



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/}

SFT4300A

└ Screening ^{2/}

 ___ = Not Screened

 TX = TX Level

 TXV = TXV Level

 S = S Level

└ Package

 ___ = TO-5

 S.22 = SMD.22

SFT4300A

2 AMP, 150 Volts NPN Transistor

FEATURES:

- Radiation Tolerant
- Fast Switching
- High Frequency
- Low Saturation Voltage
- 200°C Operating, Gold Eutectic Die Attach
- Complementary use with SFT5333A

Maximum Ratings		Symbol	Value	Units
Collector – Emitter Voltage		V_{CEO}	80	V
Collector – Base Voltage		V_{CBO}	150	V
Emitter – Base Voltage		V_{EBO}	8	V
Collector Current		I_C	2	A
Base Current		I_B	1	A
Total Device Dissipation @ $T_C = 100^\circ\text{C}$ Derate above $T_C = 100^\circ\text{C}$		P_D	15 150	W mW/°C
Operating and Storage Temperature		T_j, T_{stg}	-65 to +200	°C
Thermal Resistance Junction to Case	TO-5 SMD.22	$R_{\theta JC}$	7 6	°C/W

NOTES:

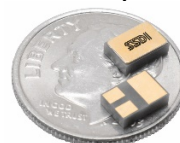
1/ For ordering information, price, operating curves, and availability - contact factory.

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

TO-5 (___)



SMD.22 (S.22)



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

DATA SHEET #: TR0046D

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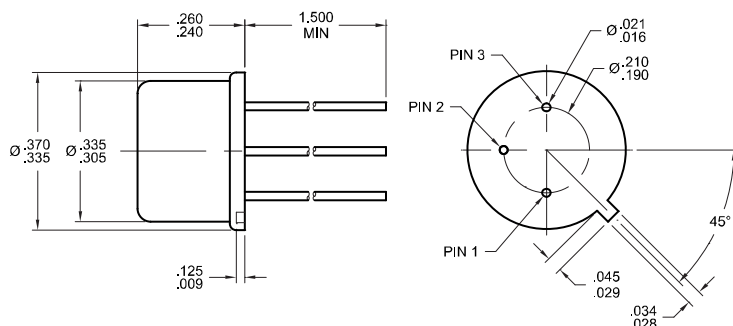
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SFT4300A

Electrical Characteristic	Symbol	Min	Max	Units
Collector – Emitter Breakdown Voltage $I_C = 30 \text{ mAdc}$	BV_{CEO}	80	—	V
Collector–Base Breakdown Voltage $I_C = 200 \text{ } \mu\text{Adc}$	BV_{CBO}	150	—	V
Emitter–Base Breakdown Voltage $I_E = 200 \text{ } \mu\text{Adc}$	BV_{EBO}	6	—	V
Collector Cutoff Current $V_{CB} = 90 \text{ V}, T_C = 25^\circ\text{C}$ $V_{CB} = 90 \text{ V}, T_C = 100^\circ\text{C}$	I_{CBO}	—	1 75	μAdc
Collector Cutoff Current $V_{CE} = 40 \text{ Vdc}$	I_{CEO}	—	5	μAdc
Emitter Cutoff Current $V_{EB} = 6 \text{ V}$	I_{EBO}	—	1	μAdc
DC Current Gain* $I_C = 1.0 \text{ Adc}, V_{CE} = 5 \text{ Vdc}$ $I_C = 2.0 \text{ Adc}, V_{CE} = 5 \text{ Vdc}$	hFE	50 50	200	
Collector – Emitter Saturation Voltage* $I_C = 1.0 \text{ Adc}, I_B = 100 \text{ mAdc}$ $I_C = 2.0 \text{ Adc}, I_B = 200 \text{ mAdc}$	$V_{CE(Sat)}$	— —	0.3 0.5	Vdc
Base – Emitter Voltage $I_C = 2.0 \text{ Adc}, V_{CE} = 2 \text{ Vdc}$	$V_{BE(ON)}$	—	1.2	Vdc
Current Gain Bandwidth Product $I_C = 0.5 \text{ Adc}, V_{CE} = 5 \text{ Vdc},$ $f = 10 \text{ MHz}$	fT	80	—	MHz
Output Capacitance $V_{CB} = 30 \text{ Vdc}, I_E = 0 \text{ Adc}, f = 1.0 \text{ MHz}$	C_{ob}	—	45	pF
Input Capacitance $V_{BE} = 8 \text{ Vdc}, I_C = 0 \text{ Adc}, f = 1.0 \text{ MHz}$	C_{ib}	—	225	pF
Turn On Time $V_{CC} = 20 \text{ Vdc}, I_C = 1.0 \text{ Adc},$ $V_{EB(off)} = 3.7 \text{ Vdc}$	$t_{(on)}$	---	130	nsec
Turn Off Time $I_{B1} = I_{B2} = 100 \text{ mAdc},$ $RL = 20 \text{ Ohms}$	$t_{(off)}$	---	1.5	μsec

Case Outline: TO-5 ()

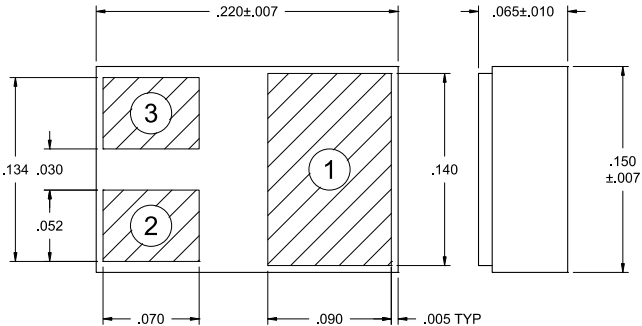


All dimensions are in inches
Tolerances: (unless otherwise specified)
XX: ± 0.01 "
XXX: ± 0.005 "

Notes:

* Pulse Test: Pulse Width = 300 μS , Duty Cycle = 2%
For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.

Case Outline: SMD.22 (S.22)



PIN ASSIGNMENT

Package	Emitter	Base	Collector
TO-5	Pin 1	Pin 2	Pin 3 / Case
SMD.22	Pin 2	Pin 3	Pin 1

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