



# 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

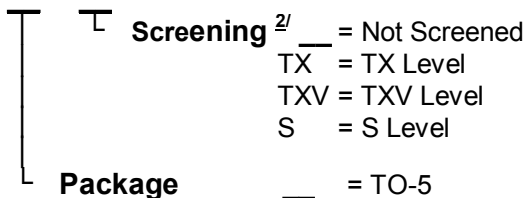
## SFT5333A

### 2 AMP, 100 Volts HIGH SPEED PNP TRANSISTOR

#### DESIGNER'S DATA SHEET

##### Part Number / Ordering Information <sup>1/</sup>

SFT5333A



##### Features:

- Radiation Tolerant
- Fast Switching, 150ns max t(on)
- High Frequency, fT 85MHz min.
- BVCEO 70 Volts min.
- Low Saturation Voltage
- 200°C Operating Temperature, Gold Eutectic Die Attach
- Designed for Complementary Use with SFT4300A
- TX, TXV, S-Level Screening Available <sup>2/</sup> - Consult Factory

Maximum Ratings <sup>3/</sup>	Symbol	Value	Units
Collector – Emitter Voltage	V <sub>CEO</sub>	70	Volts
Collector – Base Voltage	V <sub>CBO</sub>	100	Volts
Emitter – Base Voltage	V <sub>EBO</sub>	6	Volts
Collector Current	I <sub>C</sub>	2	Amps
Base Current	I <sub>B</sub>	1	Amps
Total Device Dissipation @ TC = 100°C Derate above 100°C	P <sub>D</sub>	15 150	W mW/°C
Operating & Storage Temperature	Top & Tstg	-65 to +200	°C
Maximum Thermal Resistance Junction to Case	R <sub>θJC</sub>	7	°C/W

##### NOTES:

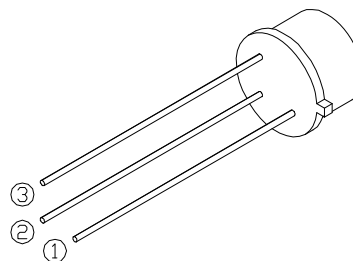
\* Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%

<sup>1/</sup> For ordering information, price, operating curves, and availability - Contact factory.

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

<sup>3/</sup> Unless Otherwise Specified, All Electrical Characteristics @25°C.

TO-5



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

**DATA SHEET #: TR0054C**

**DOC**



**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

# SFT5333A

Electrical Characteristic <sup>4/</sup>		Symbol	Min	Max	Units
Collector – Emitter Breakdown Voltage*	$I_C = 30\text{mA}$	$BV_{CEO}$	70	—	Volts
Collector – Base Breakdown Voltage	$I_C = 200\mu\text{A}$	$BV_{CBO}$	100	—	Volts
Emitter – Base Breakdown Voltage	$I_E = 200\mu\text{A}$	$BV_{EBO}$	6	—	Volts
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	$\mu\text{A}$
Collector – Cutoff Current	$V_{CE} = 40\text{V}$	$I_{CEO}$	—	5	$\mu\text{A}$
Emitter – Cutoff Current	$V_{EB} = 6\text{V}$	$I_{EBO}$	—	1	$\mu\text{A}$
DC Current Gain *	$I_C = 1\text{A}$ $I_C = 2\text{A}$	$H_{FE}$	40 40	250 —	—
Collector – Emitter Saturation Voltage *	$I_C = 1\text{A}, I_B = 100\text{mA}$ $I_C = 2\text{A}, I_B = 200\text{mA}$	$V_{CE(Sat)}$	—	0.45 1.0	Volts
Base – Emitter Voltage *	$I_C = 2\text{A}, V_{CE} = 4V_{DC}$	$V_{BE(On)}$	—	1.5	Volts
Current Gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 1A_{DC}, f = 10\text{MHz}$	$f_T$	85	—	MHz
Output Capacitance	$V_{CB} = 30\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$	$C_{ob}$	—	75	pF
Input Capacitance	$V_{BE} = 6\text{V}, I_C = 0\text{A}, f = 1\text{MHz}$	$C_{ib}$	—	300	pF
Turn On Time	$V_{CC} = 20\text{V}, I_C = 1A_{DC},$ $V_{EB(Off)} = 3.7\text{V},$ $I_{B1} = I_{B2} = 100\text{mA}_{DC}, R_L = 20\Omega$	$t_{ON}$	—	150	nsec
Turn Off Time		$t_{OFF}$	—	450	nsec

