



Solid State Devices, Inc.

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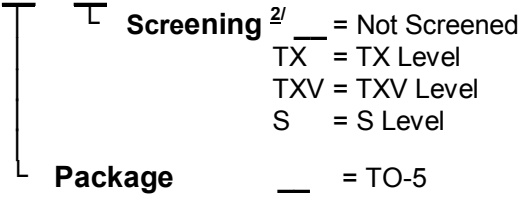
SFT5333A

2 AMP, 100 Volts HIGH SPEED PNP TRANSISTOR

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SFT5333A



Features:

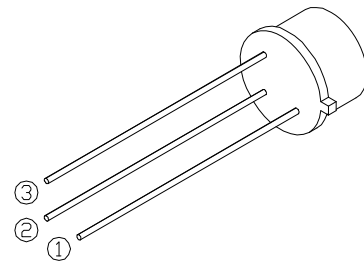
- Radiation Tolerant
- Fast Switching, 150ns max t(on)
- High Frequency, fT 85MHz min.
- BVCEO 70 Volts min.
- Low Saturation Voltage
- 200°C Operating Temperature, Gold Eutectic Die Attach
- Designed for Complementary Use with SFT4300A
- TX, TXV, S-Level Screening Available ^{2/} - Consult Factory

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

NOTES:

- * Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%
- ^{1/} For ordering information, price, operating curves, and availability - Contact factory.
- ^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.
- ^{3/} 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



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Electrical Characteristic ^{4/}		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	μA
Collector – Cutoff Current	$V_{CE} = 40\text{V}$	I_{CEO}	—	5	μA
Emitter – Cutoff Current	$V_{EB} = 6\text{V}$	I_{EBO}	—	1	μA
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

