



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFT501
 SFT503

Screening ^{2/} ___ = Not Screened
 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

SFT501J and SFT503J SFT501JC and SFT503JC Series

5 AMP 200 Volts HIGH SPEED PNP Transistor

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
- TX, TXV, and S Level Screening Available

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
Continuous Collector Current	I_C	5	Amps
Base Current	I_B	1	Amps
Power Dissipation @ TC = 100°C Derate above 100°C	P_D	20 200	W mW/°C
Operating & Storage Temperature	Top & Tstg	-65 to +200	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	5 (typ 3)	°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

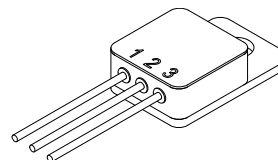
^{3/} For Package Outlines Contact Factory.

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

Available Part Numbers:

SFT501J
 SFT501JC
 SFT503J
 SFT503JC

TO-257



PIN ASSIGNMENT

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

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

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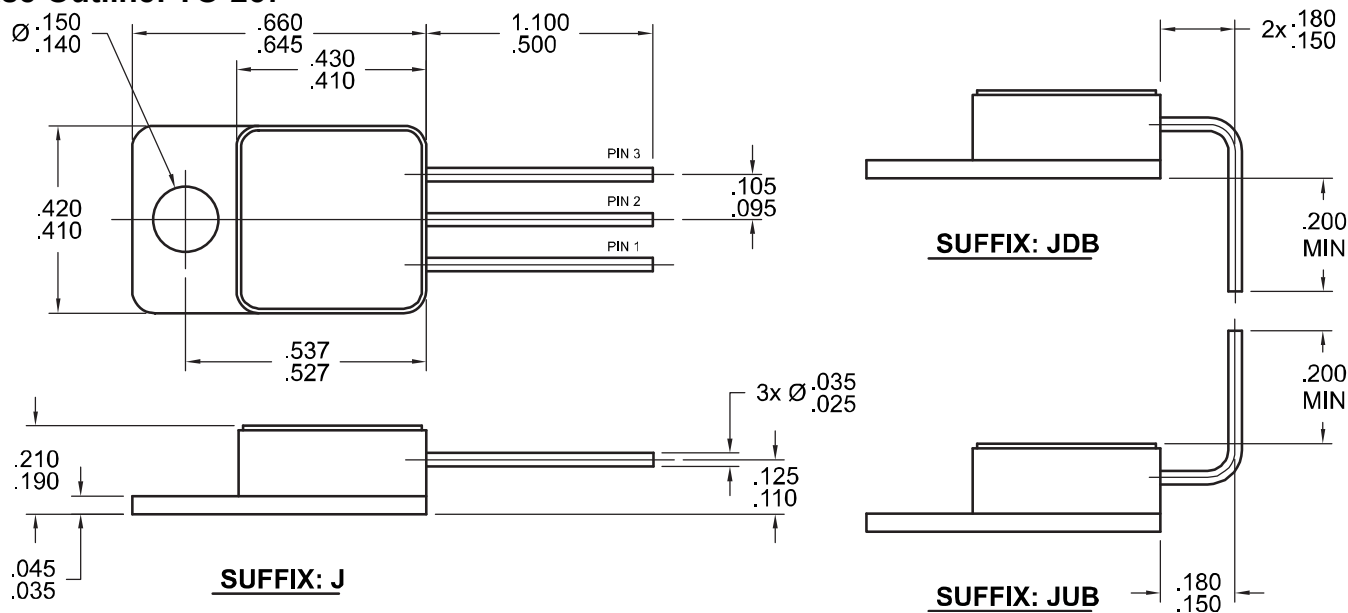
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SFT501J and SFT503J SFT501JC and SFT503JC Series

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	

Case Outline: TO-257



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