

P01xxxA/B

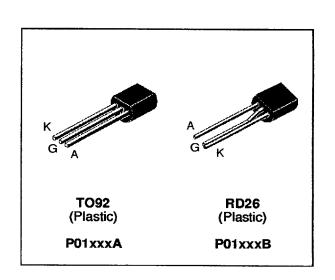
SENSITIVE GATE SCR

FEATURES

- IT(RMS) = 0.8A
- V_{DRM} = 100V to 400V
- Low I_{GT} < 1µA max to < 200µA

DESCRIPTION

The P01xxxA/B series of SCRs uses a high performance planar PNPN 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)	TI= 55°C	0.8	А
I _{T(AV)}	Mean on-state current (180° conduction angle)	TI= 55°C	0.5	А
ITSM	Non repetitive surge peak on-state current	tp = 8.3 ms	8	Α
	(T _j initial = 25°C)	tp = 10 ms	7	
l ² t	l ² t Value for fusing	tp = 10 ms	0.24	A ² s
dl/dt	Critical rate of rise of on-state current $k_0 = 10 \text{ mA}$ dig/dt = 0.1 A/ μ s.		30	A/μs
T _{stg} T _j	Storage and operating junction temperature	- 40, +150 - 40, +125	°C	
TI	Maximum lead temperature for soldering dur 2mm from case	260	°C	

Symbol	Parameter		Unit			
		Α	В	С	D	Oilit
V _{DRM} V _{RRM}	Repetitive peak off-state voltage $T_j = 125^{\circ}C$ $R_{GK} = 1K\Omega$	100	200	300	400	٧

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THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth(j-a)	Junction to ambient	150	•C\W
Rth(j-l)	Junction to leads for DC	80	°C/W

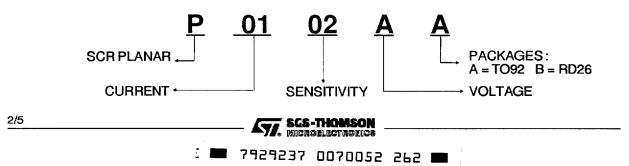
GATE CHARACTERISTICS (maximum values)

 $P_{G (AV)} = 0.1 \text{ W}$ $P_{GM} = 2 \text{ W (tp} = 20 \,\mu\text{s)}$ $I_{GM} = 1 \text{ A (tp} = 20 \,\mu\text{s)}$

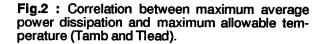
ELECTRICAL CHARACTERISTICS

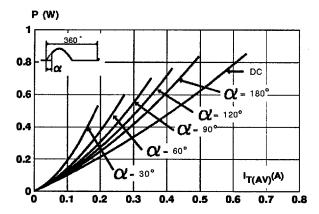
Symbol	Test Conditions				Unit				
Symbol				02	09	11	15	18	Onne
lат	V _D =12V (DC) R _L =140Ω	Tj= 25°C	MIN			4	15	0.5	μΑ
			MAX	200	1	25	50	5	
V _{GT}	V _D =12V (DC) R _L =140Ω	Tj= 25°C	MAX	0.8					٧
V _{GD}	$V_D=V_{DRM}$ R _L =3.3kΩ R _{GK} = 1 KΩ	Tj= 125°C	MIN	0.1					٧
V _{RGM}	I _{RG} =10μA	Tj= 25°C	MIN	8					٧
tgd	V _D =V _{DRM} I _{TM} = 3 x I _{T(AV)} dI _G /dt = 0.1A/µs I _G = 10mA	Tj= 25°C	TYP	0.5					μs
lн	h= 50mA R _{GK} = 1 KΩ	Tj= 25°C	MAX	5					mA
lլ	l _G =1mA R _{GK} = 1 KΩ	Tj= 25°C	MAX	6				mA	
V _{TM}	I _{TM} = 1.6A tp= 380μs	Tj= 25°C	MAX	1.93					٧
DRM	VD = VDRM RGK = 1 KΩ	Tj= 25°C	MAX	1					μΑ
IRRM	$V_R = V_{RRM}$	Tj= 125°C	MAX	100					μΑ
dV/dt	VD=67%VDRM RGK = 1 KΩ	Tj= 125°C	MIN	25	25	50	100	30	V/µs
tq	I _{TM} = 3 x I _{T(AV)} V _R =35V dI/dt=10A/μs tp=100μs dV/dt=10V/μs V _D = 67%V _{DRM} R _{GK} = 1 KΩ	Tj= 125°C	MAX			200			μs

