# HORIZONTAL DEFLECTION TRANSISTOR
# NPN BU508A

8A 1500V

## *Technical Data*

**…designed for use in large screen color deflection circuits.**

- Collector-Emitter Voltage-$V_{CES}$=1500Vdc
- Low Thermal Resistance 1℃/W increased Reliability
- TO-218 Package for Low Cost Mounting
- Switching Times with Inductive Loads,
  Tf=0.5us(Typ)@IC=4.5A

### MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Collector- Emitter Voltage | $V_{CEO}$ | 700 | Vdc |
| Collector- Emitter Voltage | $V_{CES}$ | 1500 | Vdc |
| Emitter Base Voltage | $V_{EB}$ | 5 | Vdc |
| Collector Current – Continuous<br>_Peak(1) | $I_C$<br>$I_{CM}$ | 8<br>15 | Adc |
| Base Current – continuous<br>-- Peak(1) | $I_B$<br>IBM | 4<br>6 | Adc |
| ***Total Power Dissipation @ TC = 25°C***<br>Derate above 25°C | PD | 125<br>1 | Watts<br>W/°C |
| Operating and Storage junction Temperature Range | Tj,Tstg | -65 to +150 | °C |

### THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max. | Unit |
|---|---|---|---|
| Thermal resistance junction to case | $R_{thjc}$ | 1.0 | °C/W |

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## *ELECTRICAL CHARACTERISTICS :*[ **Tc = 25 °C unless otherwise noted ]**

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| *** Off Characteristics :** | | | | | |
| Collector–Emitter Sustaining Voltage (1) [ Ic =100 mAdc, $I_B$ = 0 ] | $V_{CEO(sus)}$ | 700 | | | Vdc |
| Collector Cutoff Current [ $V_{CE}$ = 1500 Vdc, $V_{BE}$ = 0 ] | $I_{CES}$ | | | 0.1 | mAdc |
| Emitter Base Leakage [ $V_{EB}$ = 6V, Ic = 0 ] | $I_{EBO}$ | | | 10 | mAdc |
| *** On Characteristics (1):** | | | | | |
| DC Current Gain [ Ic = 2.0 Adc , $V_{CE}$ = 4.0 Vdc ] | $h_{FE}$ | 2.25 | | | |
| Collector-Emitter Saturation Voltage [ Ic = 4.5 Adc , $I_B$ = 2Adc ) | $V_{CE(sat)}$ | | | 1 | Vdc |
| Base-Emitter Saturation Voltage [ Ic = 4.5 Adc , $I_B$ = 2Adc ] | $V_{BE(sat)}$ | | | 1.3 | Vdc |
| **Dynamic Characteristics :** | | | | | |
| Current Gain – Bandwidth Product [ Ic = 0.1Adc,$V_{CE}$=5 Vdc, ftest=1.0 MHz ] | $f_T$ | --- | 7 | -- | MHz |
| Output Capacitance (VCB=10Vdc,IE=0,f=0.1MHz) | $C_{OB}$ | -- | 125 | -- | pF |
| **SWITCHING CHARACTERISTICS** | | | | | |
| Fall Time ($I_C$=4.5Adc,$I_{B1}$=1.8Adc,$L_B$=10✪H ) | tf | --- | 0.5 | --- | ✪s |
| | ts | | 8 | | ✪s |

(1) Pulse Test : Pulse Width =5mS , Duty Cycle < 10.0%