

HORIZONTAL DEFLECTION TRANSISTOR

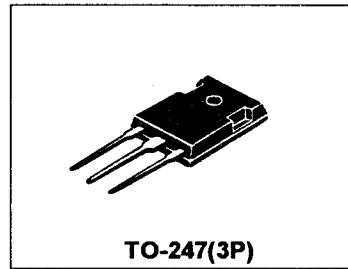
...specifically designed for use in large screen color deflection circuits.

FEATURES:

- * Collector-Emitter Sustaining Voltage - $V_{CEX} = 1500\text{ V (Min.) BU508, BU508A, BU508D}$
- * Glassivated Base-Collector Junction

NPN
BU508
BU508A
BU508D

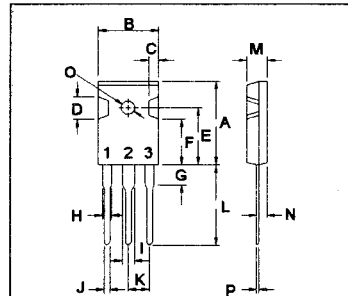
5 AMPERE
POWER
TRANSISTORS
1500 VOLTS
125 WATTS



TO-247(3P)

MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	700	V
Collector-Emitter Voltage ($V_{BE}=0$)	V_{CES}	1500	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous - Peak	I_C	5.0 8.0	A
Base Current - Continuous	I_B	2.5	A
Total Power Dissipation @ $T_c=25^\circ\text{C}$ Derate above 25°C	P_D	125 1.0	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	- 65 to +150	$^\circ\text{C}$

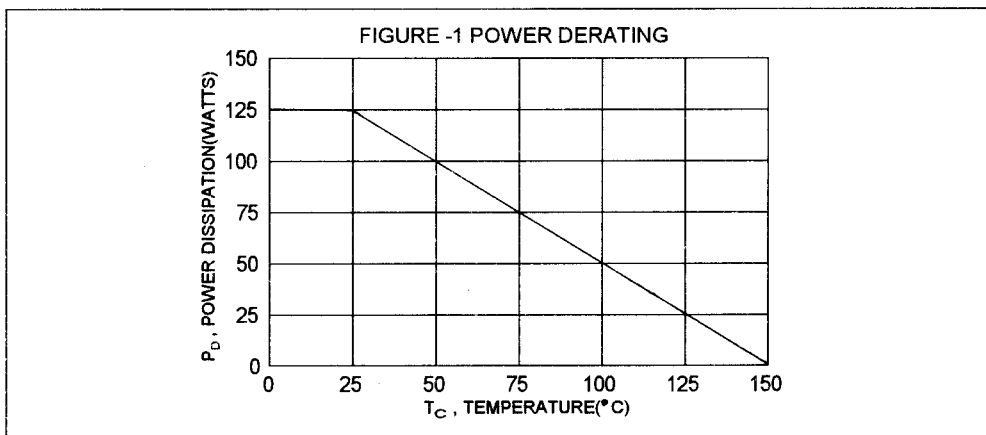


PIN 1.BASE
2.COLLECTOR
3.EMITTER

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.0	$^\circ\text{C/W}$

DIM	MILLIMETERS	
	MIN	MAX
A	20.63	22.38
B	15.38	16.20
C	1.90	2.70
D	5.10	6.10
E	14.81	15.22
F	11.72	12.84
G	4.20	4.50
H	1.82	2.46
I	2.92	3.23
J	0.89	1.53
K	5.26	5.66
L	18.50	21.50
M	4.68	5.36
N	2.40	2.80
O	3.25	3.65
P	0.55	0.70



ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector - Emitter Sustaining Voltage (1) ($I_C = 100\text{ mA}$, $I_B = 0$)	$V_{CE(SUS)}$	700		V
Collector Cutoff Current ($V_{CE} = 1500\text{ V}$, $V_{BE} = 0$)	I_{CES}		1.0	mA
Emitter Cutoff Current ($V_{EB} = 5.0\text{ V}$, $I_C = 0$)	I_{EBO}		10 300	mA

BU508, BU508A
BU508D

ON CHARACTERISTICS (1)

