



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
 Phone: (562) 404-7855 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

Part Number / Ordering Information^{1/}

SSR6800

Screening^{2/}

— = Not Screened

TX = TX Level

TXV = TXV Level

S = S Level

Package

S.5 = SMD.5

SFT6800S.5

2 A, 500 Volts

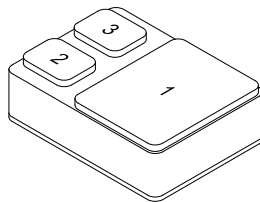
NPN switching Transistor

Features:

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

Maximum Ratings	Symbol	Value	Unit
Collector – Emitter Voltage	V_{CEO}	400	V
Collector – Base Voltage	V_{CBO}	500	V
Emitter – Base Voltage	V_{EBO}	10	V
Continuous Collector Current	I_C	2	A
Power Dissipation @ $T_C = 25^\circ\text{C}$ ^{3/} Power Dissipation @ $T_A = 25^\circ\text{C}$ ^{4/}	P_D	15 1	W
Operating & Storage Temperature	$T_{OP} \& T_{STG}$	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case and to Ambient	$R_{\theta JC}$ $R_{\theta JA}$	3 (typ 2) 75	$^\circ\text{C/W}$

CASE OUTLINE: SMD.5 (S.5)

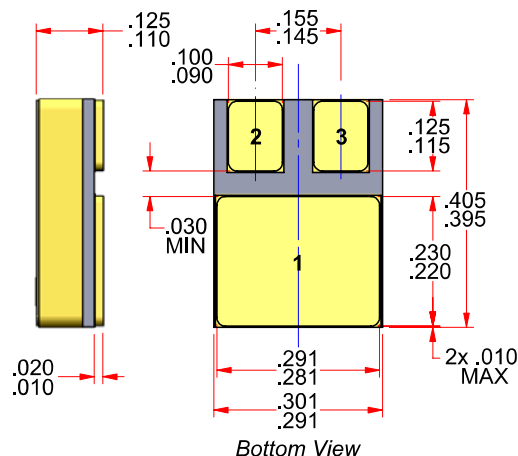


PIN ASSIGNMENT

PIN 1 = COLLECTOR

PIN 2 = EMITTER

PIN 3 = BASE



NOTES:

*Pulse Test: Pulse Width = 300 μsec , Duty Cycle = 2%

^{1/} For ordering information, price, availability, contact factory.

^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.

^{3/} Derated 333 mW/ $^\circ\text{C}$ above $T_C = 105^\circ\text{C}$.

^{4/} Derated 13.33 mW/ $^\circ\text{C}$ above $T_A = 75^\circ\text{C}$.

^{5/} Unless otherwise specified, all electrical characteristics @ 25°C .

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

DATA SHEET #: TR0088C

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SFT6800S.5

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

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