

isc Silicon NPN Power Transistor

BU4523AF

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 800V$ (Min)
- High Switching Speed

APPLICATIONS

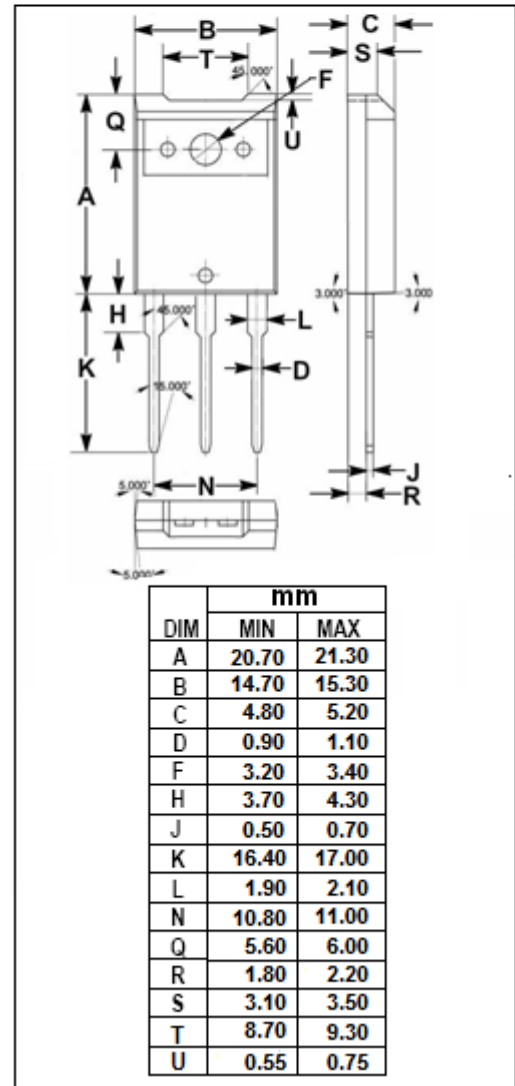
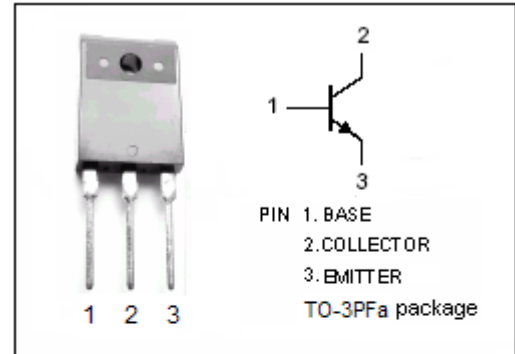
- Designed for use in horizontal deflection circuits of color TV receivers and PC monitors.

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 | 800 | V |
| V_{EBO} | Emitter-Base Voltage | 7.5 | V |
| I_C | Collector Current- Continuous | 11 | A |
| I_{CM} | Collector Current-Peak | 29 | A |
| I_B | Base Current- Continuous | 7 | A |
| I_{BM} | Base Current-Peak | 10 | 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 | -55~150 | $^{\circ}C$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-----|---------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 2.8 | $^{\circ}C/W$ |



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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 | $I_C=100\text{mA}; I_B=0, L=25\text{mH}$ | 800 | | | 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 | $I_C=8\text{A}; I_B=2\text{A}$ | | | 3.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=8\text{A}; I_B=2\text{A}$ | | | 1.1 | V |
| I_{CES} | Collector Cutoff Current | $V_{CE}=1500\text{V}; V_{BE}=0$ $V_{CE}=1500\text{V}; V_{BE}=0; T_C=125^{\circ}\text{C}$ | | | 1.0 2.0 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=6\text{V}; I_C=0$ | | | 0.1 | mA |
| h_{FE-1} | DC Current Gain | $I_C=1\text{A}; V_{CE}=5\text{V}$ | | 14 | | |
| h_{FE-2} | DC Current Gain | $I_C=8\text{A}; V_{CE}=5\text{V}$ | 4.2 | | 7.3 | |

Switching times (16kHz line deflection circuit)

| | | | | | | |
|-----------|--------------|--------------------------------------------------------|--|--|-----|---------------|
| t_{stg} | Storage Time | $I_C=8\text{A}, I_{B1}=1.6\text{A}; I_{B2}=-4\text{A}$ | | | 5.5 | μs |
| t_f | Fall Time | | | | 0.4 | μs |