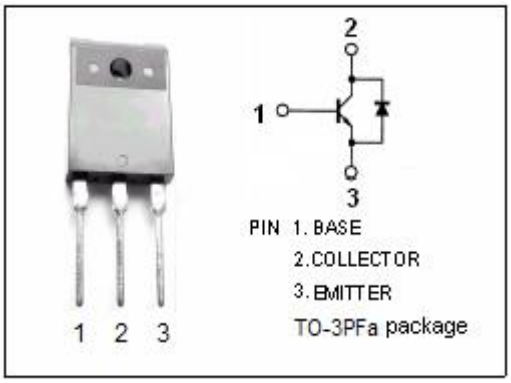
# isc Silicon NPN Power Transistor — BU705DF

## DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 700V (Min)
- High Switching Speed
- Built-in Integrated Efficiency Diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

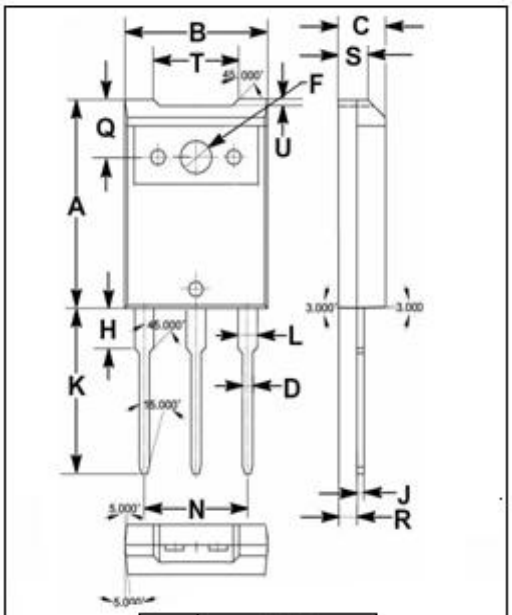



## APPLICATIONS

- Designed for use in horizontal deflection circuits of TV receivers.

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CES}$ | Collector- Emitter Voltage($V_{BE}$= 0) | 1350 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 700 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current- Continuous | 2.5 | A |
| $I_{CM}$ | Collector Current-Peak | 4 | A |
| $I_B$ | Base Current- Continuous | 2 | A |
| $I_{BM}$ | Base Current-Peak | 4 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 29 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~150 | ℃ |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 20.70 | 21.30 |
| B | 14.70 | 15.30 |
| C | 4.80 | 5.20 |
| D | 0.90 | 1.10 |
| F | 3.20 | 3.40 |
| H | 3.70 | 4.30 |
| J | 0.50 | 0.70 |
| K | 16.40 | 17.00 |
| L | 1.90 | 2.10 |
| N | 10.80 | 11.00 |
| Q | 5.60 | 6.00 |
| R | 1.80 | 2.20 |
| S | 3.10 | 3.50 |
| T | 8.70 | 9.30 |
| U | 0.55 | 0.75 |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 4.37 | ℃/W |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= 50mA ; $I_B$= 0;L= 25mH | 700 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 2A; $I_B$= 0.9A | | | 5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 2A; $I_B$= 0.9A | | | 1.3 | V |
| $I_{CES}$ | Collector Cutoff Current | $V_{CE}$= $V_{CESmax}$ ; $V_{BE}$= 0<br>$V_{CE}$= $V_{CESmax}$ ; $V_{BE}$= 0; $T_J$=125℃ | | | 0.15<br>1 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 5V ; $I_C$= 0 | | | 1 | mA |
| $h_{FE}$ | DC Current Gain | $I_C$= 2A ; $V_{CE}$= 5V | 2.2 | | | |
| $V_{ECF}$ | C-E Diode Forward Voltage | $I_F$= 3A | | | 1.8 | V |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= 10V; $f_{test}$= 0.1MHz | | 65 | | pF |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= 0.1A; $V_{CE}$= 5V; $f_{test}$= 5MHz | | 7 | | MHz |