



Solid State Devices, Inc.

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SFT4300

**2 AMP, 150 Volts
NPN Transistor**

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

TO-5

- FEATURES:**
- Radiation Tolerant
 - Fast Switching
 - High Frequency
 - Low Saturation Voltage
 - 200°C Operating, Gold Eutectic Die Attach
 - Complementary use with SFT5333

NOTES:

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

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

| 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 @ TC = 100° C Derate above TC = 100° C | P_D | 6.6 66 | W mW/°C |
| Operating and Storage Temperature | T_j, T_{stg} | -65 to +200 | °C |
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 15.2 | °C/W |

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

Pin 1: Emitter
 Pin 2: Base
 Pin 3/Case: Collector



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| Electrical Characteristic | Symbol | Min | Max | Units |
|---|--|----------|------------|-------|
| Collector – Emitter Breakdown Voltage (IC= 30mAdc) | BV_{CEO} | 80 | — | V |
| Collector–Base Breakdown Voltage (IC= 200μAdc) | BV_{CBO} | 150 | — | V |
| Emitter–Base Breakdown Voltage (IE= 200μAdc) | BV_{EBO} | 6 | — | V |
| Collector Cutoff Current (VCB= 90V, TC= 25°C) (VCB= 90V, TC= 100°C) | I_{CBO} | — | 1 75 | μAdc |
| Collector Cutoff Current (VCE= 40 Vdc) | I_{CEO} | — | 5 | μAdc |
| Emitter Cutoff Current (VEB= 6V) | I_{EBO} | — | 1 | μAdc |
| DC Current Gain* (IC= 1.0Adc, VCE= 5Vdc) (IC= 2.0Adc, VCE= 5Vdc) | h_{FE} | 50 50 | 200 | |
| Collector – Emitter Saturation Voltage* (IC= 1.0Adc, IB= 100mAdc) (IC= 2.0Adc, IB= 200mAdc) | V_{CE(Sat)} | — — | 0.3 0.5 | Vdc |
| Base – Emitter Voltage (IC= 2.0Adc, VCE= 2Vdc) | V_{BE(ON)} | — | 1.2 | Vdc |
| Current Gain Bandwidth Product (IC= 0.5Adc, VCE= 5Vdc, f= 10MHz) | f_T | 80 | — | MHz |
| Output Capacitance (VCB= 30Vdc, IE= 0 Adc, f= 1.0MHz) | Cob | — | 45 | pF |
| Input Capacitance (VBE= 8Vdc, IC= 0 Adc, f= 1.0MHz) | Cib | — | 225 | pF |
| Turn On Time | VCC = 20Vdc, IC = 1.0Adc, VEB(off) = 3.7Vdc IB1 = IB2 = 100mAdc, RL – 20 Ohms | --- | 130 | nsec |
| Turn Off Time | | | | |

For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.

Notes:

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

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

DATA SHEET #: XN0029E

DOC