



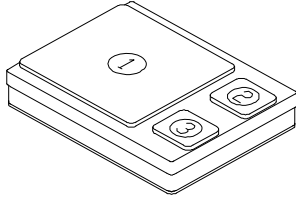
Solid State Devices, Inc.

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DESIGNER'S DATA SHEET



SMD.5

SFT6800S.5

**2 A /500 Volts
NPN switching Transistor**

Features:

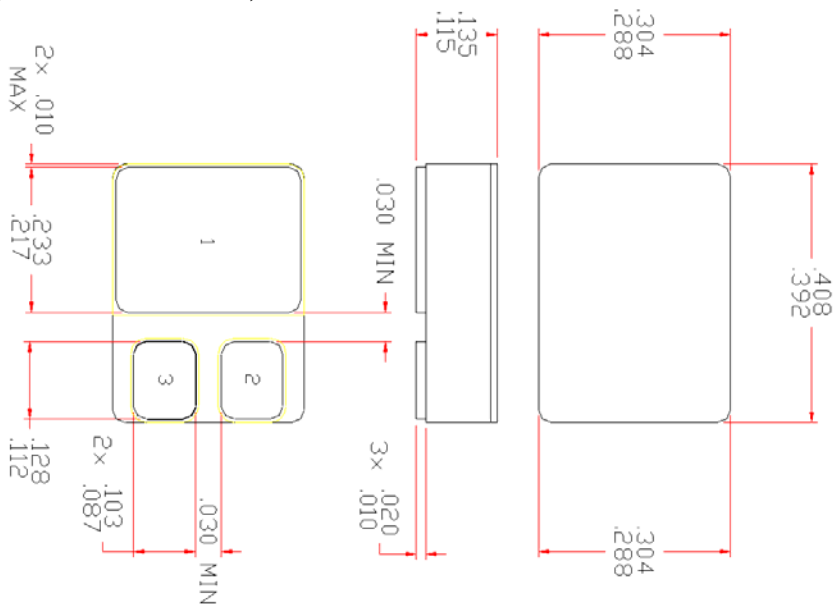
- Switching Transistor
- Small Footprint Surface Mount Device with Excellent Thermal Properties
- TX, TXV, S-Level Screening Available
- PNP Complimentary Parts Available (SFT1192 Series)

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	$R_{\theta JC}$ $R_{\theta JA}$	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 #: TR0088B

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SFT6800S.5

Electrical Characteristic ^{4/}		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	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 *	$V_{CE} = 5 \text{ V}, I_C = 50 \text{ mA}$ $V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$ $V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	H_{FE1} H_{FE2} H_{FE4}	35 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) @ $f = 20 \text{ MHz}$	$V_{CE} = 10 \text{ V}, I_C = 50 \text{ mA}, f = 20 \text{ MHz}$	f_T	25	35	—	MHz
Output Capacitance	$V_{CB} = 30 \text{ V}, f = 1 \dots 2 \text{ MHz}$	C_{obo}	—	30	40	pF
Turn-On Time	$V_{CC} = 330 \text{ V}, I_C = 500 \text{ mA}, I_{B1} = I_{B2} = 100 \text{ mA}, R_{B1} = R_{B2} = 330 \Omega$	t_{on}	—	115	700	ns
Turn-Off Time	$V_{CC} = 330 \text{ V}, I_C = 500 \text{ mA}, I_{B1} = I_{B2} = 100 \text{ mA}, (R_{B1} = R_{B2} = 100 \Omega, PW = 2 \mu\text{s})$	t_{off}	—	1700	2000	ns

NOTES:

* Pulse Test: Pulse Width = 300 μsec , 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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