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Product: Sensitive Gate SCRs

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

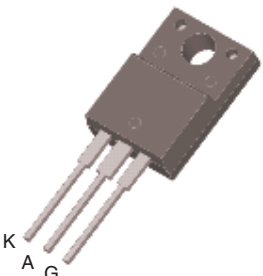
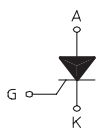
This high gate sensitivity allows direct triggering from outputs of low power microcontrollers or logic IC, simplifying drive circuit design and reducing component and assembly cost.

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)	$I_{GT\ min}$ (μ A)	$I_{GT\ min}$ (mA)	$I_{GT\ max}$ (μ A)	$I_{GT\ max}$ (mA)	$dv/dt(min)$ V/ μ s	PACKAGE
FS0802DW	FS08W (SeG)	8	400	75	-		200		5	TO220F



SENSITIVE GATE SCR

<p style="text-align: center;">TO220-F (FULLY ISOLATED CASE)</p>  <p style="text-align: center;">  </p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">On-State Current</td> <td style="text-align: center;">Gate Trigger Current</td> </tr> <tr> <td style="text-align: center;">8 Amp</td> <td style="text-align: center;">< 200 μA</td> </tr> <tr> <td colspan="2" style="text-align: center;">Off-State Voltage</td> </tr> <tr> <td colspan="2" style="text-align: center;">200 V \div 800 V</td> </tr> </table> <p>These series of Silicon Controlled Rectifier use a high performance PNP technology.</p> <p>These parts are intended for general purpose applications where high gate sensitivity is required.</p>	On-State Current	Gate Trigger Current	8 Amp	< 200 μ A	Off-State Voltage		200 V \div 800 V	
On-State Current	Gate Trigger Current								
8 Amp	< 200 μ A								
Off-State Voltage									
200 V \div 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, $T_c = 110\text{ }^\circ\text{C}$	8	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $\Theta = 180^\circ$, $T_c = 110\text{ }^\circ\text{C}$	5	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz	82	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz	75	A
I^2t	Fusing Current	$t_p = 10\text{ms}$, Half Cycle	28	A ² s
I_{GM}	Peak Gate Current	20 μ s max.	4	A
P_{GM}	Peak Gate Dissipation	20 μ s max.	5	W
$P_{G(AV)}$	Gate Dissipation	20ms max.	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	$^\circ\text{C}$
V_{iso}	R.M.S. isolation voltage 50/60 Hz sinusoidal waveform		2.500	Vac

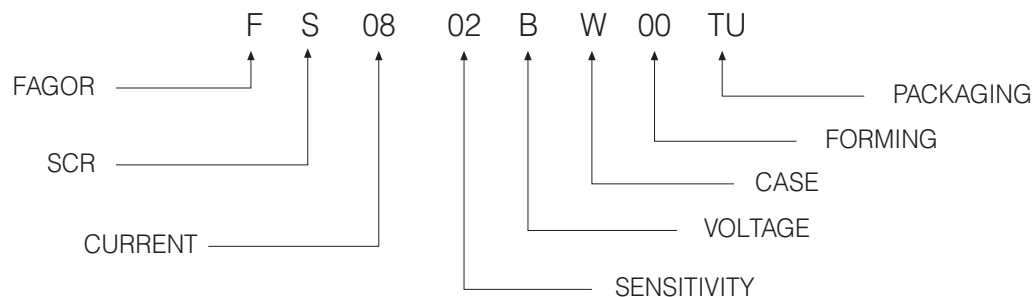
SYMBOL	PARAMETER	CONDITIONS	VOLTAGE					Unit
			B	D	M	S	N	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	$R_{GK} = 1\text{ k}\Omega$	200	400	600	700	800	V

SENSITIVE GATE SCR

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	SENSITIVITY		Uni
I_{GT}	Gate Trigger Current	$V_D = 12 V_{DC}, R_L = 140\Omega, T_j = 25^\circ C$	MAX	200	μA
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	$I_T = 500 mA,$	MAX	5	mA
I_L	Latching Current	$I_G = 1.2 I_{GT}$	MAX	6	mA
dV / dt	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}, R_{GK} = 1 k\Omega, T_j = 125^\circ C$	MIN	5	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 $I_T = 16 Amp, tp = 380 \mu s, T_j = 25^\circ C$	MAX	1.5	V
$V_{t(o)}$	Threshold Voltage	$T_j = 125^\circ C$	MAX	0.85	V
r_d	Dynamic resistance	$T_j = 125^\circ C$	MAX	46	$m\Omega$
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 MAX	0.5 5	mA μA
$R_{th(j-c)}$	Thermal Resistance Junction-Case for DC	for AC 360° conduction angle		3.5	$^\circ C/W$
$R_{th(j-a)}$	Thermal Resistance Junction-Amb for DC	$S = 1 cm^2$		50	$^\circ C/W$

PART NUMBER INFORMATION



SENSITIVE GATE SCR

PACKAGE MECHANICAL DATA TO220-F

