



**Solid State Devices, Inc.**

14830 Valley View Blvd \* La Mirada, Ca 90638

Phone: (562) 404-7855 \* Fax: (562) 404-1773

ssdi@ssdi-power.com \* www.ssdi-power.com

**DESIGNER'S DATA SHEET**

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

SFT2369A2

$\square$  Screening <sup>2/</sup>      = Commercial  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level  
 Package GW = Gullwing

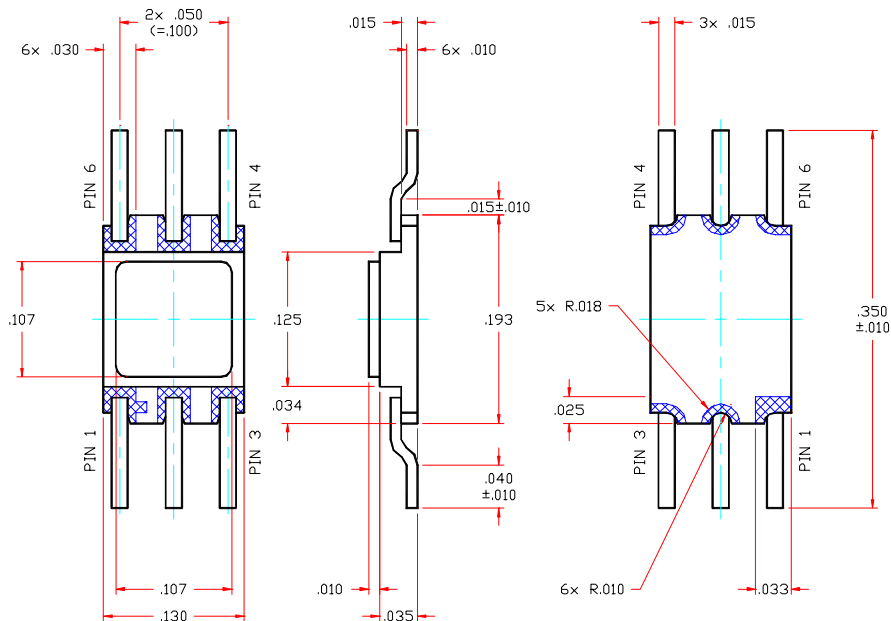
**SFT2369A2  
Series**

**Dual Microminiature Package  
100 mA 15 Volts  
Dual NPN Transistor**

- Features:**
- High Speed Switching Transistor
  - Suitable in chopper, uhf and rf application
  - Multiple Devices Reduce Board Space
  - Replacement for 2N2369AU
  - TX, TXV, S-Level screening available

| Maximum Ratings                              | Symbol              | Value       | Units              |
|--|---------------------|-------------|--------------------|
| Collector – Emitter Voltage                  | $V_{CEO}$           | 15          | Volts              |
| Collector – Base Voltage                     | $V_{CBO}$           | 40          | Volts              |
| Emitter – Base Voltage                       | $V_{EBO}$           | 4.5         | Volts              |
| Continues Collector Current                  | $I_C$               | 100         | mAmps              |
| Power Dissipation @ $T_a = 25^\circ\text{C}$ | Per Device<br>Total | $P_D$       | 360                |
|  |                     |             | 500                |
| Operating & Storage Temperature              | Top & Tstg          | -65 to +200 | $^\circ\text{C}$   |
| Maximum Thermal Resistance (Junction to PCB) | $R_{\theta J-PCB}$  | 290         | $^\circ\text{C/W}$ |

