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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





P0130AA

SENSITIVE

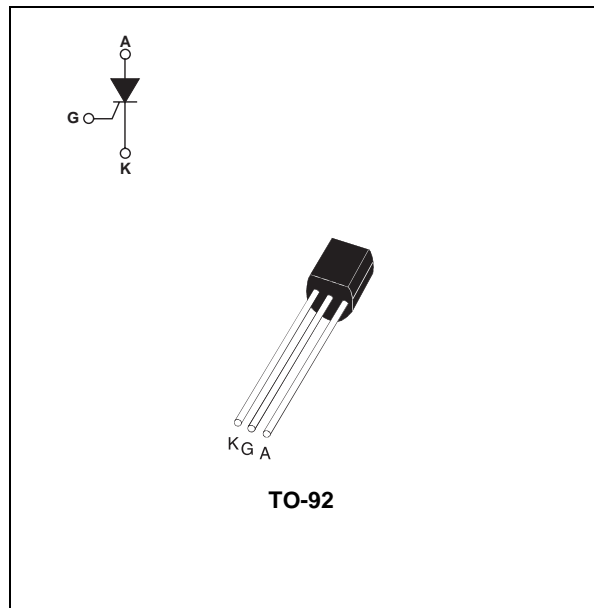
0.8A SCRs

MAIN FEATURES:

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
V_{DRM}/V_{RRM}	100	V
I_{GT}	1	μA

DESCRIPTION

The P0130AA is a gate sensitive SCR, packaged in TO-92, used in conjunction of a TN22 A.S.D™ and of a resistor in electronic starter for fluorescent tubelamps.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit	
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)		$T_I = 55^\circ C$ 0.8	A	
$I_{T(AV)}$	Average on-state current (180° conduction angle)		$T_I = 55^\circ C$ 0.5	A	
I_{TSM}	Non repetitive surge peak on-state current	$t_p = 8.3 \text{ ms}$	$T_j = 25^\circ C$	8	A
		$t_p = 10 \text{ ms}$		7	
I^2t	I^2t Value for fusing	$t_p = 10 \text{ ms}$	$T_j = 25^\circ C$	0.24	A^2s
di/dt	Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$, $t_r \leq 100 \text{ ns}$	$F = 60 \text{ Hz}$	$T_j = 125^\circ C$	50	$A/\mu s$
I_{GM}	Peak gate current	$t_p = 20 \mu s$	$T_j = 125^\circ C$	1	A
$P_{G(AV)}$	Average gate power dissipation		$T_j = 125^\circ C$	0.1	W
T_{stg} T_j	Storage junction temperature range Operating junction temperature range			- 40 to + 150 - 40 to + 125	$^\circ C$

P0130AA

ELECTRICAL CHARACTERISTICS (T_j = 25°C, unless otherwise specified)

Symbol	Test Conditions		P0130AA	Unit	
I _{GT}	V _D = 12 V R _L = 140 Ω	MIN.	0.1	μA	
		MAX.	1		
V _{GT}		MAX.	0.8	V	
V _{GD}	V _D = V _{DRM} R _L = 3.3 kΩ R _{GK} = 1 kΩ	T _j = 125°C	MIN.	0.1	V
V _{RG}	I _{RG} = 10 μA		MIN.	8	V
I _H	I _T = 50 mA R _{GK} = 1 kΩ		MAX.	5	mA
I _L	I _G = 1 mA R _{GK} = 1 kΩ		MAX.	6	mA
dV/dt	V _D = 67 % V _{DRM} R _{GK} = 1 kΩ	T _j = 125°C	MIN.	25	V/μs
V _{TM}	I _{TM} = 1.6 A t _p = 380 μs	T _j = 25°C	MAX.	1.95	V
V _{t0}	Threshold voltage	T _j = 125°C	MAX.	0.95	V
R _d	Dynamic resistance	T _j = 125°C	MAX.	600	mΩ
I _{DRM} I _{RRM}	V _{DRM} = V _{RDM} R _{GK} = 1 kΩ	T _j = 25°C	MAX.	1	μA
		T _j = 125°C	MAX.	100	

