

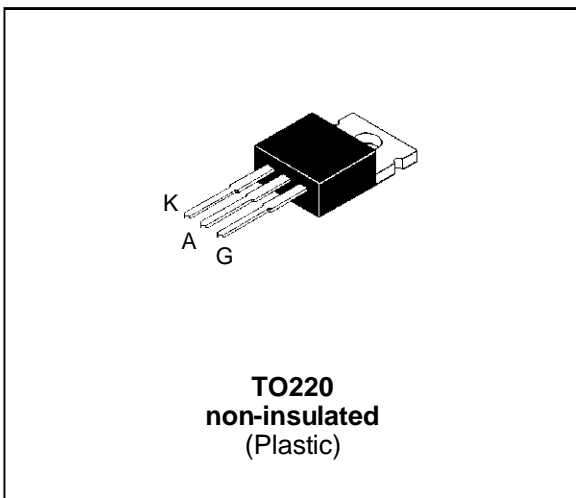
SENSITIVE GATE SCR

FEATURES

- $I_{T(RMS)} = 4A$
- $V_{DRM} = 200V$ to $800V$
- Low $I_{GT} < 200 \mu A$

DESCRIPTION

The S0402xH series of SCRs uses a high performance MESA GLASS PNP technology. These parts are intended for general purpose applications where low gate sensitivity is required.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)	$T_c = 110^\circ C$	4	A
$I_{T(AV)}$	Mean on-state current (180° conduction angle)	$T_c = 110^\circ C$	2.5	A
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = $25^\circ C$)	$t_p = 8.3$ ms	55	A
		$t_p = 10$ ms	50	
I_t^2	I_t^2 Value for fusing	$t_p = 10$ ms	12.5	A^2s
di/dt	Critical rate of rise of on-state current $I_G = 10$ mA $di_G/dt = 0.1$ A/ μs .		100	A/ μs
T_{stg} T_j	Storage and operating junction temperature range		- 40, + 150 - 40, + 125	$^\circ C$
TI	Maximum lead temperature for soldering during 10s at 4.5mm from case		260	$^\circ C$

Symbol	Parameter	Voltage				Unit
		B	D	M	N	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage $T_j = 125^\circ C$ $R_{GK} = 1K\Omega$	200	400	600	800	V

Fig.1 : Maximum average power dissipation versus average on-state current.

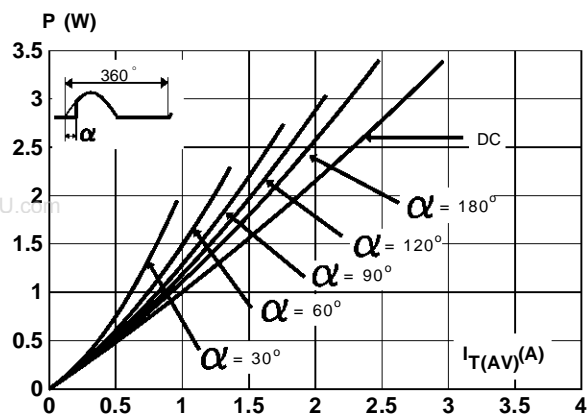


Fig.2 : Correlation between maximum average power dissipation and maximum allowable temperature (Tamb and Tcase) for different thermal resistances heatsink + contact.

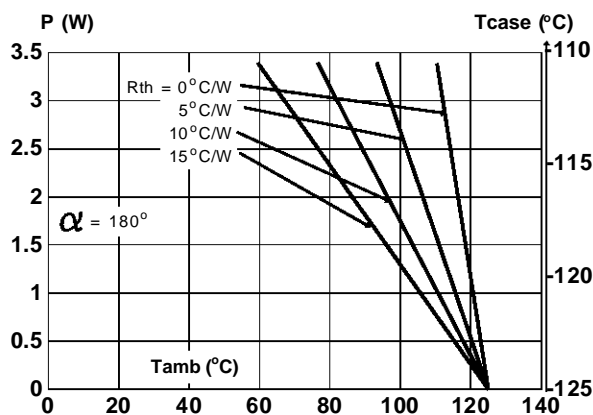


Fig.3 : Average on-state current versus case temperature.

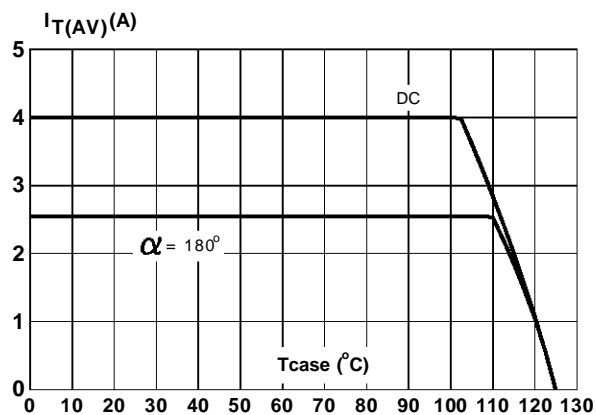


Fig.4 : Relative variation of thermal impedance versus pulse duration.

