

YZPST-SCR-S2035-51301 Series 20A SCRs
DESCRIPTION:

Glasspassivated thyristors in a plastic envelope, The S2035 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...

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	31	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)	$I_{T(RMS)}$	31	A
Non repetitive surge peak on-state current	I_{TSM}	300	A
Average on-state current (180° conduction angle)	$I_{T(AV)}$	20	A
I^2t value for fusing (tp=10ms)	I^2t	450	A ² S
Critical rate of rise of on-state current ($I =2 \times I_{GT}$, $t_r \leq 100$ ns)	dI/dt	50	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 =140Ω	MAX.	35	mA
V _{GT}		MAX.	1.3	V
V _{GD}	V _D =V _{DRM} T _j =125°C R=1KΩ	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°C	MIN.	500	V/μs

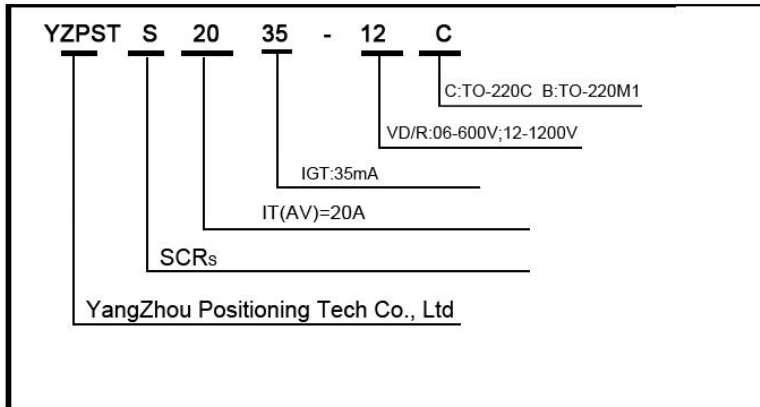
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V _{TM}	I _{TM} =40A tp=380μs	T _j =25°C	1.65	V
I _{DRM}	V _D =V _{DRM} V _R =V _{RDM}	T _j =25°C	20	μA
I _{RDM}		T _j =125°C	4	mA

Thermal Resistances

Symbol	Parameter	Value(MAX.)	Unit
R _{th(j-a)}	junction to ambient(DC)	60	°C/W
R _{th(j-c)}	Junction to case (DC)	1.0	

Ordering information scheme



TO-220M1 Package Mechanical Data

● Measure of package (TO-220M1)

