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Product: Standard Gate SCRs

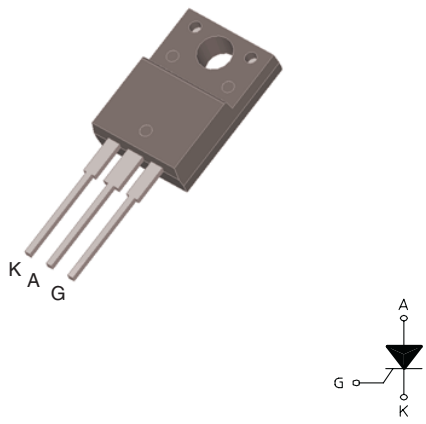
Standard SCRs uses a high performance glass passivated technology.

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
FS2510MW	FS25W(StG)	25	600	270	2			25	500	TO220F



STANDARD SCR

TO220-F (FULLY ISOLATED CASE) 	On-State Current 25 Amp	Gate Trigger Current 2 mA to 40 mA
	Off-State Voltage 200 V ÷ 800 V	
These series of Silicon Controlled Rectifier use a high performance PNP technology.		
These parts are intended for general purpose applications where high gate sensitivity is required.		

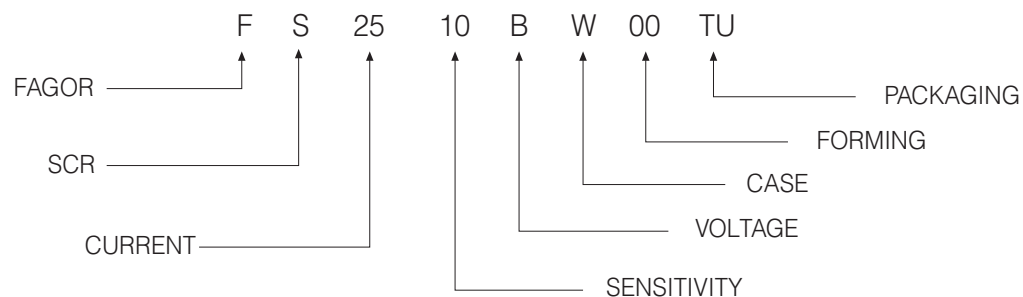
Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Value	Unit
$I_{T(RMS)}$	On-state Current	180 ° Conduction Angle, $T_c = 110\text{ °C}$	25	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $\Theta = 180\text{ °}$, $T_c = 110\text{ °C}$	16	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz	300	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz	270	A
I^2t	Fusing Current	$t_p = 10\text{ms}$, Half Cycle	364	A ² s
I_{GM}	Peak Gate Current	20 μs max.	4	A
P_{GM}	Peak Gate Dissipation	20 μs max.	20	W
$P_{G(AV)}$	Gate Dissipation	20 ms max.	1	W
T_j	Operating Temperature		(-40 to + 125)	°C
T_{stg}	Storage Temperature		(-40 to + 125)	°C
T_{sld}	Soldering Temperature	10 ms max.	260	°C
V_{RGM}	Reverse Gate Voltage		5	V
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}	Repetitive Peak Off State	$R_{GK} = 1\text{ k}\Omega$	200	400	600	700	800	V
V_{RRM}	Voltage							

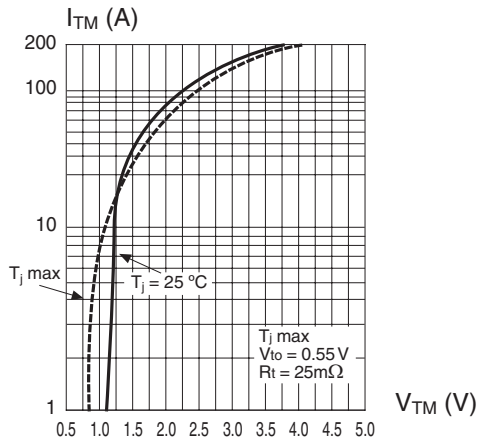
STANDARD SCR
Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	SENSITIVITY		Unit	
			10	14		
I_{GT}	Gate Trigger Current	$V_D = 12 V_{DC}, R_L = 140\Omega, T_j = 25\text{ }^\circ\text{C}$	MIN	2	4	m A
			MAX	25	40	
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}, R_L = 140\Omega, T_j = 25\text{ }^\circ\text{C}$	MAX	1.3		V
V_{GD}	Gate Non Trigger Voltage	$V_D = V_{DRM}, R_L = 3.3\text{ k}\Omega, R_{GK} = 220\text{ }\Omega, T_j = 125\text{ }^\circ\text{C}$	MIN	0.2		V
I_H	Holding Current	$I_T = 500\text{ mA},$	MAX	40	50	m A
I_L	Latching Current	$I_G = 1.2 I_{GT}$	MAX	60	90	m A
dV / dt	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM},$ Gate open $T_j = 125\text{ }^\circ\text{C}$	MIN	500	1000	V/ μs
dI / dt	Critical Rate of Current Rise	$I_G = 2 \times I_{GT}$ $tr \leq 100\text{ ns}, f = 60\text{ Hz},$ $T_j = 125\text{ }^\circ\text{C}$	MIN	100		A/ μs
V_{TM}	On-state Voltage	at $I_T = 50\text{ Amp}, tp = 380\text{ }\mu\text{s}, T_j = 25\text{ }^\circ\text{C}$	MAX	1.5		V
$V_{t(o)}$	Threshold Voltage	$T_j = 125\text{ }^\circ\text{C}$	MAX	0.75		V
r_d	Dynamic resistance	$T_j = 125\text{ }^\circ\text{C}$	MAX	16.5		m Ω
I_{DRM} / I_{RRM}	Off-State Leakage Current	$V_D = V_{DRM}, R_{GK} = 1\text{ k}\Omega, T_j = 125\text{ }^\circ\text{C}$ $V_R = V_{RRM}, T_j = 25\text{ }^\circ\text{C}$	MAX	2		m A
			MAX	5		μA
$R_{th(j-c)}$	Thermal Resistance Junction-Case for DC	for AC 360° conduction angle		2.5		$^\circ\text{C/W}$
$R_{th(j-a)}$	Thermal Resistance Junction-Amb for DC	$S = 1\text{ cm}^2$		50		$^\circ\text{C/W}$

PART NUMBER INFORMATION


STANDARD SCR

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



PACKAGE MECHANICAL DATA

TO220-F