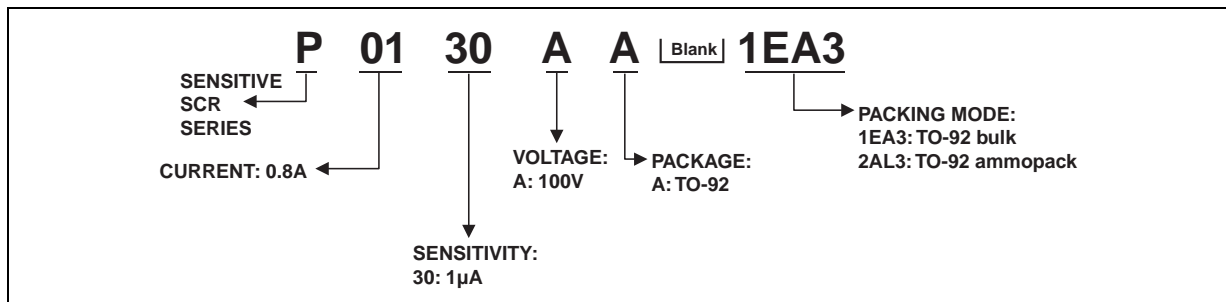
THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th(j-i)}	Junction to case (DC)	80	°C/W
R _{th(j-a)}	Junction to ambient (DC)	150	°C/W

PRODUCT SELECTOR

Part Number	Voltage	Sensitivity	Package
P0130AA	100V	1 μA	TO-92

ORDERING INFORMATION



OTHER INFORMATION

Part Number	Marking	Weight	Base Quantity	Packing mode
P0130AA 1EA3	P0130AA	0.2 g	2500	Bulk
P0130AA 2AL3	P0130AA	0.2 g	2000	Ampmpack

Note: xx = sensitivity, y = voltage

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

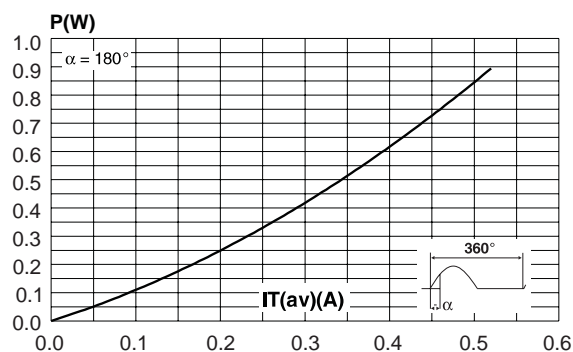


Fig. 2-2: Average and D.C. on-state current versus ambient temperature.

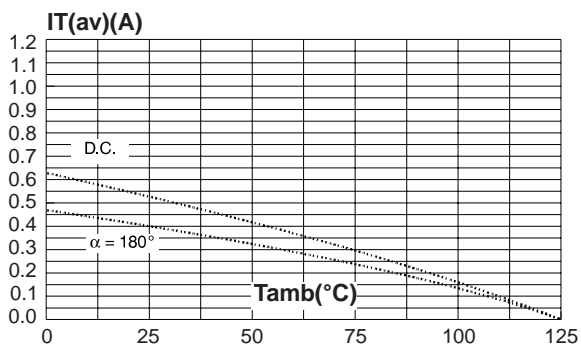


Fig. 2-1: Average and D.C. on-state current versus lead temperature.

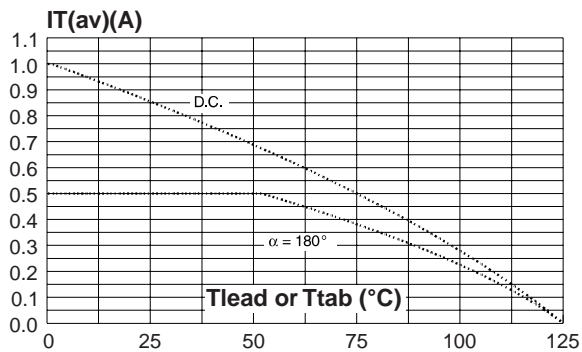


Fig. 3: Relative variation of thermal impedance junction to ambient versus pulse duration.

