



查询"SFT6338"供应商

**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>

SFT6338 M \_ TX

SFT6339 M \_ TX

SFT6340 M \_ TX

SFT6341 M \_ TX

Screening <sup>2/</sup>: \_ = Not Screened

TX = TX Level

TXV = TXV Level

S = Space Level

Lead Bend <sup>3/4/</sup> \_ = Straight

UB = Up Bend

DB = Down Bend

Package: <sup>3/</sup> M = TO-254

Z = TO-254Z

/3 = TO-3

## SFT6338 - SFT6341 SERIES

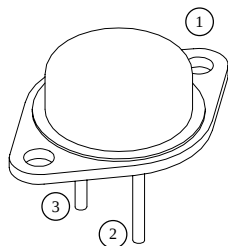
### 25 AMP 100 - 150 VOLTS NPN HIGH SPEED POWER TRANSISTOR

#### APPLICATION NOTES:

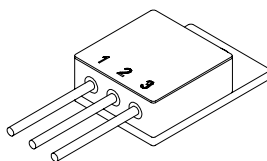
- Replaces Industry Standard 2N6338 thru 2N6341
- Designed for High Voltage, High Speed, Power Switching Applications Such as:
  - Off-Line Supplies
  - Converter Circuits
  - Pulse Width Modulated Regulators
  - Motor Controls
  - Deflection Circuits
- Designed for Complimentary Use with SFT6436 thru SFT6438

| MAXIMUM RATINGS                                  |         | SYMBOL                            | VALUE       | UNITS |
|--------------------------------------------------|---------|-----------------------------------|-------------|-------|
| Collector-Emitter Voltage                        | SFT6338 | V <sub>CEO</sub>                  | 100         | Volts |
|                                                  | SFT6339 |                                   | 120         |       |
|                                                  | SFT6340 |                                   | 140         |       |
|                                                  | SFT6341 |                                   | 150         |       |
| Collector-Base Voltage                           | SFT6338 | V <sub>CBO</sub>                  | 120         | Volts |
|                                                  | SFT6339 |                                   | 140         |       |
|                                                  | SFT6340 |                                   | 160         |       |
|                                                  | SFT6341 |                                   | 180         |       |
| Continuous Collector Current                     |         | I <sub>C</sub>                    | 25          | Amps  |
| Peak Collector Current                           |         | I <sub>C(pk)</sub>                | 50          | Amps  |
| Continious Base Current                          |         | I <sub>B</sub>                    | 10          | Amps  |
| Operating and Storage Temperature                |         | T <sub>J</sub> , T <sub>STG</sub> | -65 to +200 | °C    |
| Total Device Dissipation @ T <sub>C</sub> = 25°C |         | P <sub>D</sub>                    | 200         | W     |
| Derate above 25°C                                |         |                                   | 1.14        |       |
| Thermal Resistance, Junction to Case             |         | R <sub>θJC</sub>                  | 1.0         | °C/W  |

