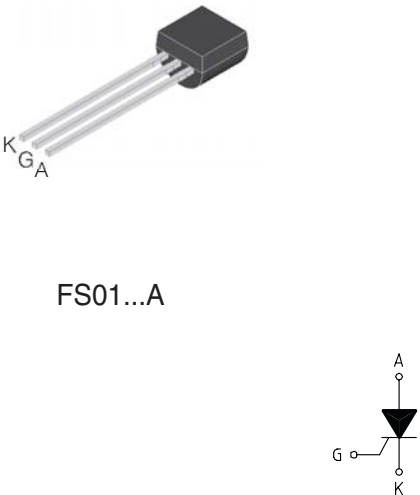


SENSITIVE GATE SCR

TO92 (Plastic)  FS01...A	<table> <tr> <td> On-State Current 0.8 Amp </td><td> Gate Trigger Current < 200 μA </td></tr> <tr> <td colspan="2"> Off-State Voltage 200 V to 800 V </td></tr> </table> This series of Silicon Controlled Rectifiers uses a high performance PNP technology. This part is intended for general purpose applications where high gate sensitivity is required.	On-State Current 0.8 Amp	Gate Trigger Current < 200 μ A	Off-State Voltage 200 V to 800 V	
On-State Current 0.8 Amp	Gate Trigger Current < 200 μ A				
Off-State Voltage 200 V to 800 V					

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Value	Unit
$I_{T(RMS)}$	On-state Current	180° Conduction Angle, $T_c = 115^\circ\text{C}$	0.8	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $\Theta = 180^\circ$, $T_c = 115^\circ\text{C}$	0.5	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz	8	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz	7	A
I^2t	Fusing Current	$t_p = 10\text{ms}$, Half Cycle	0.24	A^2s
I_{GM}	Peak Gate Current	20 μs max.	1	A
P_{GM}	Peak Gate Dissipation	20 μs max.	2	W
$P_{G(AV)}$	Gate Dissipation	20 μs max.	0.1	W
T_j	Operating Temperature		(-40 to + 125)	$^\circ\text{C}$
T_{stg}	Storage Temperature		(-40 to + 150)	$^\circ\text{C}$
T_{sld}	Soldering Temperature	10s max.	260	$^\circ\text{C}$

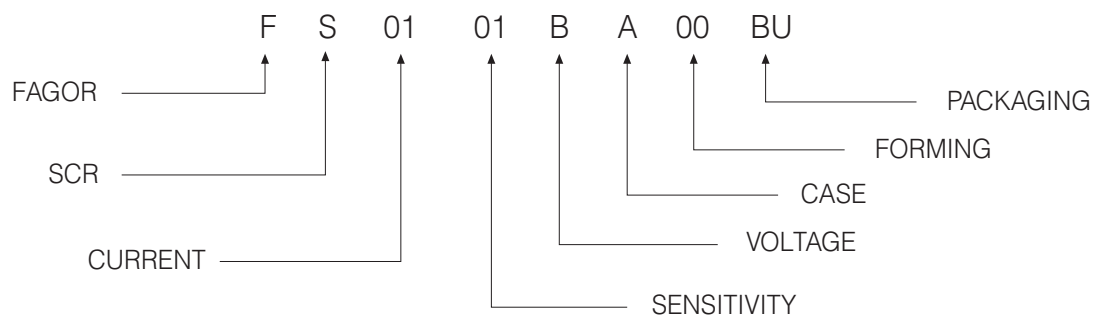
SYMBOL	PARAMETER	CONDITIONS	VOLTAGE				Unit
			B	D	M	N	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	$R_{GK} = 1\text{ k}\Omega$	200	400	600	800	V

SENSITIVE GATE SCR

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS		SENSITIVITY					Unit
				01	02	03	04	18	
I _{GT}	Gate Trigger Current	V _D = 12 V _{DC} , R _L = 140Ω, T _j = 25 °C	MIN	1		20	15	0.5	μA
			MAX	20	200	200	50	5	
V _{GT}	Gate Trigger Voltage	V _D = 12 V _{DC} , R _L = 140Ω, T _j = 25 °C	MAX	0.8					V
V _{GD}	Gate Non Trigger Voltage	V _D = V _{DRM} , R _L = 3.3kΩ, R _{GK} = 220Ω T _j = 125 °C	MIN	0.1					V
V _{RGM}	Reverse Gate Voltage	I _{RG} = 10μA,	MIN	8					V
I _H	Holding Current	I _T = 50 mA, R _{GK} = 1kΩ, T _j = 25 °C	MAX	5					mA
I _L	Latching Current	I _G = 1 mA, R _{GK} = 1 kΩ	MAX	6					mA
dV / dt	Critical Rate of Voltage Rise	V _D = 0.67 x V _{DRM} , R _{GK} = 1 kΩ, T _j = 125 °C	MIN	80	75	20	15	80	V/μs
dI / dt	Critical Rate of Current Rise	I _G = 2 x I _{GT} , tr ≤ 100 ns, f = 60 Hz, T _j = 125 °C	MIN	50					A/μs
V _{TM}	On-state Voltage	at I _T = 1.6 Amp, tp = 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}	Off-State Leakage Current	V _D = V _{DRM} , R _{GK} = 1kΩ, T _j = 125 °C	MAX	100					μ A
		V _R = V _{RRM} , T _j = 25 °C	MAX	1					μ A
R _{th(j-c)}	Thermal Resistance Junction-Amb for DC	for AC 360° conduction angle		80					°C/W
R _{th(j-a)}	Thermal Resistance Junction-Amb for DC	S = 1cm ²		150					°C/W