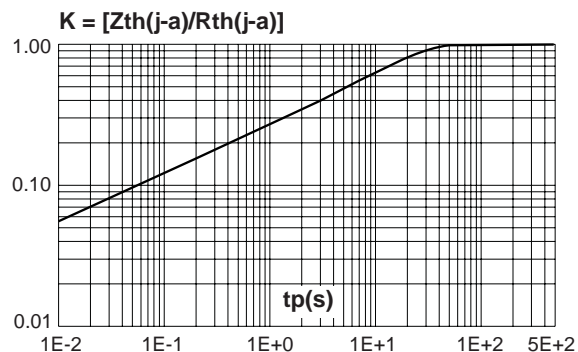


Fig. 4: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

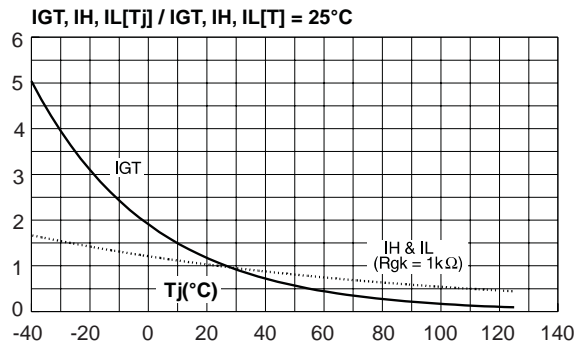


Fig. 6: Relative variation of dV/dt immunity versus gate-cathode resistance (typical values).

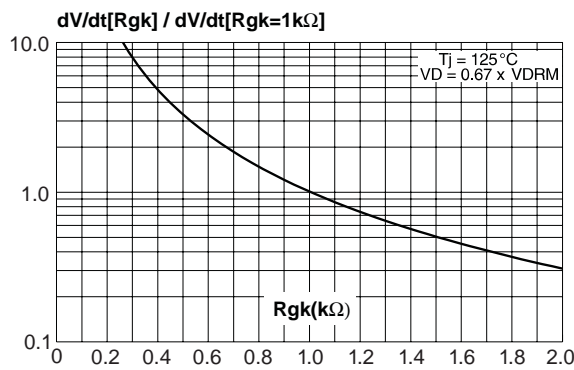


Fig. 8: Surge peak on-state current versus number of cycles.

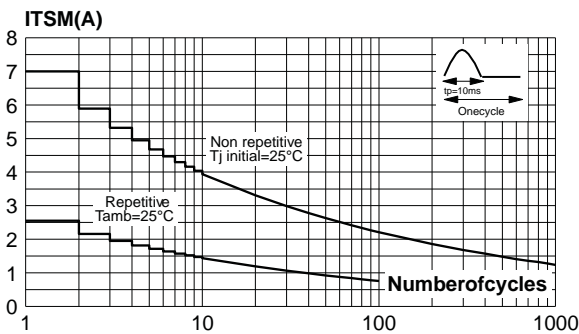


Fig. 5: Relative variation of holding current versus gate-cathode resistance (typical values).

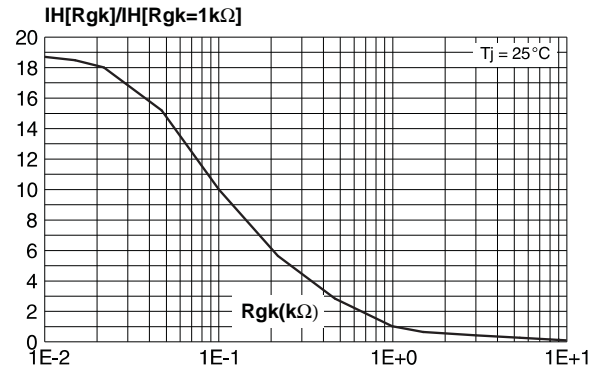


Fig. 7: Relative variation of dV/dt immunity versus gate-cathode capacitance (typical values).

