



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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SFT501/J and SFT503/J SFT501/JC and SFT503/JC Series

5 AMP 200 Volts HIGH SPEED PNP Transistor

DESIGNER'S DATA SHEET

Part Number / Ordering Information^{1/}

SFT501 — — —
SFT503 — — —

Screening^{2/} — = Not Screen
 TX = TX Level
 TXV = TXV Level
 S = S Level

Polarity: — = Normal
 R = Reverse

Package^{3/} J = TO-257, glass seals
 JC = TO-257, ceramic seals

- Features:**
- Fast Switching
 - High Frequency, 80 MHz Typical
 - BVCEO 150 Volts Min
 - High Linear Gain
 - Low Saturation Voltage and Leakage
 - 200°C Operating Temperature
 - Gold Eutectic Die Attach
 - Designed for Complementary Use with SFT502/G and SFT504/G

Maximum Ratings	Symbol	Value	Units
Collector – Emitter Voltage	V _{CEO}	150	Volts
Collector – Base Voltage	V _{CBO}	200	Volts
Emitter – Base Voltage	V _{EBO}	7	Volts
Continues Collector Current	I _C	5	Amps
Base Current	I _B	1	Amps
Power Dissipation @ TC = 50°C Derate above 50°C	P _D	10 66.6	W mW/°C
Operating & Storage Temperature	Top & Tstg	-65 to +200	°C
Maximum Thermal Resistance	Junction to Case R _{θJC}	15	°C/W

NOTES:

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

1/ For Ordering Information, Price, and Availability Contact Factory.

2/ Screening per MIL-PRF-19500

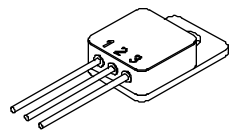
3/ For Package Outlines Contact Factory.

4/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

Available Part Numbers:

- SFT501/J
- SFT501/JC
- SFT503/J
- SFT503/JC

TO-257



PIN ASSIGNMENT

Code	Function	Pin 1	Pin 2	Pin 3
-	Normal	Collector	Emitter	Base
R	Reverse	Collector	Base	Emitter



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**SFT501/J and SFT503/J
 SFT501/JC and SFT503/JC
 Series**

Electrical Characteristic ^{4/}		Symbol	Min	Typ	Max	Units
Collector – Emitter Breakdown Voltage	$I_C = 50\text{mA}$	BV_{CEO}	150	200	—	Volts
Collector – Base Breakdown Voltage	$I_C = 200\mu\text{A}$	BV_{CBO}	200	275	—	Volts
Emitter – Base Breakdown Voltage	$I_E = 200\mu\text{A}$	BV_{EBO}	7	13	—	Volts
Collector – Cutoff Current	$V_{CE} = 100\text{V}$	I_{CEO}	—	—	1.0	μA
Collector – Cutoff Current	$V_{CB} = 100\text{V}$	I_{CBO}	—	—	500	nA
Emitter – Cutoff Current	$V_{EB} = 6\text{V}$	I_{EBO}	—	—	500	nA
DC Current Gain *						
SFT501	$V_{CE} = 5\text{V}, I_C = 50\text{mA}$	h_{FE}	20	—	—	—
	$V_{CE} = 5\text{V}, I_C = 2.5\text{A}$		30	—	—	
	$V_{CE} = 5\text{V}, I_C = 5\text{A}$		20	70	—	
SFT503	$V_{CE} = 5\text{V}, I_C = 50\text{mA}$		50	—	—	
	$V_{CE} = 5\text{V}, I_C = 2.5\text{A}$		50	—	—	
	$V_{CE} = 5\text{V}, I_C = 5\text{A}$		40	70	—	
Collector – Emitter Saturation Voltage *	$I_C = 2.5\text{A}, I_B = 250\text{mA}$ $I_C = 5.0\text{A}, I_B = 500\text{mA}$	$V_{CE(Sat)}$	—	0.35 0.6	0.75 1.5	Volts
Base – Emitter Saturation Voltage *	$I_C = 2.5\text{A}, I_B = 250\text{mA}$ $I_C = 5.0\text{A}, I_B = 500\text{mA}$	$V_{BE(Sat)}$	—	1.0 1.2	1.3 1.5	Volts
Current Gain Bandwidth Product	$V_{CE} = 5\text{V}, I_C = 0.5\text{A}, f = 10\text{MHz}$	f_T	40	60	—	MHz
Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$	c_{ob}	—	130	225	pF
Input Capacitance	$V_{BE} = 10\text{V}, I_C = 0\text{A}, f = 1\text{MHz}$	C_{ib}	—	450	600	pF
Delay Time	$V_{CC} = 50\text{V},$ $I_C = 5\text{A},$ $I_{B1} = I_{B2} = 0.5\text{A}$	t_d	—	25	50	nsec
Rise Time		t_r	—	40	250	nsec
Storage Time		t_s	—	320	600	nsec
Fall Time		t_f	—	130	300	nsec