ORDERING INFORMATION



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

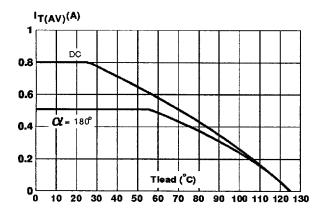




P (W) Tlead (℃) Rth(j-l) 0.8 -65 Rth(j-a) 0.6 -85 0.4 105 0.2 Tamb (°C) 0 L 40 60 20 80 100 120

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

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



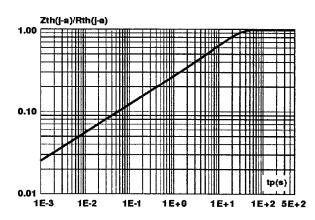
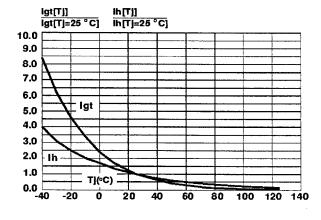
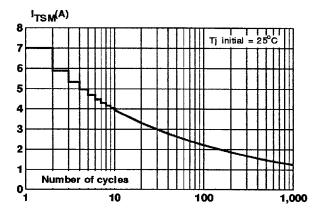


Fig.5: Relative variation of gate trigger current and holding current versus junction temperature.

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



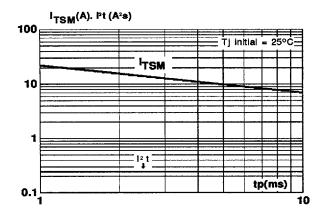


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Fig.7: Non repetitive surge peak on-state current for a sinusoidal pulse with width: $tp \le 10$ ms, and corresponding value of l^2t .





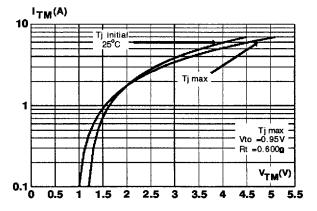
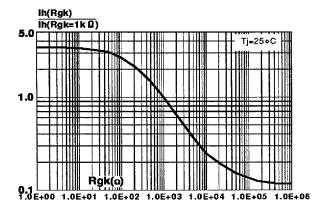
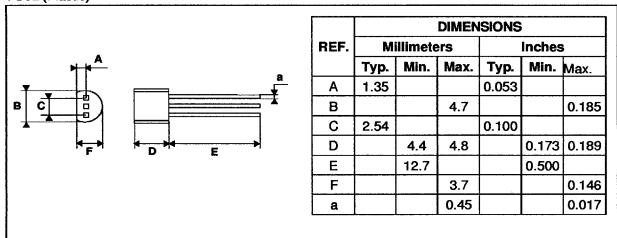


Fig.9: Relative variation of holding current versus gate-cathode resistance (typical values).



PACKAGE MECHANICAL DATA

TO92 (Plastic)

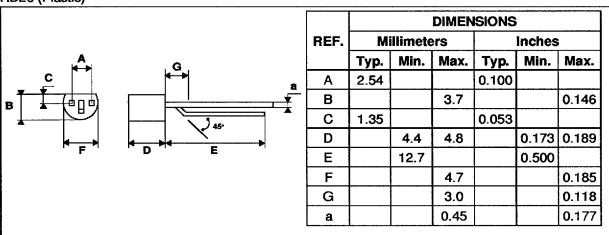


Marking: type number

Weight: 0.2 g

PACKAGE MECHANICAL DATA

RD26 (Plastic)



Marking: type number

Weight: 0.2 g

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