



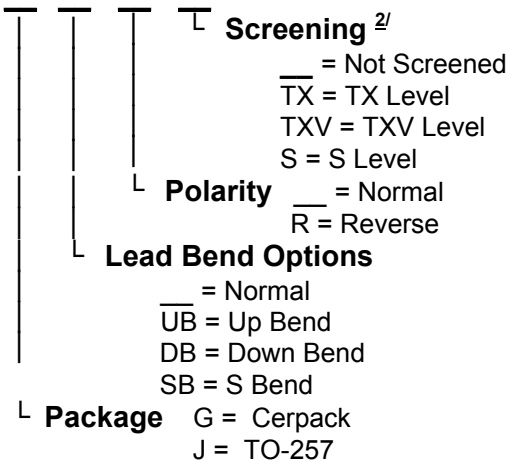
Solid State Devices, Inc.

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/}

SFT5553A



SFT5553A Series

5 AMP
100 Volts
PNP Power Transistor

Features:

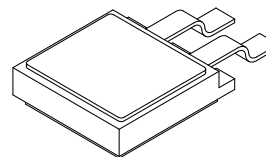
- BV_{CEO} 80V
- Fast Switching
- Very High Gain
- Low Saturation Voltage
- 200 °C Operating Temperature
- Gold Eutectic Die Attach
- TX, TXV, S-Level Screening Available

| Maximum Ratings | | Symbol | Value | Units |
|--|-------------------|-----------------|----------------------|--------------|
| Collector – Base Voltage | | BV_{CBO} | 100 | Volts |
| Collector – Emitter Voltage | | BV_{CEO} | 80 | Volts |
| Emitter – Base Voltage | | BV_{EBO} | 6.0 | Volts |
| Continuous Collector Current | | I_C | 5.0 | Amps |
| Base Current | | I_B | 2.0 | Amps |
| Power Dissipation @ $T_c \leq 100^\circ C$ (Derate above 100°C) | Cerpack TO-257 | P_D | 40 (0.4) 20 (0.2) | W (W/ °C) |
| Operating & Storage Temperature | | Top & Tstg | -65 to +200 | °C |
| Thermal Resistance, Junction to Case | Cerpack TO-257 | $R_{\theta JC}$ | 2.5 5 | °C/W |

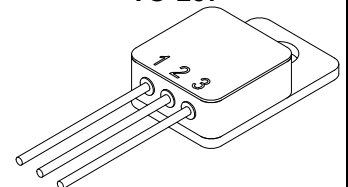
Notes:

- * Pulse Test: Pulse Width = 300µsec, Duty Cycle = 2%
- ^{1/} For ordering information, price, 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.

Cerpack



TO-257



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

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SFT5553A Series

| Electrical Characteristics ^{3/} | | Sym | Min | Typ | Max | Units |
|--|--|---------------|----------------|-----------------|-------------------|----------|
| Collector – Emitter Breakdown Voltage | $I_C = 100 \mu A_{DC}$ | BV_{CEO} | 80 | 200 | — | Volts |
| Collector – Base Breakdown Voltage | $I_C = 100 \mu A_{DC}$ | BV_{CBO} | 100 | 280 | — | Volts |
| Emitter – Base Breakdown Voltage | $I_E = 20 \mu A_{DC}$ | BV_{EBO} | 6 | 13 | — | Volts |
| Emitter – Cutoff Current | $V_{EB} = 5 V_{DC}$ | I_{EBO} | — | 0.005 | 10 | μA |
| Collector – Cutoff Current | $V_{CB} = 100 V_{DC}$ | I_{CBO} | — | 0.005 | 10 | μA |
| Collector – Cutoff Current | $V_{CE} = 80 V_{DC}$ | I_{CEO} | — | 0.1 | 100 | μA |
| DC Current Gain * | $V_{CE} = 1.1V_{DC}, I_C = 1.0A_{DC}$ $V_{CE} = 1.32V_{DC}, I_C = 2.5A_{DC}$ $V_{CE} = 2.2V_{DC}, I_C = 5.0A_{DC}$ | H_{FE} | 80 55 25 | 210 85 35 | 250 150 120 | — |
| Collector – Emitter Saturation Voltage * | $I_C = 2.5A_{DC}, I_B = 0.2A_{DC}$ | $V_{CE(SAT)}$ | — | 0.17 | 0.5 | V_{DC} |
| Base – Emitter Saturation Voltage * | $I_C = 2.5A_{DC}, I_B = 0.2A_{DC}$ | $V_{BE(SAT)}$ | — | 0.9 | 1.1 | V_{DC} |
| Base – Emitter On Voltage * | $I_C = 2.5A_{DC}, V_{CE} = 1.3V_{DC}$ | $V_{BE(ON)}$ | — | 0.85 | 0.95 | V_{DC} |
| Current Gain Bandwidth Product | $I_C = 50mA_{DC}, V_{CE} = 10V_{DC}, f = 20MHz$ | f_T | 40 | 60 | — | MHz |
| Output Capacitance | $V_{CB} = 30V_{DC}, I_E = 0A_{DC}, f = 1.0MHz$ | C_{ob} | — | 50 | 120 | pF |
| Turn On Time | $V_{CC} = 20V_{DC}, I_C = 1.0A_{DC},$ | $t_{(on)}$ | — | 30 | 100 | nsec |
| Turn Off Time | $I_{B1} = I_{B2} = 100mA_{DC}, R_{B1} = R_{B2} = 40\Omega$ | $t_{(off)}$ | — | 1500 | 1600 | nsec |

