

isc Silicon NPN Power Transistor

BU2508AF

DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 700V$  (Min)
- High Switching Speed

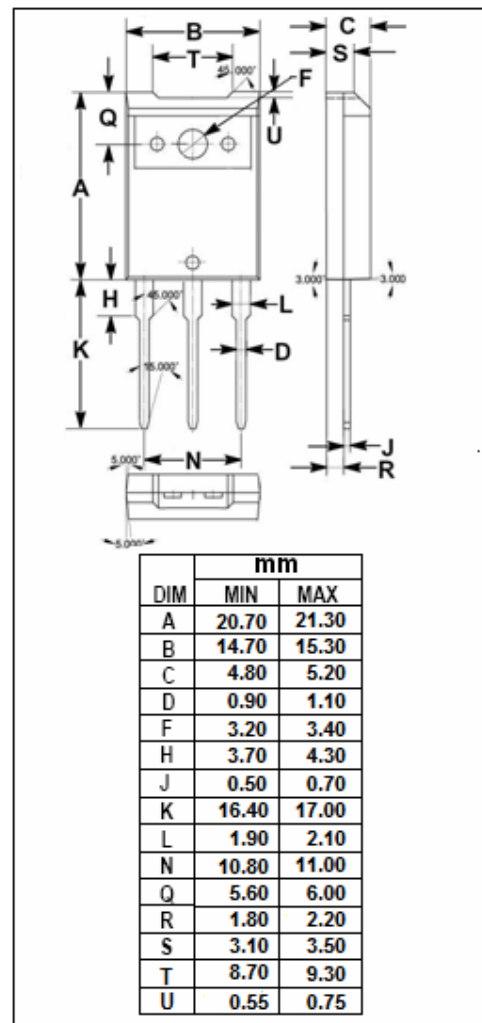
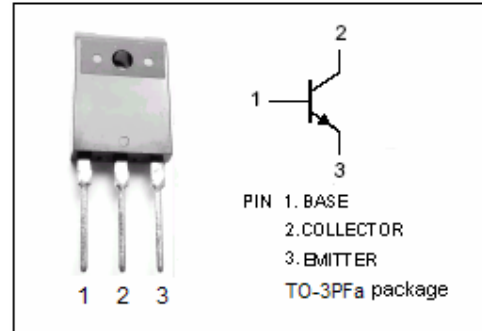
APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}C$ )

| SYMBOL    | PARAMETER                                       | VALUE   | UNIT        |
|-----------|---|---------|-------------|
| $V_{CES}$ | Collector- Emitter Voltage( $V_{BE}= 0$ )       | 1500    | V           |
| $V_{CEO}$ | Collector-Emitter Voltage                       | 700     | V           |
| $V_{EBO}$ | Emitter-Base Voltage                            | 7.5     | V           |
| $I_C$     | Collector Current- Continuous                   | 8       | A           |
| $I_{CM}$  | Collector Current-Peak                          | 15      | A           |
| $I_B$     | Base Current- Continuous                        | 4       | A           |
| $I_{BM}$  | Base Current-Peak                               | 6       | A           |
| $P_C$     | Collector Power Dissipation @ $T_C=25^{\circ}C$ | 45      | W           |
| $T_J$     | Junction Temperature                            | 150     | $^{\circ}C$ |
| $T_{stg}$ | Storage Temperature Range                       | -65~150 | $^{\circ}C$ |

| SYMBOL        | PARAMETER                            | MAX | UNIT          |
|---------------|--------------------------------------|-----|---------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 2.5 | $^{\circ}C/W$ |



## isc Silicon NPN Power Transistor

## BU2508AF

## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL         | PARAMETER                            | CONDITIONS   | MIN | TYP. | MAX        | UNIT |
|----------------|--------------------------------------|--|-----|------|------------|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=100\text{mA}$ ; $I_B=0$ , $L=25\text{mH}$   | 700 |      |            | V    |
| $V_{(BR)EBO}$  | Emitter-Base Breakdown Voltage       | $I_E=1\text{mA}$ ; $I_C=0$   | 7.5 |      |            | V    |
| $V_{CE(sat)}$  | Collector-Emitter Saturation Voltage | $I_C=4.5\text{A}$ ; $I_B=1.1\text{A}$  |     |      | 1.0        | V    |
| $V_{BE(sat)}$  | Base-Emitter Saturation Voltage      | $I_C=4.5\text{A}$ ; $I_B=1.7\text{A}$  |     |      | 1.1        | V    |
| $I_{CES}$      | Collector Cutoff Current             | $V_{CE}=1500\text{V}$ ; $V_{BE}=0$<br>$V_{CE}=1500\text{V}$ ; $V_{BE}=0$ ; $T_C=125^\circ\text{C}$ |     |      | 1.0<br>2.0 | mA   |
| $I_{EBO}$      | Emitter Cutoff Current               | $V_{EB}=7.5\text{V}$ ; $I_C=0$   |     |      | 1.0        | mA   |
| $h_{FE-1}$     | DC Current Gain                      | $I_C=0.1\text{A}$ ; $V_{CE}=5\text{V}$   |     | 13   |            |      |
| $h_{FE-2}$     | DC Current Gain                      | $I_C=4.5\text{A}$ ; $V_{CE}=1\text{V}$   | 4   |      | 7          |      |
| $C_{OB}$       | Output Capacitance                   | $I_E=0$ ; $V_{CB}=10\text{V}$ ; $f_{test}=1\text{MHz}$   |     | 80   |            | pF   |