**Gullwing (GW)**



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

**DATA SHEET #: TR0045A**



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## SFT2369A2 Series

| Electrical Characteristic <sup>4/</sup>         |   | Symbol        | Min | Max  | Units         |
|---|---|---------------|-----|------|---------------|
| <b>Collector – Emitter Sustaining Voltage</b>   | $I_C = 10 \text{ mA}$   | $BV_{CEO}$    | 15  | —    | Volts         |
| <b>Collector Cutoff Current</b>                 | $V_{ce} = 20 \text{ V}$ ,   | $I_{CES}$     | —   | 400  | nA            |
| <b>Collector Cutoff Current</b>                 | $V_{cb} = 32 \text{ V}$   | $I_{CBO}$     | —   | 200  | nA            |
|   | $V_{cb} = 40 \text{ V}$   |               |     | 10   | $\mu\text{A}$ |
|   | $V_{cb} = 20 \text{ V}, T_a = 150 \text{ }^\circ\text{C}$                     |               |     | 30   | $\mu\text{A}$ |
| <b>Emitter Cutoff Current</b>                   | $V_{eb} = 4.0 \text{ V}$  | $I_{EBO}$     | —   | 250  | nA            |
|   | $V_{eb} = 4.5 \text{ V}$  |               |     | 10   | $\mu\text{A}$ |
| <b>DC Forward Current Transfer Ratio *</b>      | $V_{CE} = 0.35\text{V}, I_C = 10 \text{ mA}$                                  | $H_{FE}$      |     | 40   | 120           |
|   | $V_{CE} = 0.40\text{V}, I_C = 30 \text{ mA}$                                  |               |     | 30   | 120           |
|   | $V_{CE} = 1.0\text{V}, I_C = 10 \text{ mA}$                                   |               |     | 40   | 120           |
|   | $V_{CE} = 1.0\text{V}, I_C = 100 \text{ mA}$                                  |               |     | 20   | 120           |
|   | $V_{ce} = 1.0\text{V}, I_c = 10 \text{ mA}, T_a = -55 \text{ }^\circ\text{C}$ |               |     | 20   | —             |
| <b>Collector – Emitter Saturation Voltage *</b> | $I_C = 10\text{mA}, I_B = 1.0\text{mA}$                                       | $V_{CE(Sat)}$ |     | —    | 0.20          |
|   | $I_C = 30\text{mA}, I_B = 3.0\text{mA}$                                       |               |     | —    | 0.25          |
|   | $I_C = 100\text{mA}, I_B = 10\text{mA}$                                       |               |     | —    | 0.45          |
|   | $I_C = 10\text{mA}, I_B = 1.0\text{mA}, T_a = 125 \text{ }^\circ\text{C}$     |               |     | —    | 0.30          |
| <b>Base – Emitter Saturation Voltage *</b>      | $I_C = 10\text{mA}, I_B = 1.0\text{mA}$                                       | $V_{BE(Sat)}$ |     | 0.7  | 0.85          |
|   | $I_C = 30\text{mA}, I_B = 3.0\text{mA}$                                       |               |     | —    | 0.9           |
|   | $I_C = 100\text{mA}, I_B = 10\text{mA}$                                       |               |     | 0.8  | 1.2           |
|   | $I_C = 10\text{mA}, I_B = 1.0\text{mA}, T_a = -55 \text{ }^\circ\text{C}$     |               |     | —    | 1.02          |
|   | $I_C = 10\text{mA}, I_B = 1.0\text{mA}, T_a = 125 \text{ }^\circ\text{C}$     |               |     | 0.59 | —             |
| <b>Frequency Transition</b>                     | $V_{CE} = 10\text{V}, I_C = 10\text{mA}$                                      | $f_T$         | 500 | 1000 | MHz           |
| <b>Output Capacitance</b>                       | $V_{CE} = 5\text{V}, f = 1\text{MHz}$   | $c_{ob}$      | —   | 4.0  | pF            |
| <b>Input Capacitance</b>                        | $V_{CE} = 0.5\text{V}, f = 1\text{MHz}$                                       | $c_{ib}$      | —   | 5.0  | pF            |
| <b>Switch Times</b>                             | Test Circuit per MIL-PRF-19500/317  | $t_{on}$      | —   | 12   | nsec          |
|   |   | $t_{off}$     | —   | 18   |               |
|   |   | $t_s$         | —   | 13   |               |

**NOTES:**

- \* Pulse Test: Pulse Width = 300 $\mu\text{sec}$ , Duty Cycle = 2%
- 1/ For Ordering Information, Price, and Availability Contact Factory.
- 2/ Screening per MIL-PRF-19500

3/ For Package Outlines Contact Factory.

4/ Unless Otherwise Specified, All Electrical Characteristics @25 $^\circ\text{C}$ .

**Available Part Numbers:**

SFT2369A2GW

| PIN ASSIGNMENT |            |       |          |            |       |          |
|----------------|------------|-------|----------|------------|-------|----------|
| Package        | Pin 1      | Pin 2 | Pin 3    | Pin 4      | Pin 5 | Pin 6    |
| GW             | Collector1 | Base1 | Emitter1 | Collector2 | Base2 | Emitter2 |
|                |            |       |          |            |       |          |
|                |            |       |          |            |       |          |