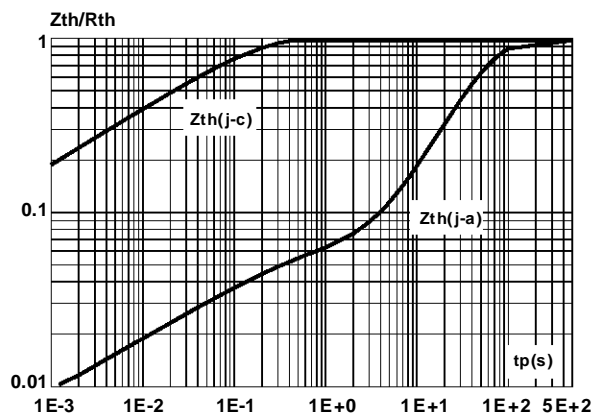


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature.

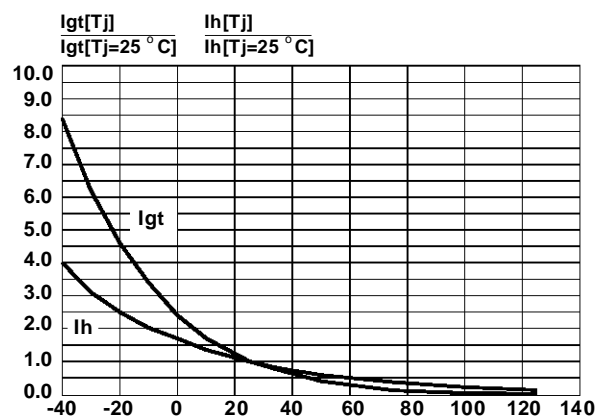
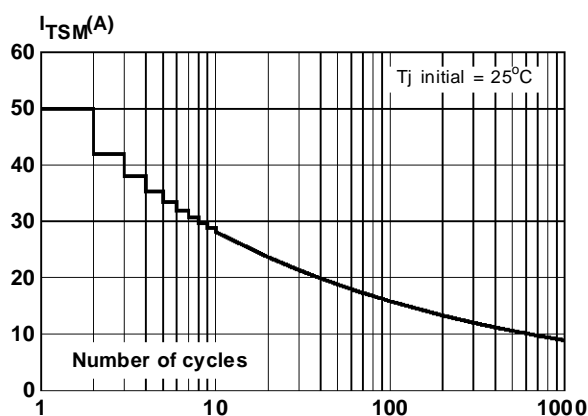


Fig.6 : Non repetitive surge peak on-state current versus number of cycles.



S0402xH

Fig.7 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t_p \leq 10\text{ms}$, and corresponding value of I^2t .

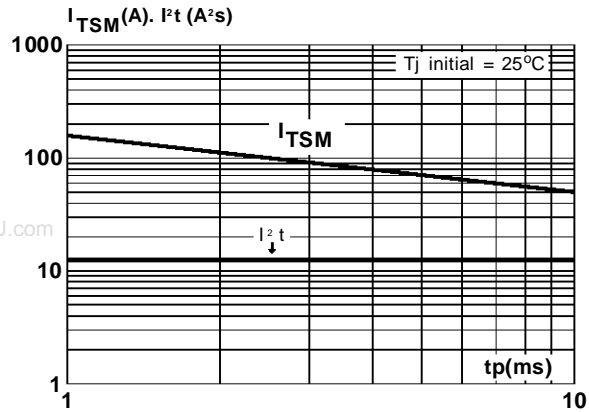
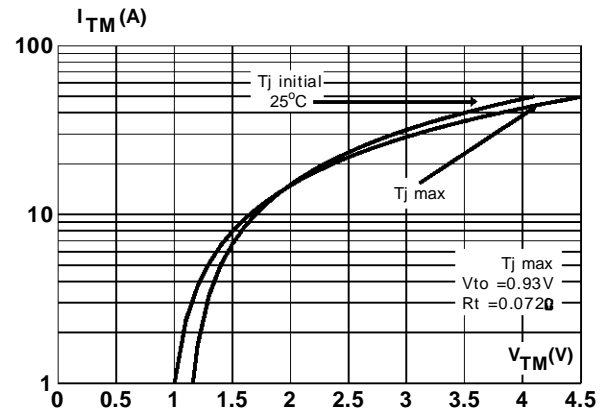


Fig.8 : On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA
TO220 Non-insulated (Plastic)

REF.	DIMENSIONS					
	Millimetres			Inches		
	Typ.	Min.	Max.	Typ.	Min.	Max.
A			10.3			0.406
B		6.3	6.5	0.248	0.256	
C			9.1			0.358
D		12.7			0.500	
F			4.2			0.165
G			3.0			0.118
H		4.5	4.7		0.177	0.185
I		3.53	3.66		0.139	0.144
J		1.2	1.3		0.047	0.051
L			0.9			0.035
M	2.7			0.106		
N			5.3			0.209
N1	2.54			0.100		
O		1.2	1.4		0.047	0.055
P			1.15			0.045

Marking : type number
Weight : 1.8 g

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