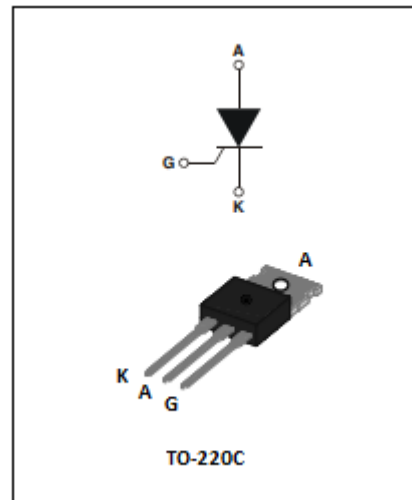


**DESCRIPTION:**

Glass passivated thyristors in a plastic envelope, The YZPST-S2535 SCRs series is suitable to fit all modes of control, found in applications such as overvoltage crowbar protection, motor control circuits in power tools and kitchen aids, inrush current limiting circuits, capacitive discharge ignition, Softstart AC motor control and voltage regulation circuits...



Symbol	Value	Unit
$I_{T(RMS)}$	40	A
$V_{DRM}$ $V_{RRM}$	1200	V
$I_{GT}$	35	mA

**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 (T =100°C)	$I_{T(RMS)}$	40	A
Non repetitive surge peak on-state current	$I_{TSM}$	350	A
Average on-state current (180° conduction angle)	$I_{T(AV)}$	25	A
$I^2t$ value for fusing (tp=10ms)	$I^2t$	450	A <sup>2</sup> S
Critical rate of rise of on-state current ( $I =2 \times I_{GT}$ , $t_r \leq 100$ ns)	dI/dt	150	A/μS
Peak gate current	$I_{GM}$	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W

**ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)**

Symbol	Test Condition		Value	Unit
$I_{GT}$	$V = 12V$ $R = 140\Omega$	MAX.	35	mA
$V_{GT}$		MAX.	1.3	V
$V_{GD}$	$V_D = V_{DRM}$ $T_j = 125^\circ C$ $R = 1K\Omega$	MIN.	0.2	V
$I_L$	$I_G = 1.2I_{GT}$	MAX.	75	mA
$I_H$	$I_T = 50mA$	MAX.	50	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ C$	MIN.	500	V/ $\mu s$

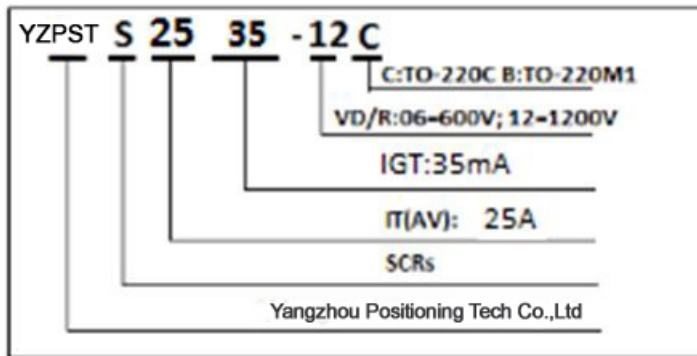
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM} = 40A$ $t_p = 380\mu s$	$T_j = 25^\circ C$	1.65	V
$I_{DRM}$	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ C$	500	$\mu A$
$I_{RRM}$		$T_j = 125^\circ C$	6	mA

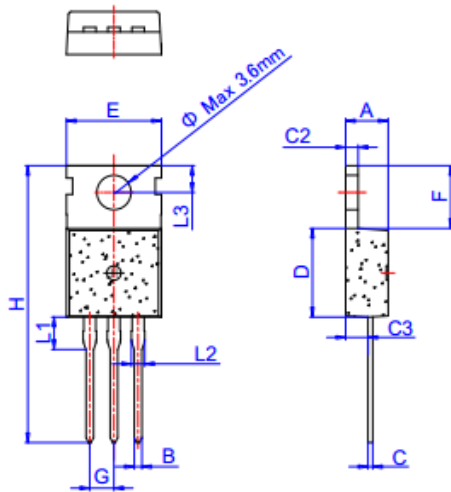
**Thermal Resistances**

Symbol	Parameter	Value(MAX.)	Unit
Rth(j-a)	junction to ambient(DC)	60	$^\circ C/W$
Rth(j-c)	Junction to case (DC)	0.9	

