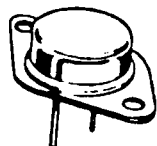


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|                                                                                                                                                   |                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p align="center"><b>SFT1618</b><br/> <b>10 AMP</b><br/> <b>FAST SWITCHING</b><br/> <b>HIGH VOLTAGE NPN TRANSISTOR</b><br/> <b>1500 VOLTS</b></p> | <p align="center">www.DataSheet4U.com<br/> <b>SSDI</b></p> <p>14849 FIRESTONE BLVD.<br/> LA MIRADA, CA 90638<br/> TEL: (213) 921-9660<br/> FAX: (213) 921-2396</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CASE STYLE TO-3

FEATURES



- ▶ BVCEO 800 VOLTS MINIMUM
- ▶ HIGH GAIN FROM 1mA TO 10A
- ▶ VERY LOW LEAKAGE
- ▶ FAST SWITCHING, 500ns ON-TIME
- ▶ GOLD EUTECTIC DIE ATTACH
- ▶ LOW THERMAL RESISTANCE

## MAXIMUM RATINGS

| RATING                                                      | SYMBOL   | VALUE       | UNIT           |
|-------------------------------------------------------------|----------|-------------|----------------|
| Collector-Emitter Voltage                                   | VCEO     | 800         | Volts          |
| Collector-Base Voltage                                      | VCBO     | 1500        | Volts          |
| Emitter-Base Voltage                                        | VEBO     | 6           | Volts          |
| Collector Current                                           | IC       | 10          | Amps           |
| Base Current                                                | IB       | 8           | Amps           |
| Total Device Dissipation @ Tc = 25 °C<br>Derate Above 25 °C | PD       | 175<br>1.0  | Watts<br>W/ °C |
| Operating and Storage Temperature                           | TJ, Tstg | -65 to +200 | °C             |

## THERMAL CHARACTERISTICS

| CHARACTERISTIC                       | SYMBOL | VALUE | UNIT |
|--------------------------------------|--------|-------|------|
| Thermal Resistance, Junction to Case | RθJC   | 1.0   | °C/W |

## ELECTRICAL CHARACTERISTICS

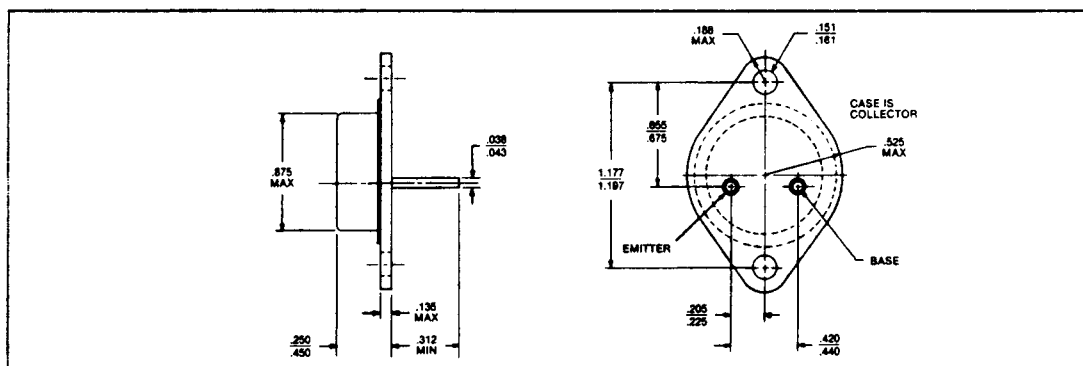
| Characteristics                                                     | Symbol | Min  | Max | Unit  |
|---------------------------------------------------------------------|--------|------|-----|-------|
| Collector-Emitter Breakdown Voltage*<br>(IC = 100mA <sub>dc</sub> ) | BVCEO  | 800  |     | Volts |
| Collector-Base Breakdown Voltage<br>(IC = 1.0MA <sub>dc</sub> )     | BVCBO  | 1500 |     | Volts |

# ELECTRICAL CHARACTERISTICS

| Characteristics                                                                                                                                                               |                                                                                                             | Symbol   | Min          | Max        | Unit            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------|--------------|------------|-----------------|
| Emitter-Base Breakdown Voltage<br>( $I_E = 100\mu\text{Adc}$ )                                                                                                                |                                                                                                             | BVEBO    | 6            |            | Vdc             |
| Collector Cutoff Current<br>( $V_{CB} = 1500\text{Vdc}$ )                                                                                                                     |                                                                                                             | ICBO     |              | 250        | $\mu\text{Adc}$ |
| Emitter Cutoff Current<br>( $V_{EB} = 6\text{Vdc}$ )                                                                                                                          |                                                                                                             | IEBO     |              | 100        | $\mu\text{Adc}$ |
| DC Current Gain*<br>( $I_C = 1\text{Adc}$ , $V_{CE} = 5\text{Vdc}$ )<br>( $I_C = 5\text{Adc}$ , $V_{CE} = 5\text{Vdc}$ )<br>( $I_C = 10\text{Adc}$ , $V_{CE} = 5\text{Vdc}$ ) |                                                                                                             | hFE      | 10<br>7<br>5 |            |                 |
| Collector-Emitter Saturation Voltage*<br>( $I_C = 5\text{Adc}$ , $I_B = 1\text{Adc}$ )<br>( $I_C = 10\text{Adc}$ , $I_B = 5\text{Adc}$ )                                      |                                                                                                             | VCE(SAT) |              | 1.5<br>4.5 | Vdc             |
| Base-Emitter Saturation Voltage*<br>( $I_C = 5\text{Adc}$ , $I_B = 2\text{Adc}$ )<br>( $I_C = 5\text{Adc}$ , $I_B = 2\text{Adc}$ , $T_C = 100^\circ\text{C}$ )                |                                                                                                             | VBE(SAT) |              | 1.5<br>4.5 | Vdc             |
| Current Gain Bandwidth Product<br>( $I_C = 5\text{Adc}$ , $V_{CE} = 5\text{Vdc}$ , $f = 1\text{MHz}$ )                                                                        |                                                                                                             | fT       | 5            |            | MHz             |
| Output Capacitance<br>( $V_{CB} = 10\text{Vdc}$ , $I_E = 0\text{Adc}$ , $f = 1\text{MHz}$ )                                                                                   |                                                                                                             | Cob      |              | 400        | pf              |
| Delay Time                                                                                                                                                                    | (IC = 5.0Adc,<br>VCC = 250Vdc, RB2 = 3.0Ω<br>IB1 = 1.0Adc, TB2 = 2.0Adc<br>PW = 30μs)<br>Duty Cycle ≤ 2.0 % | td       |              | 100        | ns              |
| Rise Time                                                                                                                                                                     |                                                                                                             | tr       |              | 400        | ns              |
| Storage Time                                                                                                                                                                  |                                                                                                             | ts       |              | 3000       | ns              |
| Fall Time                                                                                                                                                                     |                                                                                                             | tf       |              | 1200       | ns              |

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

## PHYSICAL DIMENSIONS



**SSDI**

**SOLID STATE DEVICES, INC.**

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