PRELIMINARY

SFS4201 thru SFS4204

SOLID STATE DEVICES, INC.
14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773

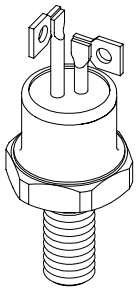
DESIGNER'S DATA SHEET

5 AMP 800 VOLTS HIGH VOLTAGE THYRISTOR

FEATURES:

- **Designed for Pulse Modulators in Radar Applications.**
- **High Surge Current, 100A.**
- **High Blocking Voltage, 800V min.**
- **High dv/dt, 250V/us min.**
- **di/dt = 100A/us.**
- **Fast Switching Time.**
- **Hermetically sealed.**

TO-64



MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Peak Repetitive Forward Blocking Voltage **SFS4201** **SFS4202** **SFS4203** **SFS4204**	V_{DRM}	500 600 700 800	Volts
Peak Repetitive Reverse Blocking Voltage	V_{RRM}	50	Volts
RMS On-State Current (All Condition Angles, T_C = 65°C max)	$I_{T\ (RMS)}$	5	Amps
Peak Repetitive Surge Current (One Cycle, 60Hz, Pulse width 2µsec, Duty Cycle 0.6%, T_C = 85°C max)	$I_{TFM\ (REP)}$	100	Amps
Peak Gate Power	P_{GM}	20	Watts
Average Gate Power (Pulse width 2µsec)	$P_{G\ (AV)}$	1.0	Watts
Peak Gate Current	I_{GM}	5.0	Amps
Peak Gate Voltage	V_{GM}	±10	Volts
Operating Junction Temperature Range	T_J	-65 TO +105	°C
Storage Temperature Range	T_{STG}	-65 TO +200	°C
Thermal Resistance Junction to Case	Θ_{JC}	3.0	°C/W

NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: SCR0003B

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ELECTRICAL CHARACTERISTICS @ T_J =25°C (Unless Otherwise Specified)

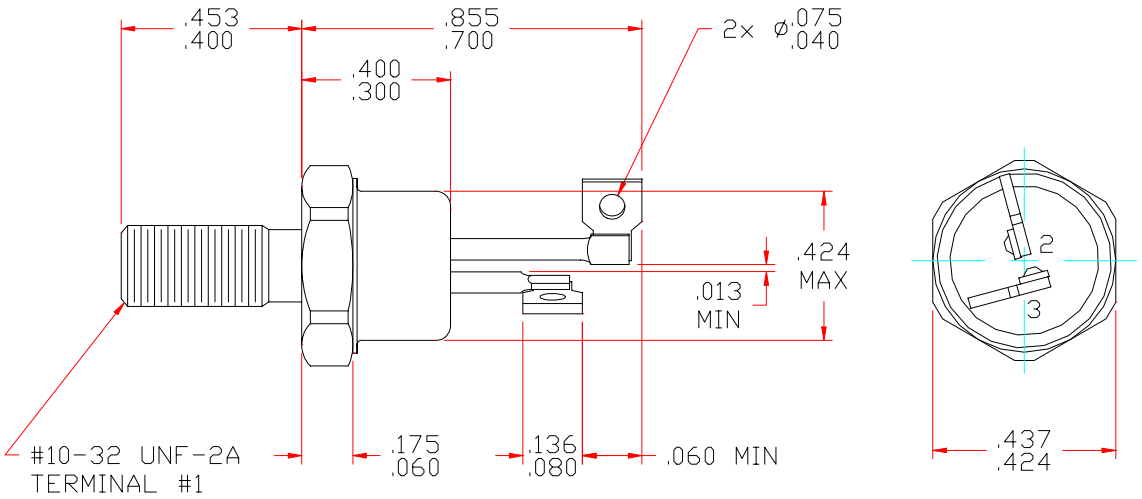
RATING		SYMBOL	MIN	MAX	UNIT
Peak Reverse Blocking Current (Rated V_{RRM})	T_J = 25°C T_J = 105°C	I_{RRM}	--	0.5 2.0	mA
Peak Forward Blocking Current (Rated V_{DRM})	T_J = 25°C T_J = 105°C	I_{DRM}	--	0.5 2.0	mA
Forward On-State Voltage (I_F = 5.0A Peak, t = 1ms, Duty Cycle ≤ 1%)		V_F	--	2.6	V
Gate Trigger Current (V_A = 7Vdc, R_L = 100Ω)	T_J = 25°C T_J = -65°C	I_{GT}	--	50 100	mA
Gate Trigger Voltage (V_A = 7Vdc, R_L = 100Ω)	T_J = 25°C T_J = -65°C T_J = 105°C	V_{GT}	-- -- 0.2	1.5 2.0 --	V
Holding Current (V_A = 7Vdc, R_{KG} - Open)	T_J = 25°C T_J = 105°C	I_H	10 0.2	-- --	mA
Switch Time 1/ (I_F = 30A min Pulse; I_R = 5A; T_C = 85°C; dV/dt = 250V/µs to 600V; $V_{RA(OFF)}$ = 0V; $V_{RG(OFF)}$ = 6V)	**Delay Time** **Rise Time** **Turn Off Time**	t_d t_r t_{off}	-- -- 0.2	15 2.5 --	µsec

1/ Switch Time is guaranteed but not tested

PACKAGE OUTLINE: TO-64

PIN OUT:

1. **ANODE**
2. **CATHODE**
3. **GATE**



NOTES:

1. Contour and orientation of the terminal lugs are optional.
2. A chamfer on one or both sides of the hex is optional.
3. Thread pitch diameter is .1658 - .1697.