Ordering information scheme



TO-220C Package Mechanical Data



TO-220C

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	1.23		1.32	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
Φ		3.6			0.142	

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

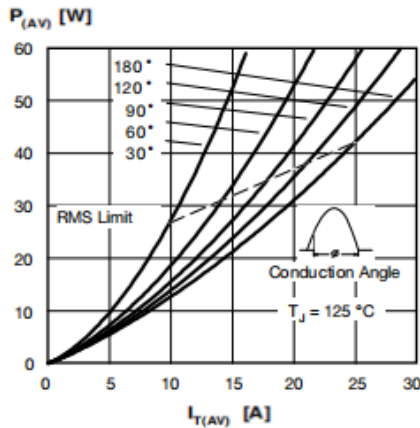


FIG.2: Average on-state current versus case temperature

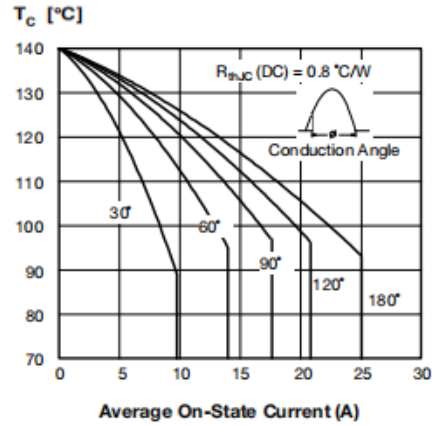


FIG.3: maximum Non repetitive Surge current

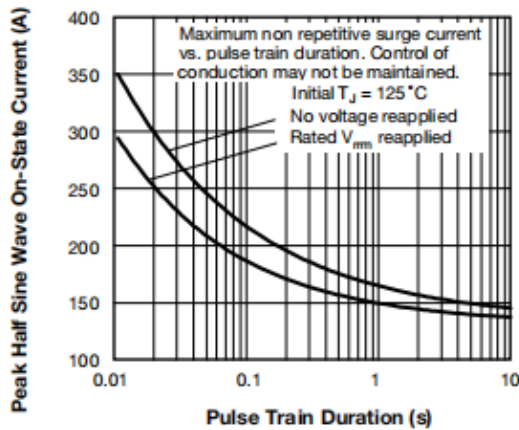


FIG.4: On-state characteristics (maximum values)

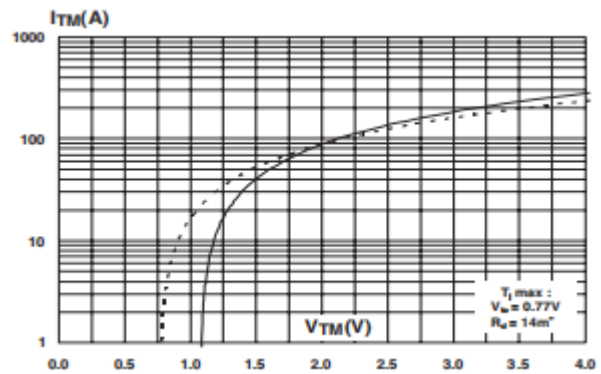


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms, and corresponding value of I²t (di/dt < 50A/μs)

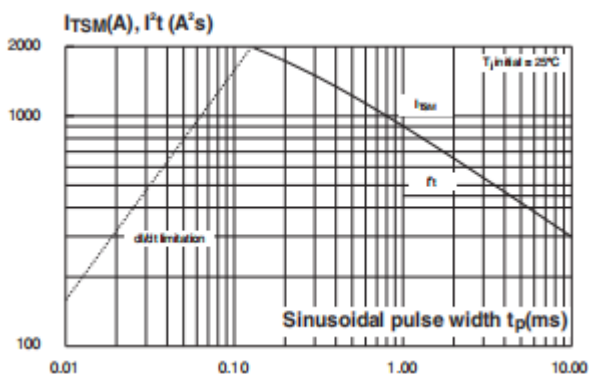


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

