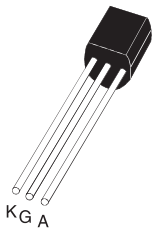
P0130AA

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



TO-92

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)		Tl = 55°C	0.8	A
$IT_{(AV)}$	Average on-state current (180° conduction angle)		Tl = 55°C	0.5	A
I_{TSM}	Non repetitive surge peak on-state current	tp = 8.3 ms	Tj = 25°C	8	A
		tp = 10 ms		7	
I^2t	I^2t Value for fusing	tp = 10ms	Tj = 25°C	0.24	A^2S
dI/dt	Critical rate of rise of on-state current I_G = 2 x I_{GT} , tr ≤ 100 ns	F = 60 Hz	Tj = 125°C	50	A/µs
I_{GM}	Peak gate current	tp = 20 µs	Tj = 125°C	1	A
$P_{G(AV)}$	Average gate power dissipation		Tj = 125°C	0.1	W
T_{stg} Tj	Storage junction temperature range Operating junction temperature range			- 40 to + 150 - 40 to + 125	°C

ELECTRICAL CHARACTERISTICS (Tj = 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	Tj = 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	Tj = 125°C	MIN.	25	V/µs
V_{TM}	I_{TM} = 1.6 A tp = 380 µs	Tj = 25°C	MAX.	1.95	V
V_{t0}	Threshold voltage	Tj = 125°C	MAX.	0.95	V
R_d	Dynamic resistance	Tj = 125°C	MAX.	600	mΩ
I_{DRM}	$V_{DRM} = V_{RRM}$ R_{GK} = 1 kΩ	Tj = 25°C	MAX.	1	µA
I_{RRM}		Tj = 125°C	MAX.	100	

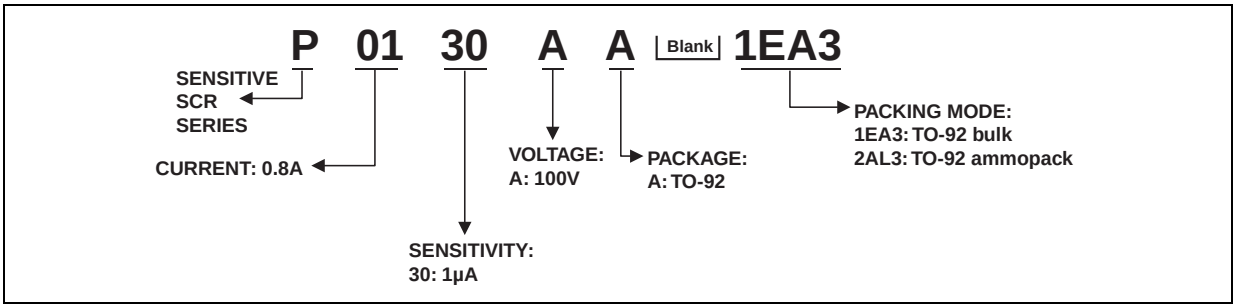
THERMAL RESISTANCES

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	Ammopack

Note: xx = sensitivity, y = voltage

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

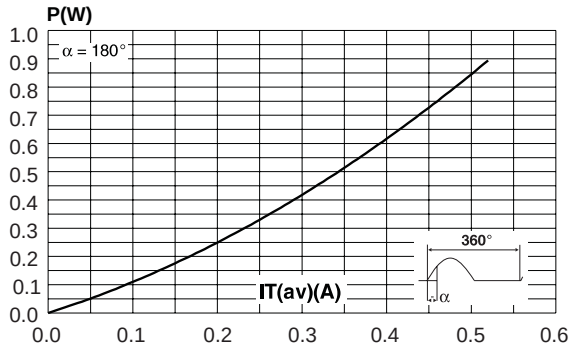


Fig. 2-1: Average and D.C. on-state current versus lead temperature.

