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

SFT501J and SFT503J
SFT501JC and SFT503JC
Series

DESIGNER'S DATA SHEET

5 AMP
200 Volts
HIGH SPEED
PNP Transistor

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

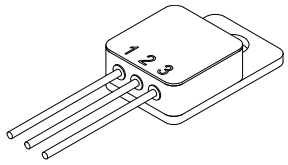
Features:
- Fast Switching
- High Frequency, 80 MHz Typical
- BVCEO 150 Volts Min
- High Linear Gain
- Low Saturation Voltage and Leakage
- 200ºC Operating Temperature
- Gold Eutectic Die Attach
- Designed for Complementary Use with SFT502/G and SFT504/G
- TX, TXV, and S Level Screening Available

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
Continues Collector Current	I_C	5	Amps
Base Current	I_B	1	Amps
Power Dissipation @ TC = 100ºC Derate above 100ºC	P_D	20 200	W mW/ºC
Operating & Storage Temperature	Top & Tstg	-65 to +200	ºC
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	5 (typ 3)	ºC/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 @25ºC.

Available Part Numbers:
SFT501J
SFT501JC
SFT503J
SFT503JC

TO-257



PIN ASSIGNMENT

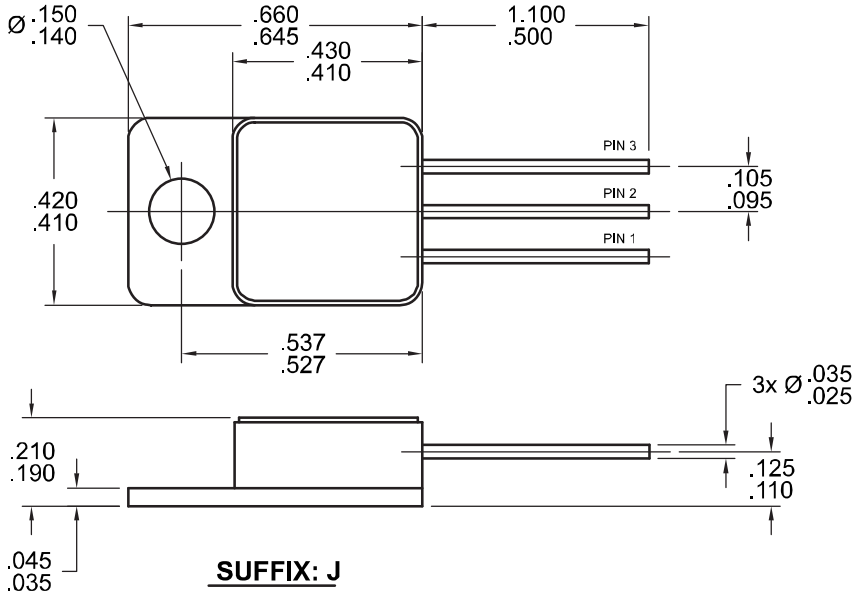
Code	Function	Pin 1	Pin 2	Pin 3
-	Normal	Collector	Emitter	Base
R	Reverse	Collector	Base	Emitter

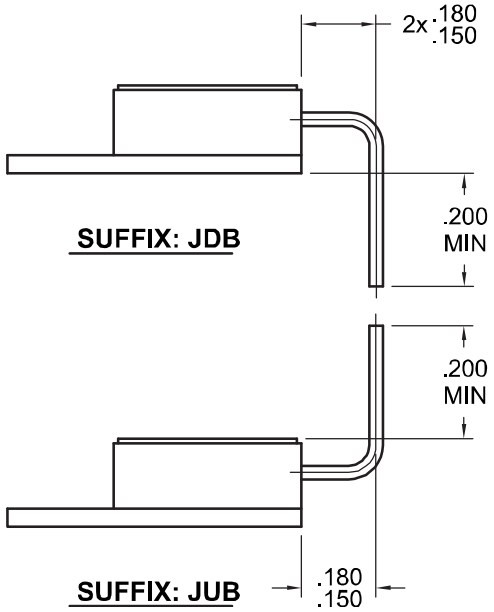
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Electrical Characteristic[4/]		Symbol	Min	Typ	Max	Units
Collector – Emitter Breakdown Voltage	I_C = 50mA	BV_{CEO}	150	200	—	Volts
Collector – Base Breakdown Voltage	I_C = 200µA	BV_{CBO}	200	275	—	Volts
Emitter – Base Breakdown Voltage	I_E = 200µA	BV_{EBO}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





NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	B17BH	DATA SHEET #: TR0100B	DOC