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semiconductors :: product :: [Sensitive Gate SCRs](#)

Product: Sensitive Gate SCRs

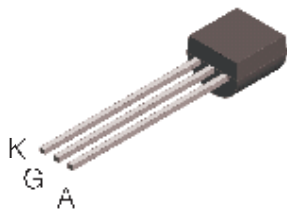
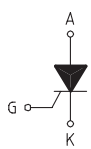
Sensitive Gate SCRs are easy to drive thanks to their very low gate current triggering.

This high gate sensitivity allows direct triggering from outputs of low power microcontrollers or logic IC, simplifying drive circuit design and reducing component and assembly cost.

They are suitable for low power applications where low consumption is mandatory.

Product	Family	$I_{T(RMS)}$	V_{RRM}/V_{DRM} (V)	I_{TSM} (A)	$I_{GT\ min}$ (μA)	$I_{GT\ min}$ (mA)	$I_{GT\ max}$ (μA)	$I_{GT\ max}$ (mA)	$dv/dt_{(min)}$ V/ μs	PACKAGE
FS0102DA	FS01A(SeG)	0.8	400	7	-		200		75	TO92

SENSITIVE GATE SCR

<p style="text-align: center;">TO92 (Plastic)</p>  <p style="text-align: center;">FS01...A</p> 	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">On-State Current 0.8 Amp</td> <td style="width: 50%; text-align: center;">Gate Trigger Current < 200 μA</td> </tr> <tr> <td colspan="2" style="text-align: center;">Off-State Voltage 200 V ÷ 600 V</td> </tr> </table> <p>This series of Silicon Controlled Rectifiers uses a high performance PNPN technology.</p> <p>This part is intended for general purpose applications where high gate sensitivity is required.</p>	On-State Current 0.8 Amp	Gate Trigger Current < 200 μ A	Off-State Voltage 200 V ÷ 600 V	
On-State Current 0.8 Amp	Gate Trigger Current < 200 μ A				
Off-State Voltage 200 V ÷ 600 V					

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Value	Unit
$I_{T(RMS)}$	On-state Current	180° Conduction Angle, $T_c = 115\text{ }^\circ\text{C}$	0.8	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $\Theta = 180^\circ$, $T_c = 115\text{ }^\circ\text{C}$	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 ² s
I_{GM}	Peak Gate Current	20 μ s max.	1	A
P_{GM}	Peak Gate Dissipation	20 μ s max.	2	W
$P_{G(AV)}$	Gate Dissipation	20ms 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	$^\circ\text{C}$

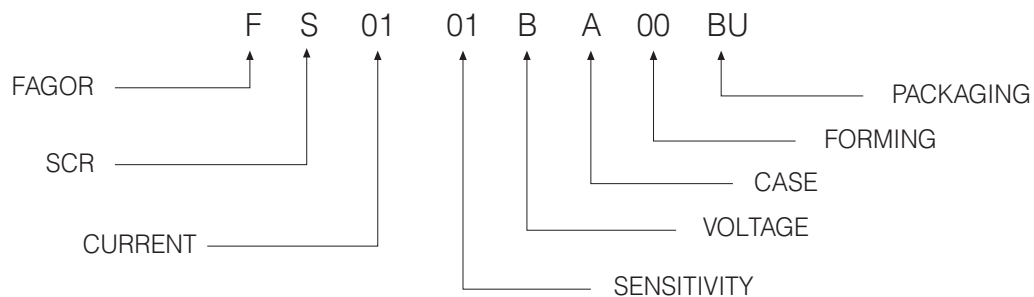
SYMBOL	PARAMETER	CONDITIONS	VOLTAGE			Unit
			B	D	M	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	$R_{GK} = 1\text{ k}\Omega$	200	400	600	V