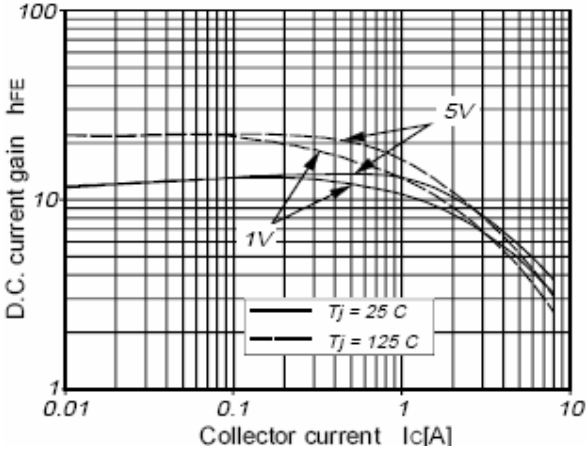
## Switching times

|           |              |   |  |  |     |               |
|-----------|--------------|---|--|--|-----|---------------|
| $t_{stg}$ | Storage Time | $I_C=4.5\text{A}$ , $I_{B(end)}=1.1\text{A}$ ; $L_B=6\mu\text{H}$<br>$-V_{BB}=4\text{V}$ ; $(-dI_B/dt=0.6\text{A}/\mu\text{s})$ |  |  | 6.0 | $\mu\text{s}$ |
| $t_f$     | Fall Time    |   |  |  | 0.6 | $\mu\text{s}$ |

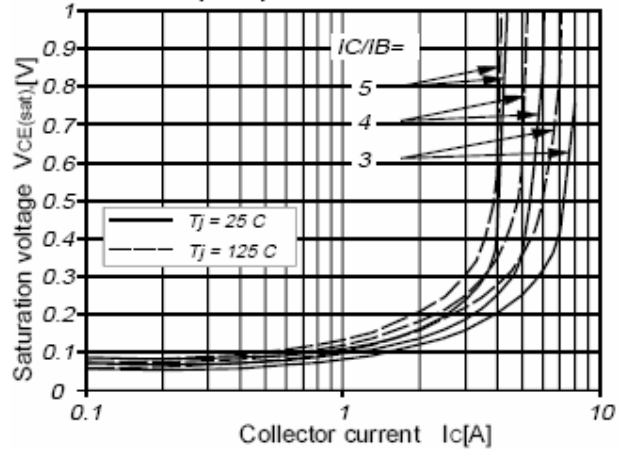
isc Silicon NPN Power Transistor

BU2508AF

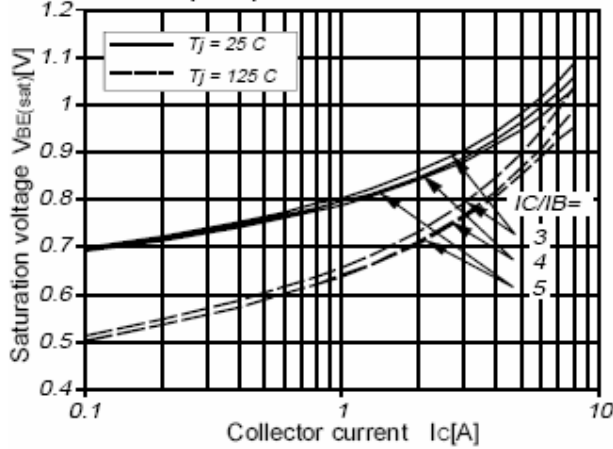
$h_{FE}-I_C$  Characteristics



$V_{CE(sat)}-I_C$  Characteristics



$V_{BE(sat)}-I_C$  Characteristics



Safe Operating Area