PART NUMBER INFORMATION



SENSITIVE GATE SCR

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

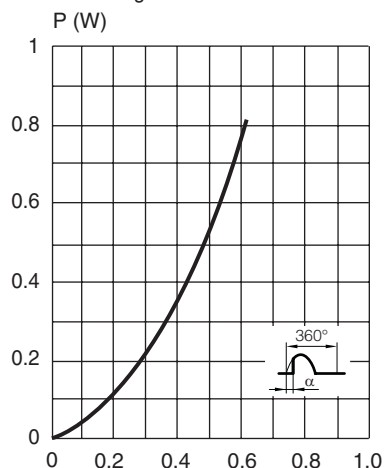


Fig. 2: Average and D.C. on-state current versus case temperature

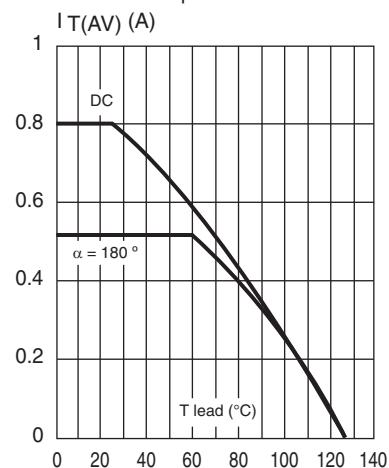


Fig. 3: Relative variation of thermal impedance junction to case versus pulse duration

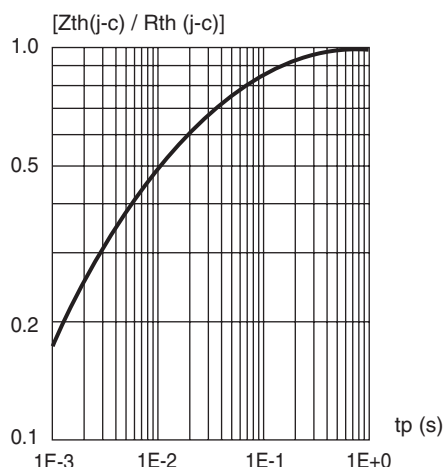


Fig. 4: Relative variation of gate trigger current, holding and latching current versus junction temperature

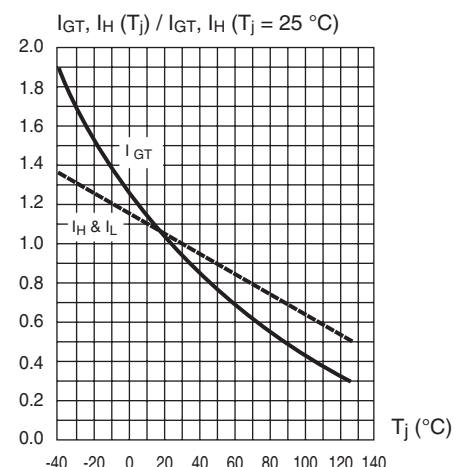


Fig. 5: Relative variation of holding current versus gate-cathode resistance (typical values).

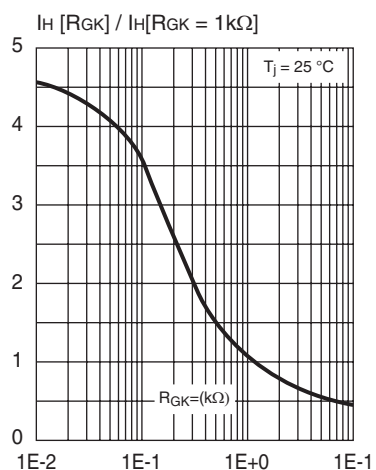
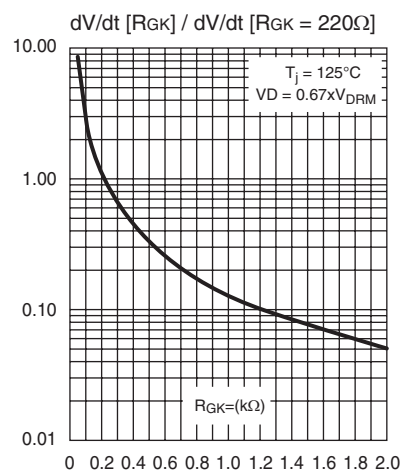


Fig. 6: Relative variation of dV/dt immunity versus gate-cathode resistance (typical values).