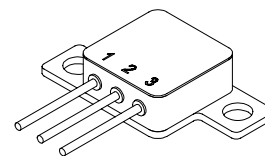
TO-3



TO-254



TO-254Z



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

**DATA SHEET #:** TR0025A

# SFT6338 - SFT6341

## SERIES

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| ELECTRICAL CHARACTERISTICS <sup>5/</sup>                                                                            |                                                                                                                                                                                                                                           | SYMBOL                      | MIN        | MAX         | UNITS                 |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------|-------------|-----------------------|
| <b>Collector Cutoff Current</b><br>(V <sub>CE</sub> Rated V <sub>CEO</sub> , V <sub>BE</sub> = 1.5V <sub>DC</sub> ) | (T <sub>C</sub> = 25°C)                                                                                                                                                                                                                   | <b>I<sub>CEX</sub></b>      | -          | <b>10</b>   | <b>mA</b>             |
|                                                                                                                     | (T <sub>C</sub> = 150°C)                                                                                                                                                                                                                  |                             | -          | <b>1.0</b>  | <b>mA</b>             |
| <b>Collector Cutoff Current</b><br>(V <sub>CB</sub> Rated V <sub>CBO</sub> , I <sub>E</sub> = 0)                    |                                                                                                                                                                                                                                           | <b>I<sub>CBO</sub></b>      | -          | <b>10</b>   | <b>mA</b>             |
| <b>Emitter Cutoff Current</b><br>(V <sub>EB</sub> = 6V <sub>DC</sub> , I <sub>C</sub> = 0)                          |                                                                                                                                                                                                                                           | <b>I<sub>EBO</sub></b>      | -          | <b>100</b>  | <b>mA</b>             |
| <b>Collector-Emitter Sustaining Voltage *</b><br>(I <sub>C</sub> = 50mA, I <sub>B</sub> = 0)                        | <b>SFT6338</b>                                                                                                                                                                                                                            | <b>V<sub>CEO(sus)</sub></b> | <b>100</b> | -           | <b>V<sub>DC</sub></b> |
|                                                                                                                     | <b>SFT6339</b>                                                                                                                                                                                                                            |                             | <b>120</b> |             |                       |
|                                                                                                                     | <b>SFT6340</b>                                                                                                                                                                                                                            |                             | <b>140</b> |             |                       |
|                                                                                                                     | <b>SFT6341</b>                                                                                                                                                                                                                            |                             | <b>150</b> |             |                       |
| <b>DC Current Gain *</b><br>(V <sub>CE</sub> = 2.0V <sub>DC</sub> )                                                 | (I <sub>C</sub> = 0.5A <sub>DC</sub> )                                                                                                                                                                                                    | <b>h<sub>FE</sub></b>       | <b>50</b>  | -           |                       |
|                                                                                                                     | (I <sub>C</sub> = 10A <sub>DC</sub> )                                                                                                                                                                                                     |                             | <b>30</b>  | <b>120</b>  |                       |
|                                                                                                                     | (I <sub>C</sub> = 25A <sub>DC</sub> )                                                                                                                                                                                                     |                             | <b>12</b>  | -           |                       |
| <b>Base-Emitter Saturation Voltage*</b>                                                                             | (I <sub>C</sub> = 10A <sub>DC</sub> , I <sub>B</sub> = 1A <sub>DC</sub> )                                                                                                                                                                 | <b>V<sub>BE (SAT)</sub></b> | -          | <b>1.8</b>  | <b>V<sub>DC</sub></b> |
|                                                                                                                     | (I <sub>C</sub> = 25A <sub>DC</sub> , I <sub>B</sub> = 2.5A <sub>DC</sub> )                                                                                                                                                               |                             | -          | <b>2.5</b>  |                       |
| <b>Collector-Emitter Saturation Voltage*</b>                                                                        | (I <sub>C</sub> = 10A <sub>DC</sub> , I <sub>B</sub> = 1A <sub>DC</sub> )                                                                                                                                                                 | <b>V<sub>CE (SAT)</sub></b> | -          | <b>1.0</b>  | <b>V<sub>DC</sub></b> |
|                                                                                                                     | (I <sub>C</sub> = 25A <sub>DC</sub> , I <sub>B</sub> = 2.5A <sub>DC</sub> )                                                                                                                                                               |                             | -          | <b>1.8</b>  |                       |
| <b>Current Gain</b><br>(I <sub>C</sub> = 1A, V <sub>CE</sub> = 10V <sub>DC</sub> , f = 10MHz)                       |                                                                                                                                                                                                                                           | <b> h<sub>fe</sub> </b>     | <b>4</b>   | -           |                       |
| <b>Output Capacitance</b><br>(I <sub>E</sub> = 0, V <sub>CB</sub> = 10V <sub>DC</sub> , f = 0.1MHz)                 |                                                                                                                                                                                                                                           | <b>C<sub>ob</sub></b>       | -          | <b>300</b>  | <b>pf</b>             |
| <b>Rise Time</b>                                                                                                    | (V <sub>CC</sub> = 80V <sub>DC</sub> , I <sub>C</sub> = 10A <sub>DC</sub> , V <sub>B</sub> = 6V <sub>DC</sub><br>I <sub>B1</sub> = I <sub>B2</sub> = 1A <sub>DC</sub> , R <sub>L</sub> = 8W,<br>t <sub>p</sub> = 10msec, Duty Cycle ≤ 1%) | <b>t<sub>r</sub></b>        | -          | <b>0.3</b>  | <b>msec</b>           |
| <b>Storage Time</b>                                                                                                 |                                                                                                                                                                                                                                           | <b>t<sub>s</sub></b>        | -          | <b>1.0</b>  | <b>msec</b>           |
| <b>Fall Time</b>                                                                                                    |                                                                                                                                                                                                                                           | <b>t<sub>f</sub></b>        | -          | <b>0.25</b> | <b>msec</b>           |

### NOTES:

\* Pulse Test: Pulse Width = 300us, 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/ Up and Down Bend Configurations Available for M and Z (TO-254 and TO-254Z) Packages Only.

5/ All Electrical Characteristics @25°C, Unless Otherwise Specified.

### Available Part Numbers:

|                  |                 |                 |
|------------------|-----------------|-----------------|
| <b>SFT6338/3</b> | <b>SFT6338M</b> | <b>SFT6338Z</b> |
| <b>SFT6339/3</b> | <b>SFT6339M</b> | <b>SFT6339Z</b> |
| <b>SFT6340/3</b> | <b>SFT6340M</b> | <b>SFT6340Z</b> |
| <b>SFT6341/3</b> | <b>SFT6341M</b> | <b>SFT6341Z</b> |

### PIN ASSIGNMENT

| PACKAGE | Collector | Emmitter | Base  |
|---------|-----------|----------|-------|
| TO-3    | Case (1)  | Pin 2    | Pin 3 |
| TO-254  | Pin 1     | Pin 2    | Pin 3 |
| TO-254Z | Pin 1     | Pin 2    | Pin 3 |