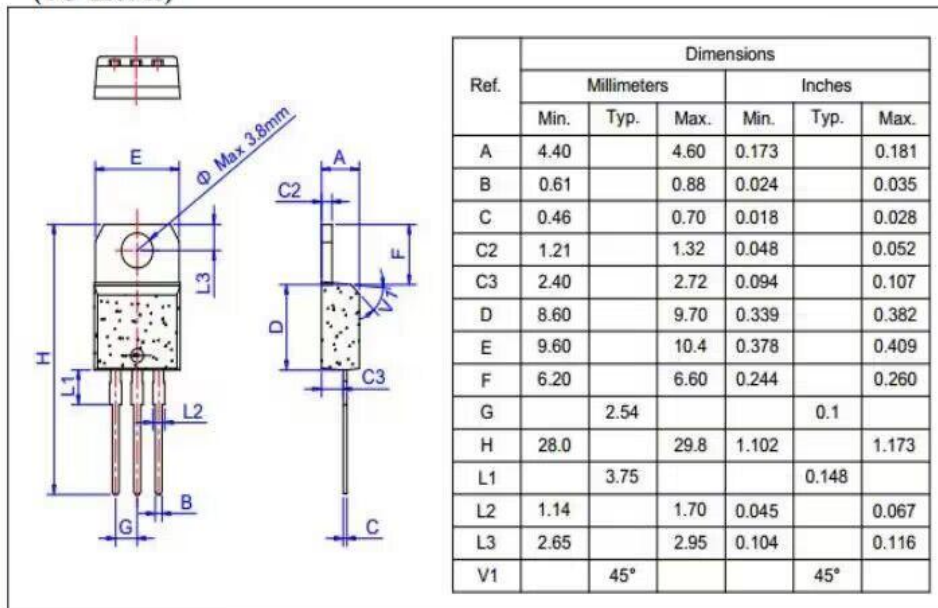


FIG.1 power dissipation versus Average RMS on-state current

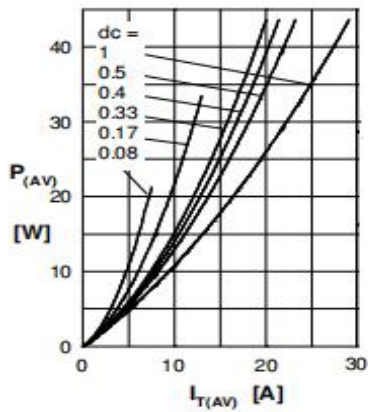


FIG.2: Average on-state current versus case temperature

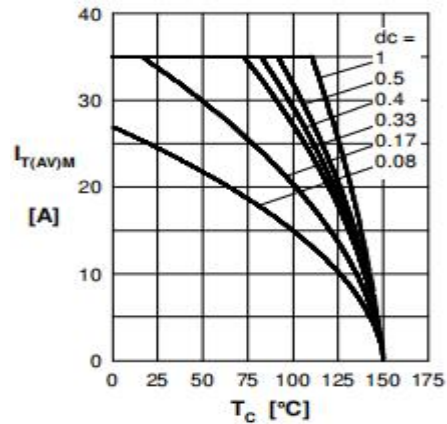


FIG.3: Surge peak on-state current versus number of cycles

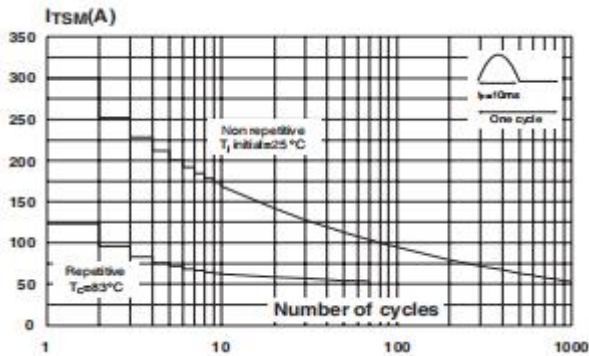


FIG.4: On-state characteristics (maximum values)

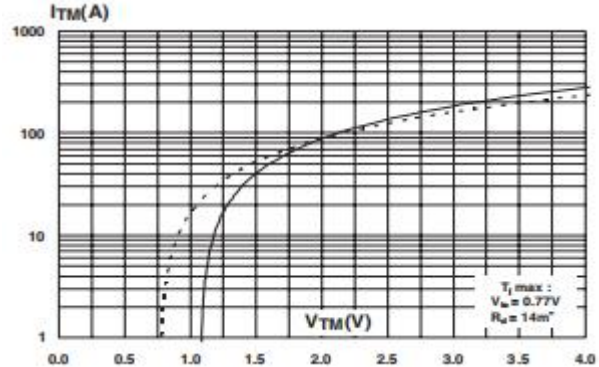


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of $I^2 t$ ($di/dt < 50A/\mu s$)

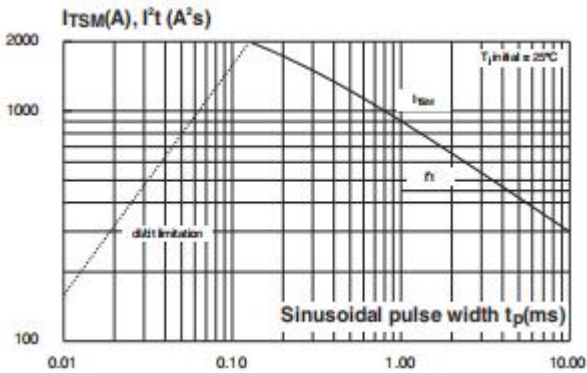


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

