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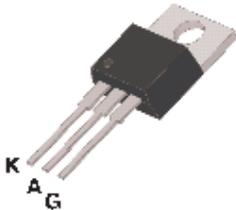
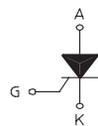
Product: Standard Gate SCRs

Standard SCRs uses a high performance glass passivated technology.

This general purpose Family of Silicon Controlled Rectifiers is designed for power supplies.

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
FS1210MH	FS12H(StG)	12	600	140		2		25	250	TO220AB

STANDARD SCR

<p>TO-220-AB</p>  <p style="text-align: center;">  </p>	<p>On-State Current Gate Trigger Current</p> <p>12 Amp 0.5 mA to 25 mA</p> <p>Off-State Voltage</p> <p>200 V ÷ 800 V</p>
	<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>

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Value	Unit
$I_{T(RMS)}$	On-state Current	180° Conduction Angle, $T_c = 110\text{ °C}$	12	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $\Theta = 180\text{ °}$, $T_c = 110\text{ °C}$	8	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz	154	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz	140	A
I^2t	Fusing Current	$t_p = 10\text{ms}$, Half Cycle	98	A ² s
I_{GM}	Peak Gate Current	20 μs max.	4	A
P_{GM}	Peak Gate Dissipation	20 μs max.	10	W
$P_{G(AV)}$	Gate Dissipation	20ms max.	1	W
T_j	Operating Temperature		(-40 to +125)	°C
T_{stg}	Storage Temperature		(-40 to +150)	°C
T_{sld}	Soldering Temperature	10s max.	260	°C
V_{RGM}	Reverse Gate Voltage		5	V

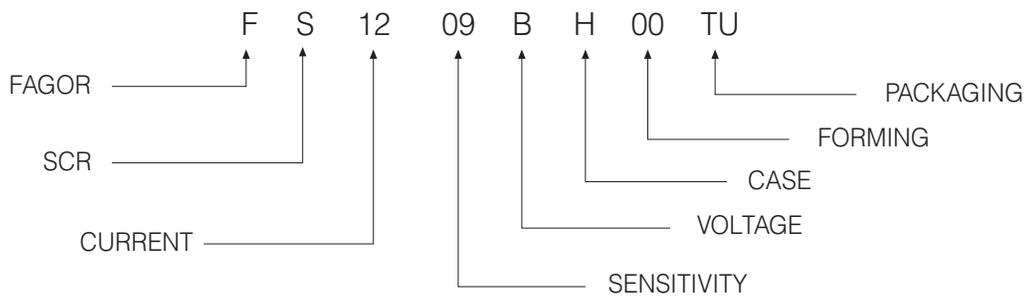
SYMBOL	PARAMETER	CONDITIONS	VOLTAGE						Unit
			B	D	E	M	S	N	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	$R_{GK} = 1\text{ k}\Omega$	200	400	500	600	700	800	V

STANDARD SCR

Electrical Characteristics

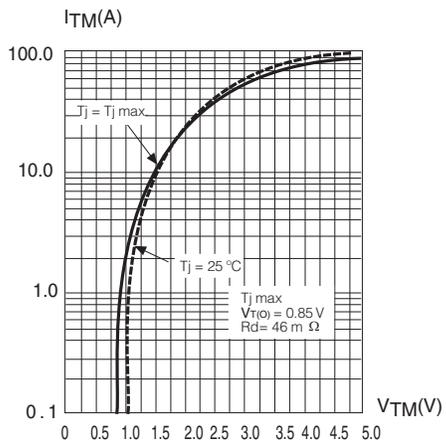
SYMBOL	PARAMETER	CONDITIONS	SENSITIVITY			Uni	
			08	09	10		
I _{GT}	Gate Trigger Current	V _D = 12 V _{DC} , R _L = 33Ω, T _j = 25 °C	MIN	0.5	2	2	mA
			MAX	5	15	25	
V _{GT}	Gate Trigger Voltage	V _D = 12 V _{DC} , R _L = 33Ω, T _j = 25 °C	MAX	1.3			V
V _{GD}	Gate Non Trigger Voltage	V _D = V _{DRM} , R _L = 3.3kΩ, R _{GK} = 220Ω T _j = 125 °C	MIN	0.2			V
I _H	Holding Current	I _T = 500 mA,	MAX	15	30	40	mA
I _L	Latching Current	I _G = 1.2 I _{GT}	MAX	30	60	60	mA
dV / dt	Critical Rate of Voltage Rise	V _D = 0.67 x V _{DRM} , Gate open T _j = 125 °C	MIN	50	200	200	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 = 24 Amp, tp = 380 μs, T _j = 25 °C	MAX	1.6			V
V _{t0}	Threshold Voltage	T _j = 125 °C	MAX	0.80			V
r _d	Dynamic resistance	T _j = 125 °C	MAX	30			mΩ
I _{DRM} / I _{RRM}	Off-State Leakage Current	V _D = V _{DRM} , R _{GK} = 1kΩ T _j = 125 °C V _R = V _{RRM} , T _j = 25 °C	MAX	2			mA
			MAX	5			μA
R _{th(j-c)}	Thermal Resistance Junction-Case for DC	for AC 360 ° conduction angle		1.3			°C/W
R _{th(j-a)}	Thermal Resistance Junction-Amb for DC	S = 1 cm ²		60			°C/W

PART NUMBER INFORMATION



STANDARD SCR

Fig. 7: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA TO-220AB

REF.	DIMENSIONS	
	Millimeters	
	Min.	Max.
A	3.56	4.83
A1	0.50	1.40
A2	2.00	2.92
b	0.38	1.02
b2	1.14	1.78
c	0.35	0.61
D	14.22	16.51
D1	8.38	9.02
E	9.65	10.67
e	2.49	2.59
e1	5.03	5.13
H1	5.84	6.86
L	12.70	14.74
L1		6.35
P	3.53	4.09
Q	2.54	3.43

Mounting Torque

1 N.m

(*) Limiting values and life support applications, see Web page.