



## HORIZONTAL DEFLECTION TRANSISTOR

**NPN BU508A**

8A 1500V

### Technical Data

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

- ☞ Collector-Emitter Voltage- $V_{CES}=1500V_{dc}$
- ☞ Low Thermal Resistance  $1\text{ }^{\circ}\text{C/W}$  increased Reliability
- ☞ TO-218 Package for Low Cost Mounting
- ☞ Switching Times with Inductive Loads,  
 $T_f=0.5\mu s(\text{Typ})@I_C=4.5A$

### 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	$I_C$	8	Adc
-- Peak(1)	$I_{CM}$	15	
Base Current – continuous	$I_B$	4	Adc
-- Peak(1)	$I_{BM}$	6	
<b><i>Total Power Dissipation @ <math>T_C = 25^{\circ}\text{C}</math></i></b>	PD	125	Watts
Derate above $25^{\circ}\text{C}$		1	$\text{W}/^{\circ}\text{C}$
Operating and Storage junction Temperature Range	$T_j, T_{stg}$	-65 to +150	$^{\circ}\text{C}$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	$R_{thjc}$	1.0	$^{\circ}\text{C/W}$



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

Characteristic	Symbol	Min	Typ	Max	Unit
<b>* Off Characteristics :</b>					
Collector–Emitter Sustaining Voltage (1) [ Ic =100 mAdc, IB = 0 ]	V <sub>CEO(sus)</sub>	700			Vdc
Collector Cutoff Current [ V <sub>CE</sub> = 1500 Vdc, V <sub>BE</sub> = 0 ]	I <sub>CES</sub>			0.1	mAdc
Emitter Base Leakage [ V <sub>EB</sub> = 6V, Ic = 0 ]	I <sub>EBO</sub>			10	mAdc
<b>* On Characteristics (1):</b>					
DC Current Gain [ Ic = 2.0 Adc , V <sub>CE</sub> = 4.0 Vdc ]	h <sub>FE</sub>	2.25			
Collector-Emitter Saturation Voltage [ Ic = 4.5 Adc , IB = 2Adc )	V <sub>CE(sat)</sub>			1	Vdc
Base-Emitter Saturation Voltage [ Ic = 4.5 Adc , IB = 2Adc ]	V <sub>BE(sat)</sub>			1.3	Vdc
<b>Dynamic Characteristics :</b>					
Current Gain – Bandwidth Product [ Ic = 0.1Adc, V <sub>CE</sub> =5 Vdc, ftest=1.0 MHz ]	f <sub>T</sub>	---	7	--	MHz
Output Capacitance (VCB=10Vdc,IE=0,f=0.1MHz)	C <sub>OB</sub>	--	125	--	pF
<b>SWITCHING CHARACTERISTICS</b>					
Fall Time (Ic=4.5Adc,IB1=1.8Adc,LB=10 $\mu$ H )	tf	---	0.5	---	$\mu$ s
	ts		8		$\mu$ s

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