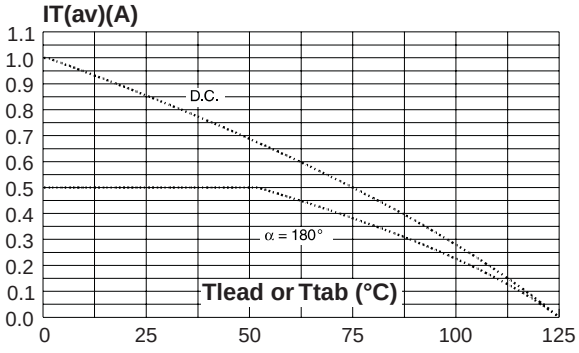


Fig. 2-2: Average and D.C. on-state current versus ambient temperature.

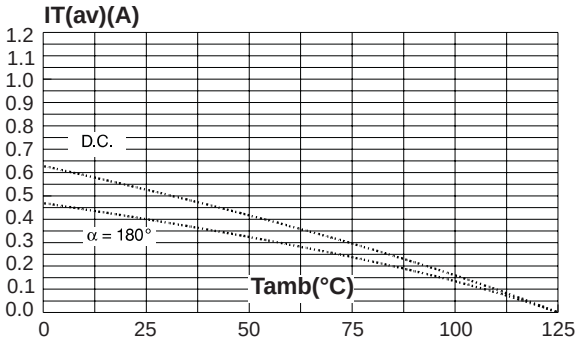


Fig. 3: Relative variation of thermal impedance junction to ambient versus pulse duration.

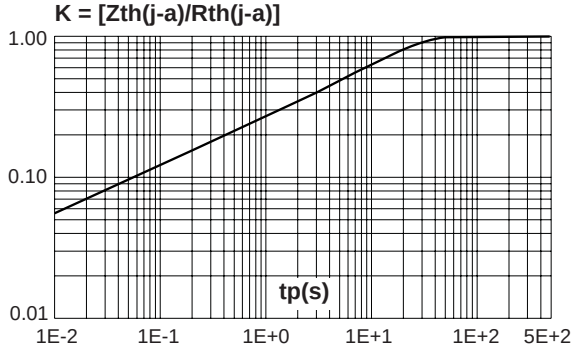


Fig. 4: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

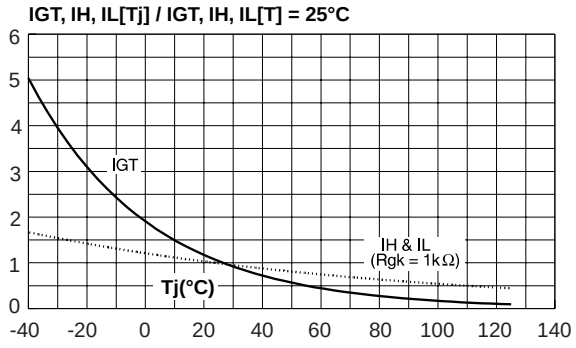


Fig. 5: Relative variation of holding current versus gate-cathode resistance (typical values).

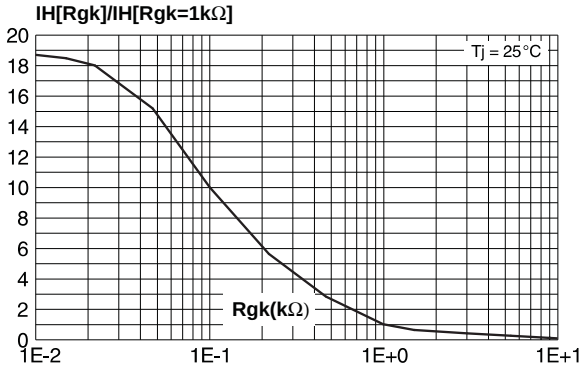


Fig. 6: Relative variation of dV/dt immunity versus gate-cathode resistance (typical values).