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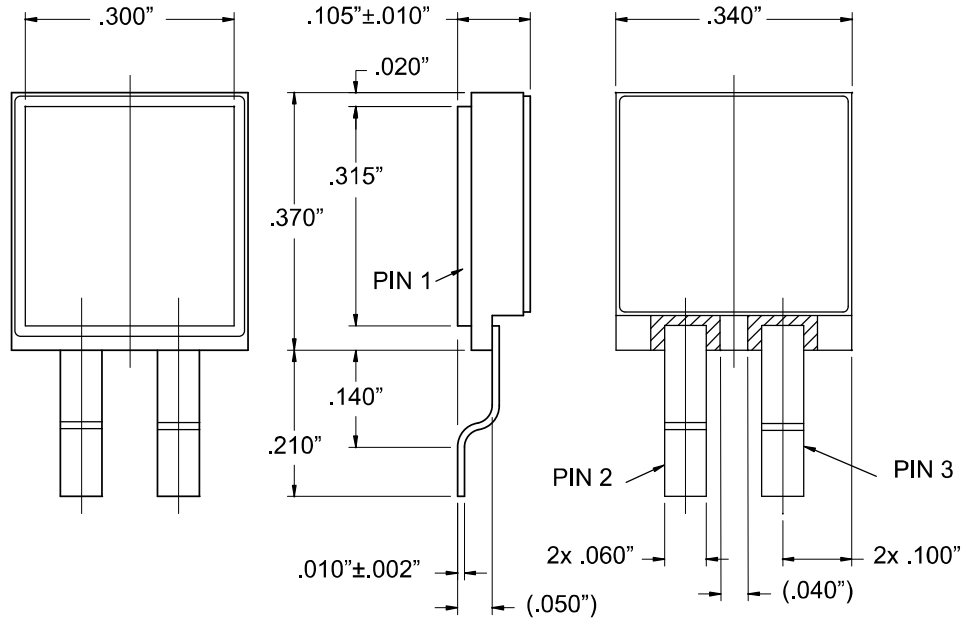


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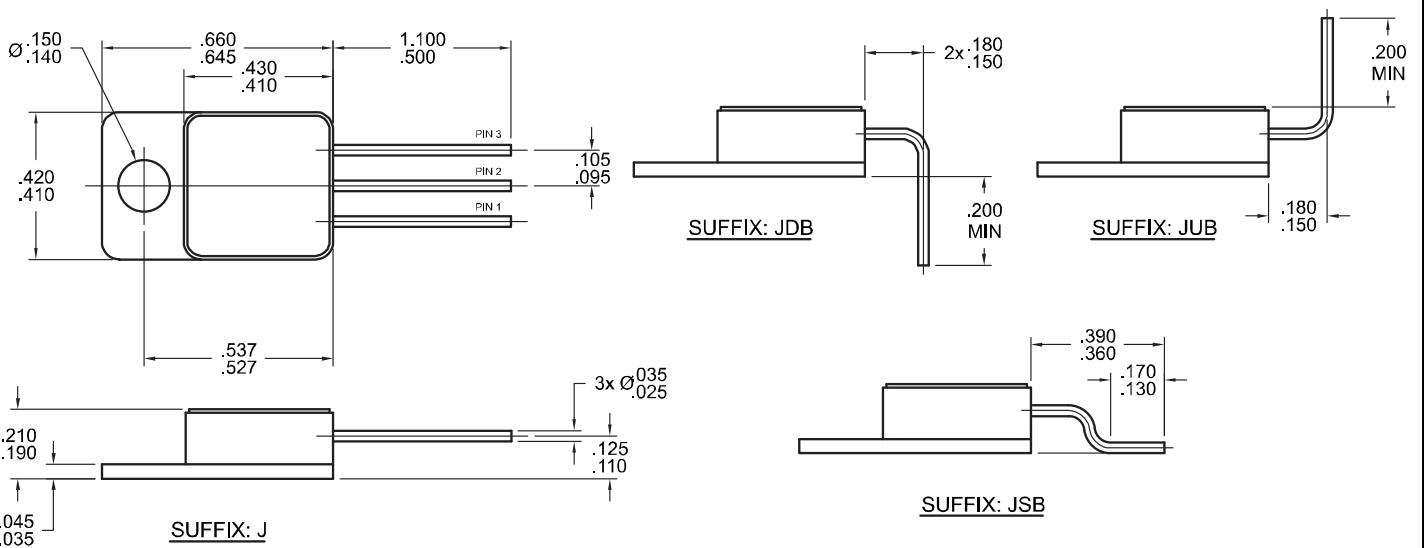
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SFT5553A Series

Case Outline: Cerpack



Case Outline: TO-257



Available Part Numbers:

SFT5553AG, SFT5553AJ, SFT5553AJUB, SFT5553AJDB,
 SFT5553AJSB, SFT5553AJR, SFT5553AJUBR, SFT5553AJDBR,
 SFT5553AJSBR

PIN ASSIGNMENT (Standard)

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

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