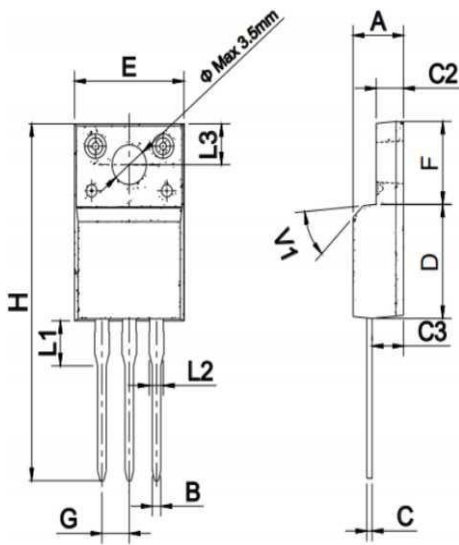
ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)				
Symbol	Test Condition		Value	Unit
I_{GT}	$V = 12V R = 140\Omega$	MAX.	30	mA
V_{GT}		MAX.	1.3	V
V_{GD}	$V_D = V_{DRM} T_j = 125^\circ C$	MIN.	0.2	V
I_L	$I_G = 1.2I_{GT}$	MAX.	160	mA
I_H	$I_T = 500mA$	MAX.	120	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$	MIN.	500	V/ μs

STATIC CHARACTERISTICS				
Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM} = 35A t_p = 380\mu s$	$T_j = 25^\circ C$	1.5	V
I_{DRM}	$V_D = V_{DRM} V_R = V_{RRM}$	$T_j = 25^\circ C$	20	μA
I_{RRM}		$T_j = 125^\circ C$	4	mA

Ordering Information Scheme



TO-220F Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.50		3.10	0.096		0.108
C3	2.40		2.80	0.102		0.118
D	8.60		8.90	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.70		7.50	0.252		0.268
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	

FIG.1 Maximum power dissipation versus on-state current

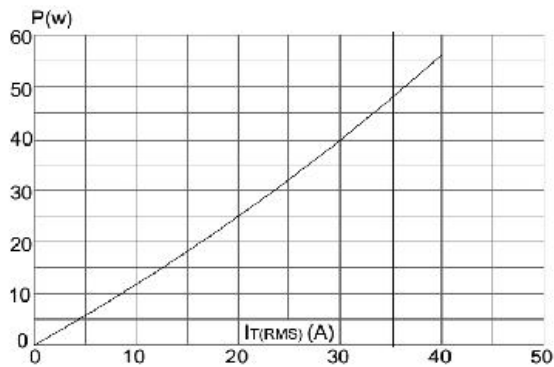


FIG.2: on-state current versus case temperature

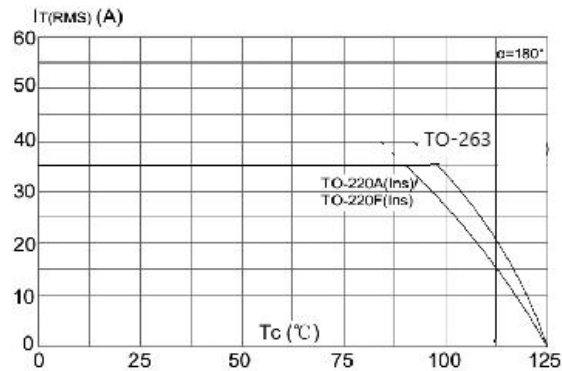


FIG.3: Surge peak on-state current versus number of cycles

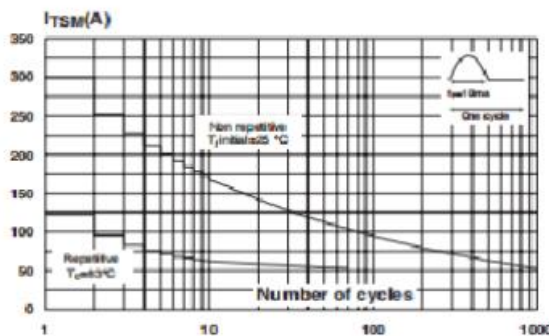


FIG.4: On-state characteristics (maximum values)

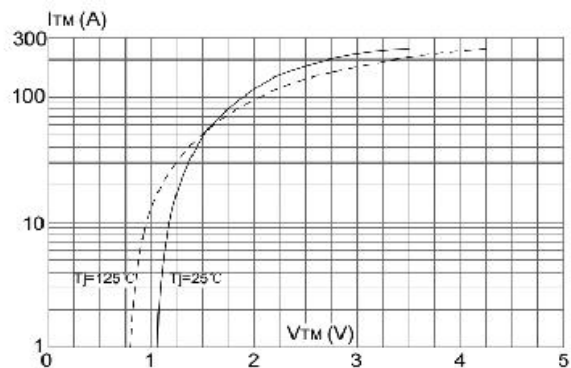


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I_2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

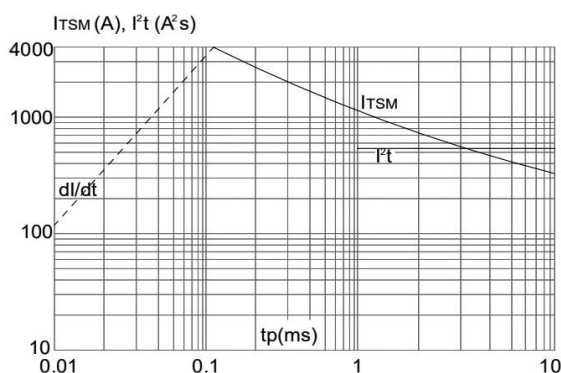


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