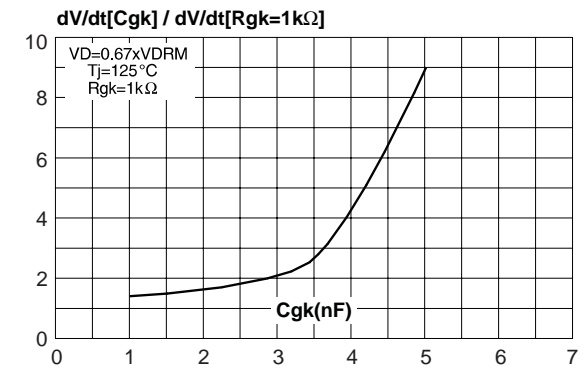


Fig. 9: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10$ ms, and corresponding value of I^2t .

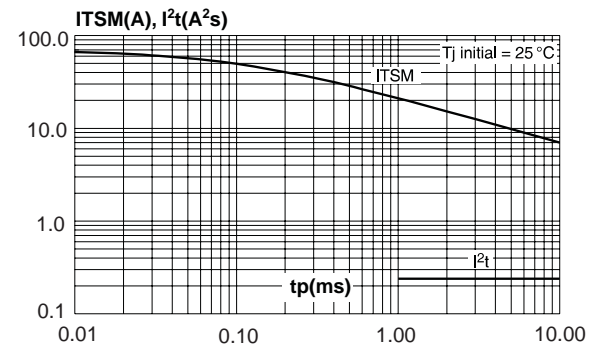
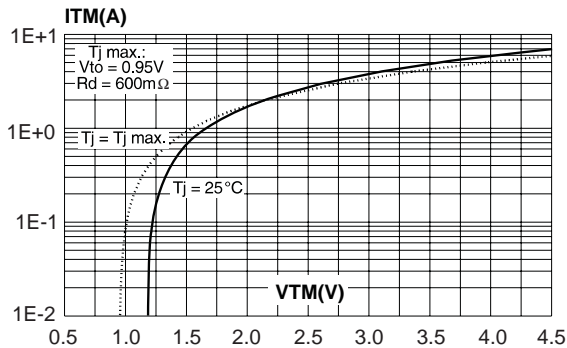
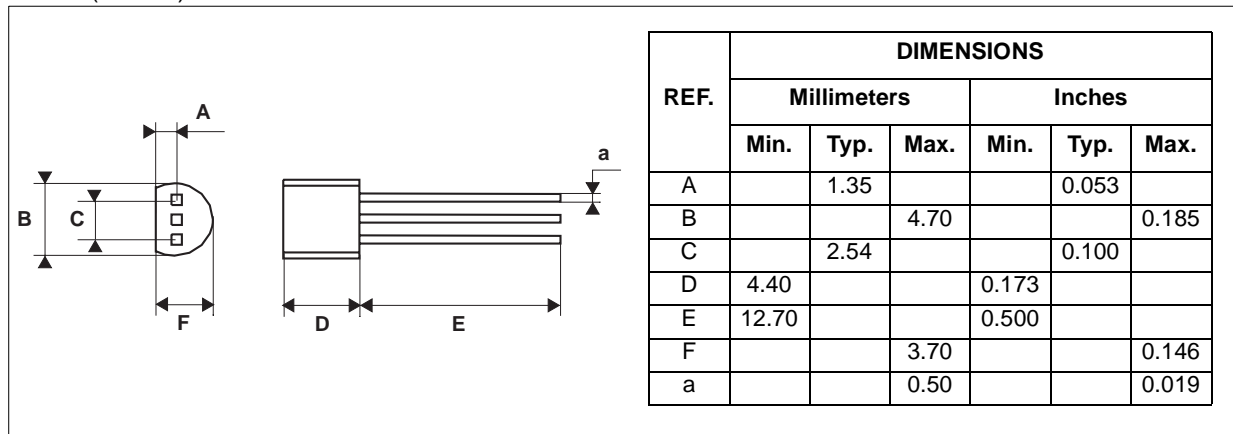


Fig. 10: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA

TO-92 (Plastic)



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