

isc Silicon NPN Power Transistor

BU2508AF

DESCRIPTION

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

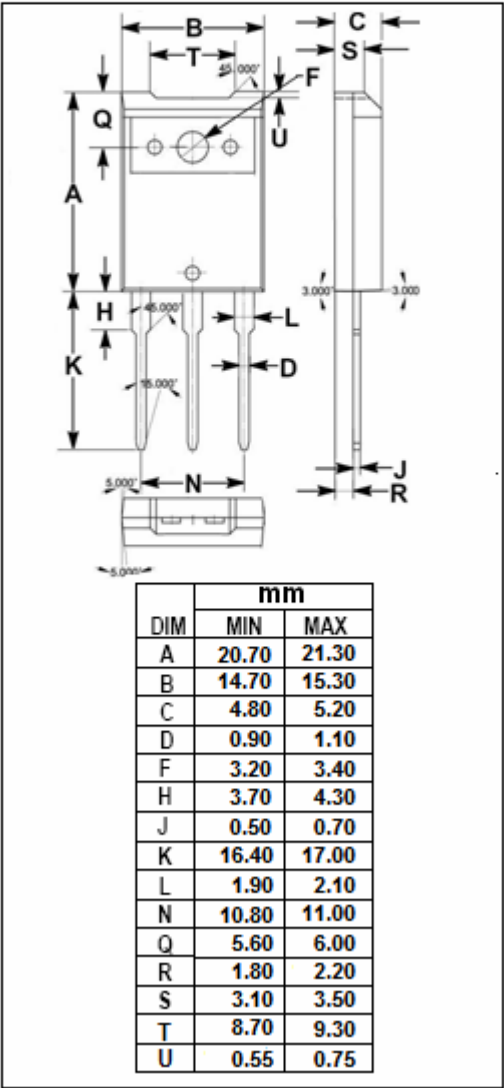
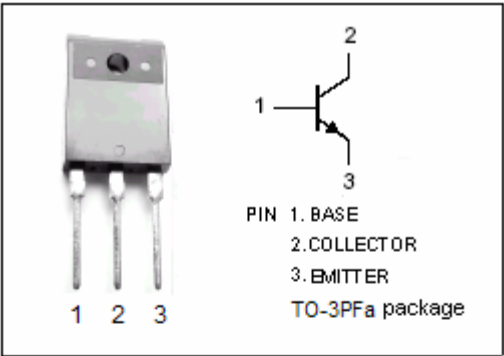
APPLICATIONS

- 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<br>@ $T_C=25^{\circ}C$ | 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 | $^{\circ}C/W$ |



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## ELECTRICAL CHARACTERISTICS

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

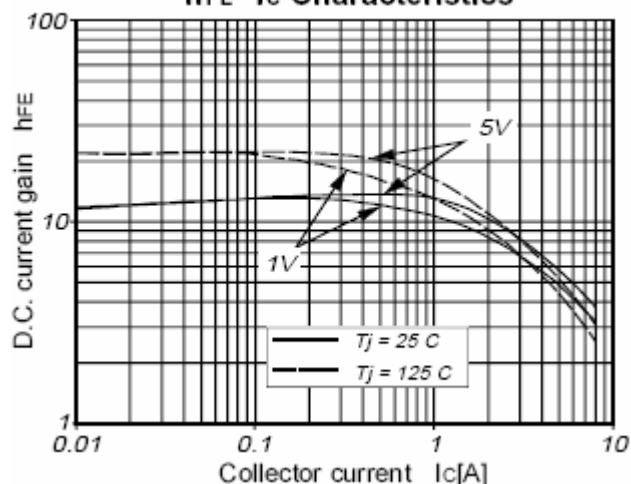
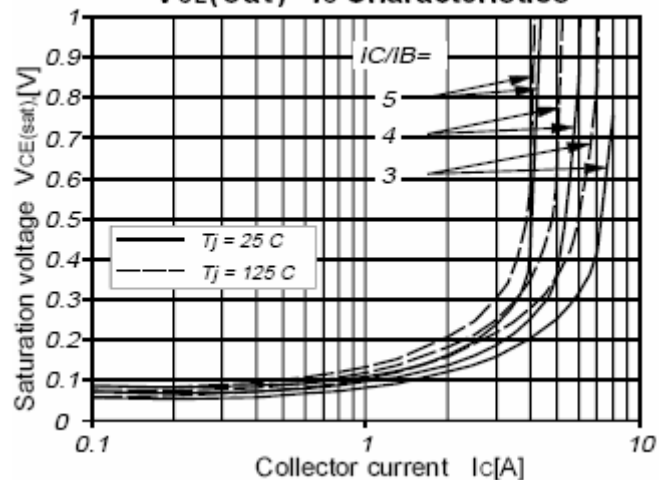
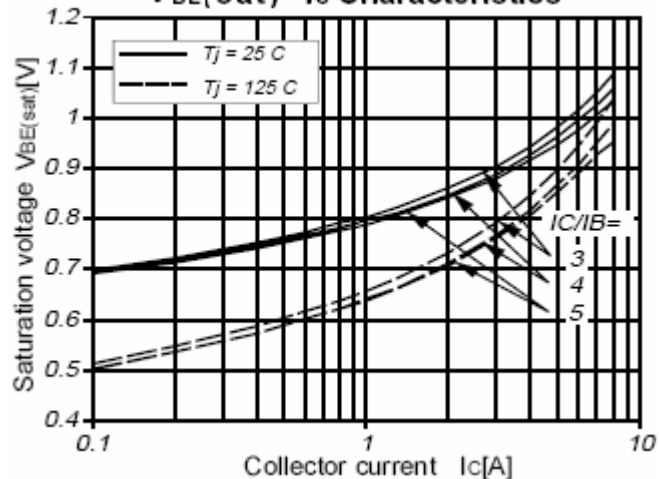
| SYMBOL         | PARAMETER                            | CONDITIONS                                                                                           | MIN | TYP. | MAX        | UNIT |
|----------------|--------------------------------------|------------------------------------------------------------------------------------------------------|-----|------|------------|------|
| $V_{CEO(SUS)}$ | 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                   | $I_E=0$ ; $V_{CB}=10\text{V}$ ; $f_{\text{test}}=1\text{MHz}$                                        |     | 80   |            | pF   |

## Switching times

|                  |              |                                                                                                                                        |  |  |     |               |
|------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------|--|--|-----|---------------|
| $t_{\text{stg}}$ | Storage Time | $I_C=4.5\text{A}$ , $I_{B(\text{end})}=1.1\text{A}$ ; $L_B=6\mu\text{H}$<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 | $\mu\text{s}$ |

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 $h_{FE}$ – $I_C$  Characteristics $V_{CE(sat)}$ – $I_C$  Characteristics $V_{BE(sat)}$ – $I_C$  Characteristics

Safe Operating Area