SENSITIVE GATE SCR

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

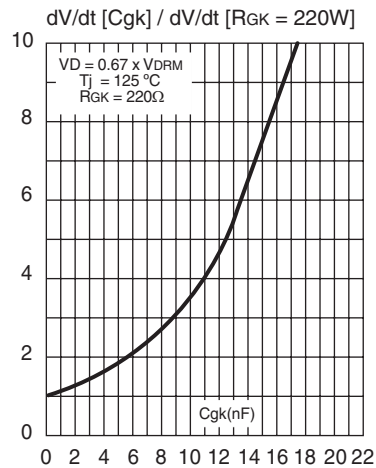


Fig. 8: Non repetitive surge peak on-state current versus number of cycles.

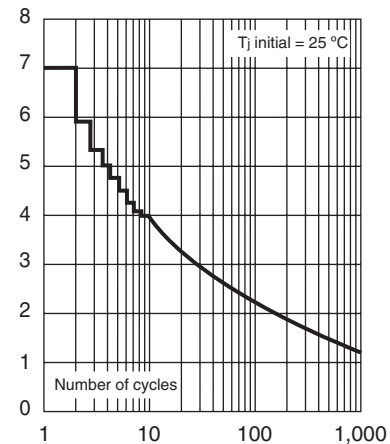


Fig. 9: Non repetitive surge peak on-state current for a sinusoidal pulse with width: $t_p < 10 \text{ ms}$, and corresponding value of I^2t .

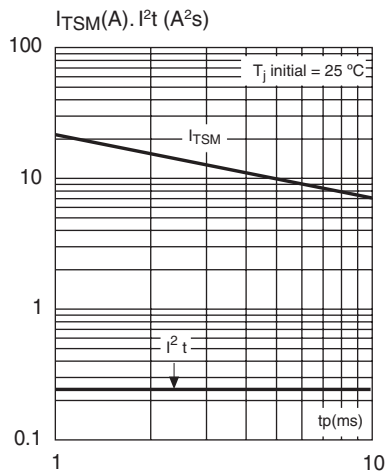
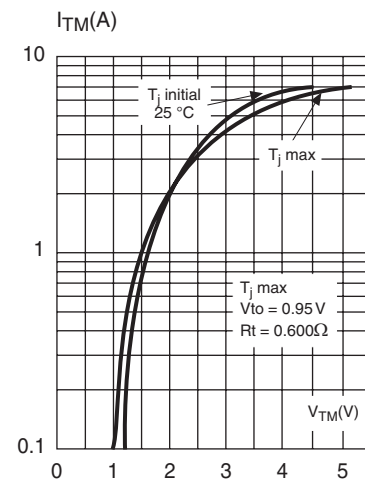
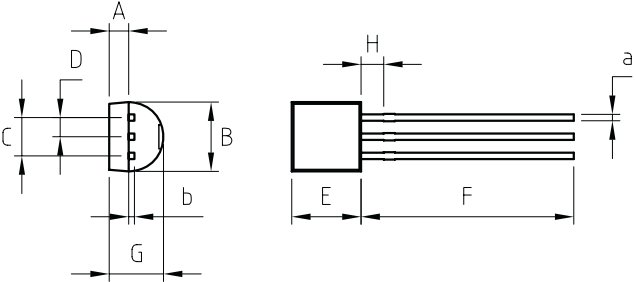


Fig. 10: On-state characteristics (maximum values)



SENSITIVE GATE SCR

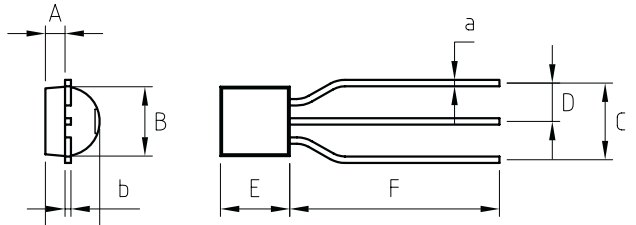
PACKAGE MECHANICAL DATA **TO92**



REF.	DIMENSIONS		
	Milimeters		
	Min.	Typ.	Max.
A	0.90	1.20	1.50
B	4.40	4.60	4.80
C	2.34	2.54	2.74
D	1.07	1.27	1.47
E	4.40	4.60	4.80
F	12.70	14.10	15.50
G	3.40	3.60	3.86
H	1.30	1.50	1.70
a	0.38	0.44	0.51
	0.33	0.41	0.51

Marking: type number
Weight: 0.2 g

PACKAGE MECHANICAL DATA **TO92 (FOR TAPE & REEL)**



REF.	DIMENSIONS		
	Milimeters		
	Min.	Typ.	Max.
A	0.90	1.20	1.50
B	4.40	4.60	4.80
C	4.96	5.08	5.20
D	2.42	2.54	2.66
E	4.40	4.60	4.80
F	12.70	14.10	15.50
G	3.40	3.60	3.86
a	0.38	0.44	0.51
b	0.33	0.41	0.51

Marking: type number
Weight: 0.2 g