



**Solid State Devices, Inc.**

14830 Valley View Blvd \* La Mirada, CA 90638

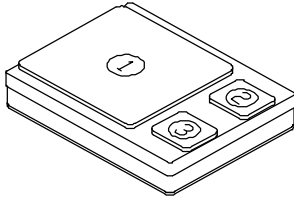
Phone: (562) 404-7855 \* Fax: (562) 404-1773

ssdi@ssdi-power.com \* [www.ssdi-power.com](http://www.ssdi-power.com)

# SFT6800S.5

## 2 A /500 Volts NPN switching Transistor

### DESIGNER'S DATA SHEET



SMD.5

#### Features:

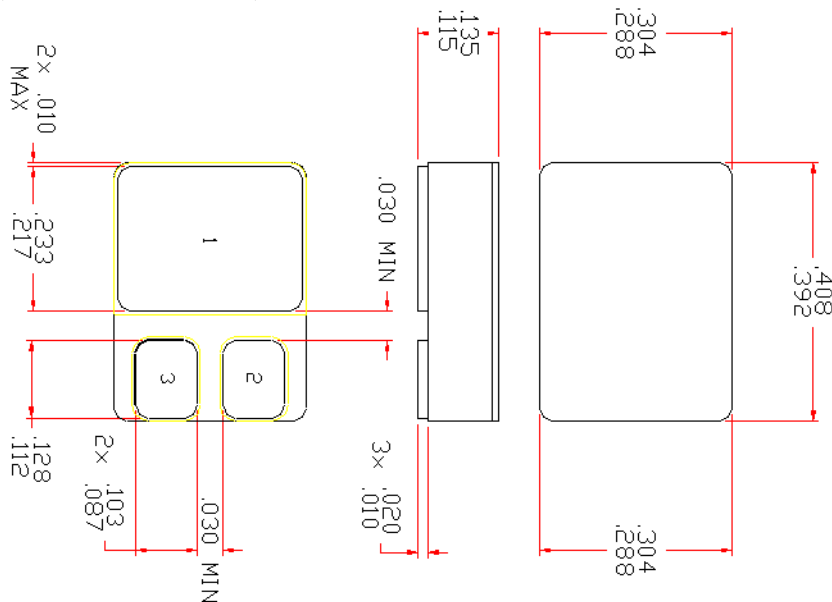
- Switching Transistor
- Small Footprint Surface Mount Device with Excellent Thermal Properties
- TX, TXV, S-Level Screening Available
- PNP Complimentary Parts Available (SFT1192 Series)

Maximum Ratings	Symbol	Value	Units
Collector – Emitter Voltage	$V_{CEO}$	400	Volts
Collector – Base Voltage	$V_{CBO}$	500	Volts
Emitter – Base Voltage	$V_{EBO}$	10	Volts
Continuous Collector Current	$I_C$	2	Amps
Power Dissipation @ $T_C = 25^\circ C$	$P_D$	15	W
Power Dissipation @ $T_A = 25^\circ C$		1	
Operating & Storage Temperature	Top & Tstg	-65 to +200	$^\circ C$
Maximum Thermal Resistance Junction to Case and to Ambient	$R_{qJC}$ $R_{qJA}$	3 (typ 2) 75	$^\circ C/W$

Note1: Derated 333 mW/ $^\circ C$  above  $T_C = 105^\circ C$

Note2: Derated 13.33 mW/ $^\circ C$  above  $T_A = 75^\circ C$

**PIN 1= COLLECTOR; PIN 2= EMITTER; PIN 3= BASE**



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

DATA SHEET #: TR0088A

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Electrical Characteristic <sup>4/</sup>		Symbol	Min	Typ	Max	Units
Collector Emitter Breakdown Voltage	$I_C = 20 \text{ mA}$	$BV_{CEO}$	400	—	—	Volts
Collector Base Breakdown Voltage	$I_C = 100 \text{ uA}$	$BV_{CBO}$	500	800	—	Volts
Emitter Base Breakdown Voltage	$I_E = 20 \text{ uA}$	$BV_{EBO}$	10	11.5	—	Volts
Collector Cutoff Current	$V_{CB} = 400 \text{ V}$	$I_{CBO}$	—	0.05	0.2	mA
Collector Cutoff Current	$V_{CE} = 450 \text{ V}, V_{BE} = 1.5 \text{ V}$	$I_{CEV}$	—	0.01	0.2	mA
Emitter Cutoff Current	$V_{EB} = 6.0 \text{ V}$	$I_{EBO}$	—	0.01	0.2	mA
DC Forward Current Transfer Ratio *	$V_{CE} = 5 \text{ V}, I_C = 50 \text{ mA}$ $V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$ $V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	$H_{FE1}$ $H_{FE2}$ $H_{FE4}$	50 40 15	85 95 50	— — —	
Collector to Emitter Saturation Voltage	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$	$V_{CE(sat)1}$	—	0.25	0.5	Volts
Base to Emitter Saturation Voltage	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$	$V_{BE(sat)1}$	—	0.8	1.0	Volts
Frequency Transition (Small Signal Current Gain) @ f= 20 MHz	$V_{CE}=10V, I_C=50mA, f= 20 \text{ MHz}$	$f_T$	25	35	—	MHz
Output Capacitance	$V_{CB} = 30V, f = 1 \dots 2 \text{ MHz}$	$C_{obo}$	—	30	40	pF
Turn-On Time	$V_{CC} = 330V, I_C = 500 \text{ mA},$ $I_{B1} = I_{B2} = 100 \text{ mA};$ $R_{B1} = R_{B2} = 330 \Omega$	$t_{on}$	—	115	700	ns
Turn-Off Time	$V_{CC} = 330V, I_C = 500 \text{ mA},$ $I_{B1} = I_{B2} = 100 \text{ mA}$ $(R_{B1} = R_{B2} = 100 \Omega,$ $PW = 2\mu s)$	$t_{off}$	—	1700	2000	ns

**NOTES:**

- \* Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%
- 1/ For Ordering Information, Price, Availability Contact Factory.
- 2/ Screening per MIL-PRF-19500
- 3/ For Package Outlines Contact Factory.
- 4/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

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