

# isc Silicon NPN Power Transistor

# BU2508DX

## DESCRIPTION

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

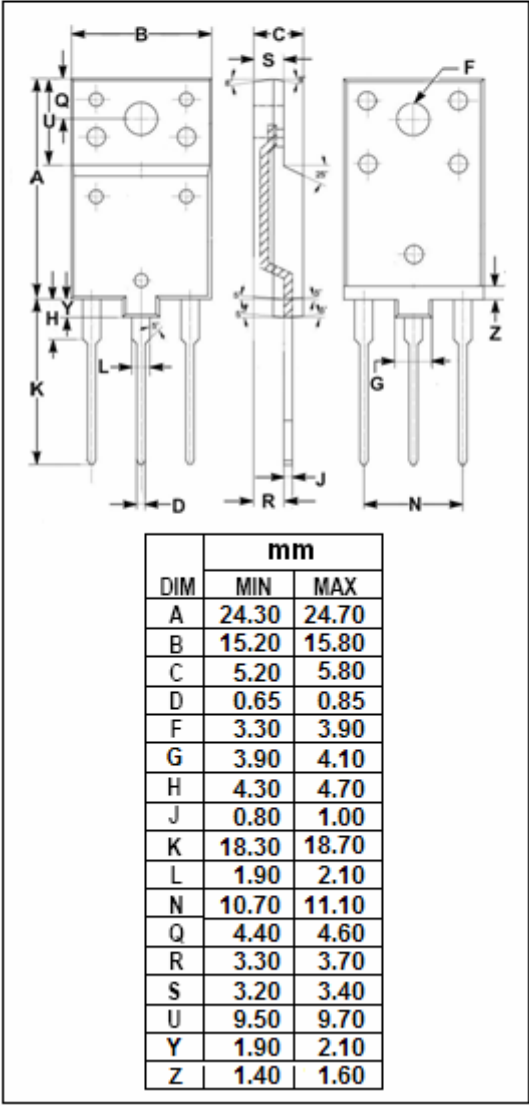
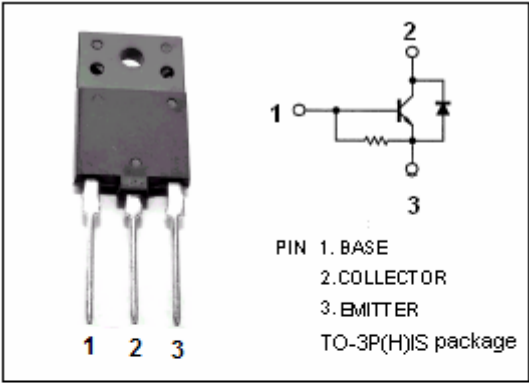
## APPLICATIONS

- 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 | 2.8 | $^{\circ}C/W$ |



**ISC Silicon NPN Power Transistor****BU2508DX****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

| SYMBOL                | PARAMETER                            | CONDITIONS                                                                                                            | MIN | TYP. | MAX        | UNIT |
|-----------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----|------|------------|------|
| V <sub>CEQ(SUS)</sub> | Collector-Emitter Sustaining Voltage | I <sub>C</sub> = 100mA ; I <sub>B</sub> = 0, L= 25mH                                                                  | 700 |      |            | V    |
| V <sub>(BR)EBO</sub>  | Emitter-Base Breakdown Voltage       | I <sub>E</sub> = 600mA; I <sub>C</sub> = 0                                                                            | 7.5 |      |            | V    |
| V <sub>CE(sat)</sub>  | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 4.5A; I <sub>B</sub> = 1.12A                                                                         |     |      | 1.0        | V    |
| V <sub>BE(sat)</sub>  | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 4.5A; I <sub>B</sub> = 1.7A                                                                          |     |      | 1.1        | V    |
| I <sub>CES</sub>      | Collector Cutoff Current             | V <sub>CE</sub> = 1500V ; V <sub>BE</sub> = 0<br>V <sub>CE</sub> = 1500V ; V <sub>BE</sub> = 0; T <sub>C</sub> =125°C |     |      | 1.0<br>2.0 | mA   |
| I <sub>EBO</sub>      | Emitter Cutoff Current               | V <sub>EB</sub> = 7.5V ; I <sub>C</sub> = 0                                                                           |     | 227  |            | mA   |
| h <sub>FE-1</sub>     | DC Current Gain                      | I <sub>C</sub> = 1A ; V <sub>CE</sub> = 5V                                                                            |     | 13   |            |      |
| h <sub>FE-2</sub>     | DC Current Gain                      | I <sub>C</sub> = 4.5A ; V <sub>CE</sub> = 1V                                                                          | 4   |      | 7          |      |
| V <sub>ECF</sub>      | C-E Diode Forward Voltage            | I <sub>F</sub> = 4.5A                                                                                                 |     |      | 2.0        | V    |
| C <sub>OB</sub>       | Output Capacitance                   | I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1MHz                                                   |     | 80   |            | pF   |

**Switching times**

|                  |              |                                                                                                                                        |  |  |     |     |
|------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------|--|--|-----|-----|
| t <sub>stg</sub> | Storage Time | I <sub>C</sub> = 4.5A , I <sub>B(end)</sub> = 1.1A; L <sub>B</sub> = 6 μ H<br>-V <sub>BB</sub> = 4V; (-dI <sub>B</sub> /dt= 0.6A/ μ s) |  |  | 6.0 | μ s |
| t <sub>f</sub>   | Fall Time    |                                                                                                                                        |  |  | 0.6 | μ s |