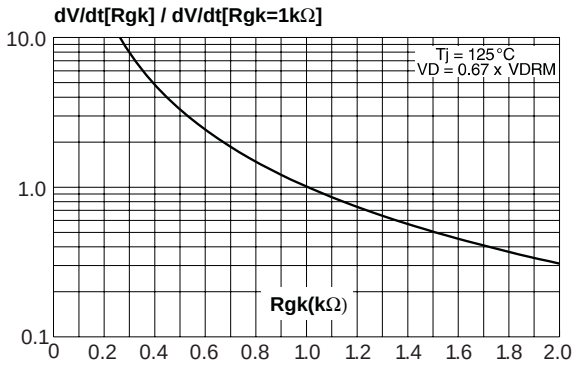


Fig. 7: Relative variation of dV/dt immunity versus gate-cathode capacitance (typical values).

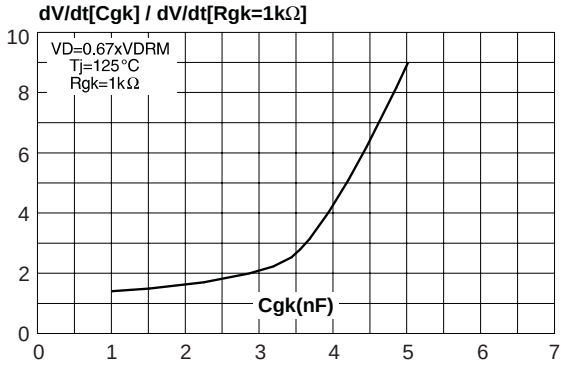


Fig. 8: Surge peak on-state current versus number of cycles.

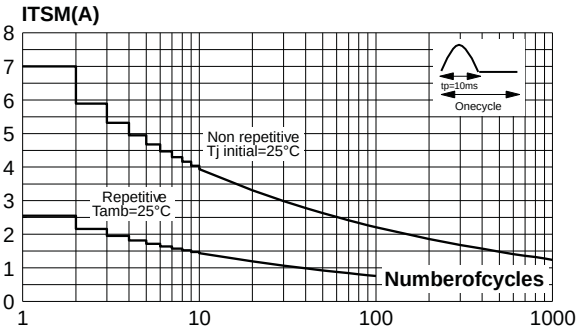


Fig. 9: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding value of I^2t.

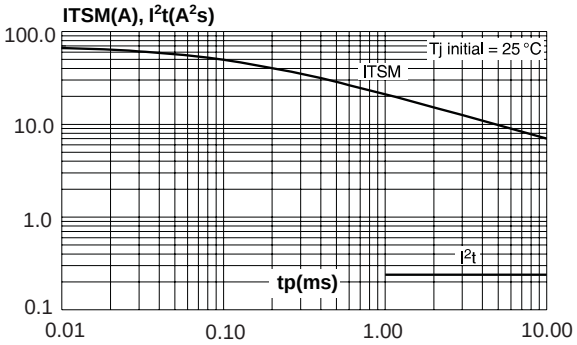
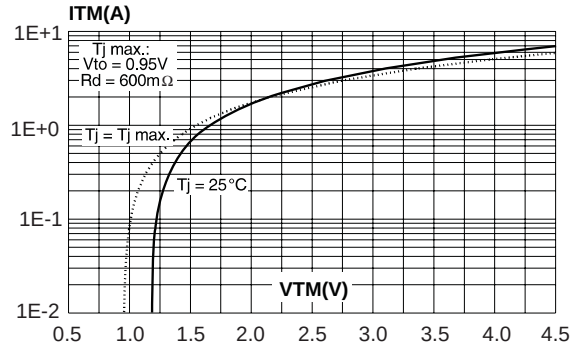
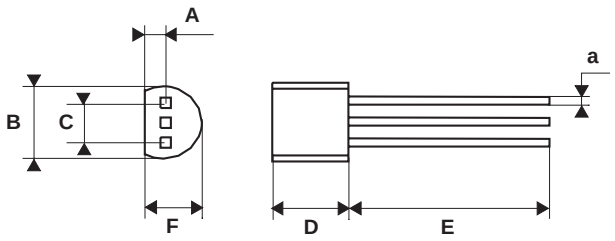


Fig. 10: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA

TO-92 (Plastic)



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		1.35			0.053	
B			4.70			0.185
C		2.54			0.100	
D	4.40			0.173		
E	12.70			0.500		
F			3.70			0.146
a			0.50			0.019