SENSITIVE GATE SCR

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	SENSITIVITY						Uni	
			01	02	03	04	18	11		
I_{GT}	Gate Trigger Current	$V_D = 12 V_{DC}, R_L = 140\Omega, T_j = 25^\circ C$	MIN	1		20	15	0.5	4	μA
			MAX	20	200	200	50	5	25	
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}, R_L = 140\Omega, T_j = 25^\circ C$	MAX	0.8						V
V_{GD}	Gate Non Trigger Voltage	$V_D = V_{DRM}, R_L = 3.3k\Omega, R_{GK} = 220\Omega, T_j = 125^\circ C$	MIN	0.1						V
V_{RGM}	Reverse Gate Voltage	$I_{RG} = 10\mu A,$	MIN	8						V
I_H	Holding Current	$I_T = 50 mA, R_{GK} = 1k\Omega, T_j = 25^\circ C$	MAX	5						mA
I_L	Latching Current	$I_G = 1 mA, R_{GK} = 1k\Omega$	MAX	6						mA
dV / dt	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}, R_{GK} = 1k\Omega, T_j = 125^\circ C$	MIN	80	75	20	15	80	75	V/ μs
dI / dt	Critical Rate of Current Rise	$I_G = 2 \times I_{GT}, tr \leq 100 ns, f = 60 Hz, T_j = 125^\circ C$	MIN	50						A/ μs
V_{TM}	On-state Voltage	at $I_T = 1.6 Amp, tp = 380 \mu s, T_j = 25^\circ C$	MAX	1.95						V
V_{t0}	Threshold Voltage	$T_j = 125^\circ C$	MAX	0.95						V
r_d	Dynamic resistance	$T_j = 125^\circ C$	MAX	600						m Ω
I_{DRM} / I_{RRM}	Off-State Leakage Current	$V_D = V_{DRM}, R_{GK} = 1k\Omega, T_j = 125^\circ C$ $V_R = V_{RRM}, T_j = 25^\circ C$	MAX	100						μA
			MAX	1						μA
$R_{th(j-c)}$	Thermal Resistance Junction-Case for DC	for AC 360° conduction angle		80						$^\circ C/W$
$R_{th(j-a)}$	Thermal Resistance Junction-Amb for DC	$S = 1cm^2$		150						$^\circ C/W$

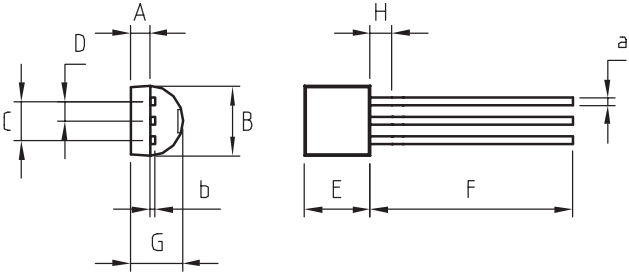
PART NUMBER INFORMATION



SENSITIVE GATE SCR

PACKAGE MECHANICAL DATA

TO92

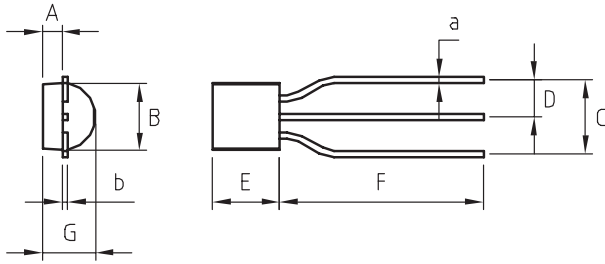


REF.	DIMENSIONS		
	Milimeters		
	Min.	Typ.	Max.
A	0.9	1.2	1.5
B	4.40	4.6	4.80
C	2.34	2.54	2.74
D	1.07	1.27	1.47
E	4.40	4.6	4.80
F	12.7	14.1	15.5
G	3.40	3.6	3.86
H	1.30	1.5	1.70
a	0.38	0.44	0.51
b	0.33	0.41	0.51

Marking: type number
Weight: 0.2 g

PACKAGE MECHANICAL DATA

TO92 (FOR TAPE & REEL)



REF.	DIMENSIONS		
	Milimeters		
	Min.	Typ.	Max.
A	-	1.5	-
B	4.55	4.6	4.65
C	4.96	5.08	5.2
D	2.42	2.54	2.66
E	4.55	4.6	4.65
F	12.7	14.1	15.5
G	3.55	3.6	3.65
a	0.38	0.43	0.48
b	0.33	0.38	0.43

Marking: type number
Weight: 0.2 g