Collector - Emitter Saturation Voltage ($I_C = 4.5\text{ A}$, $I_B = 2.0\text{ A}$)	BU508A, BU508D BU508	$V_{CE(sat)}$	1.0 5.0	V
Base - Emitter Saturation Voltage ($I_C = 4.5\text{ A}$, $I_B = 2.0\text{ A}$)		$V_{BE(sat)}$	1.5	V
Diode Forward Voltage ($I_F = 4.0\text{ A}$)	BU508D	V_F	2.0	V

DYNAMIC CHARACTERISTICS

Current Gain - Bandwidth Product ($I_C = 0.1\text{ A}$, $V_{CE} = 5.0\text{ V}$, $f = 1.0\text{ MHz}$)		f_T	4.0(typ)	MHz
Output Capacitance ($V_{CE} = 10\text{ V}$, $I_E = 0$, $f = 1.0\text{ MHz}$)		C_{ob}	125(typ)	pF

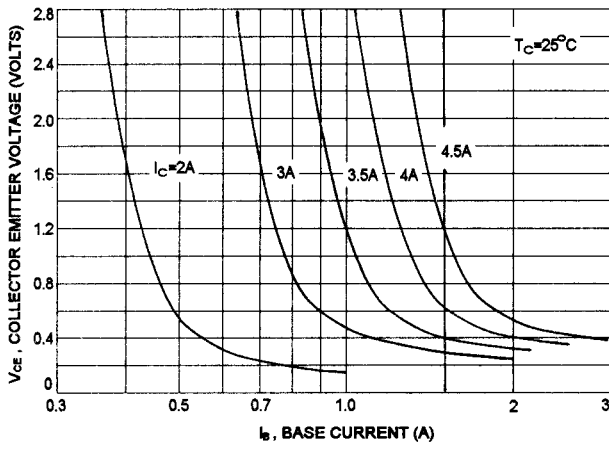
SWITCHING CHARACTERISTICS

Storage Time	$I_C = 4.5\text{ A}$, $I_{B1} = 1.4\text{ A}$, $L_B = 10\text{ uH}$	t_s	7.0(typ)	us
Fall Time		t_f	1.0(typ)	us

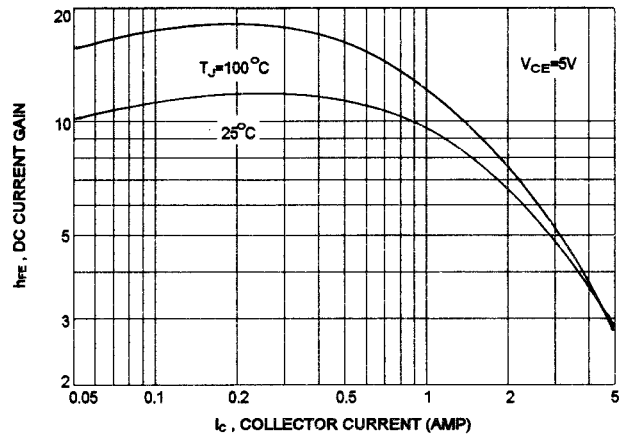
(1) Pulse Test: Pulse width $\leq 300\text{ us}$, Duty Cycle $\leq 2.0\%$

BU508, BU508A

COLLECTOR SATURATION REGION

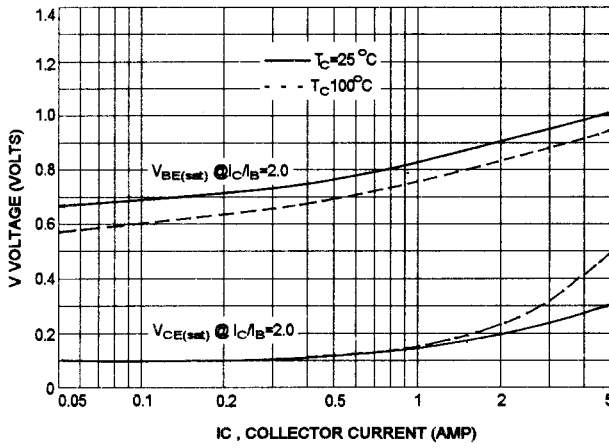


DC CURRENT GAIN

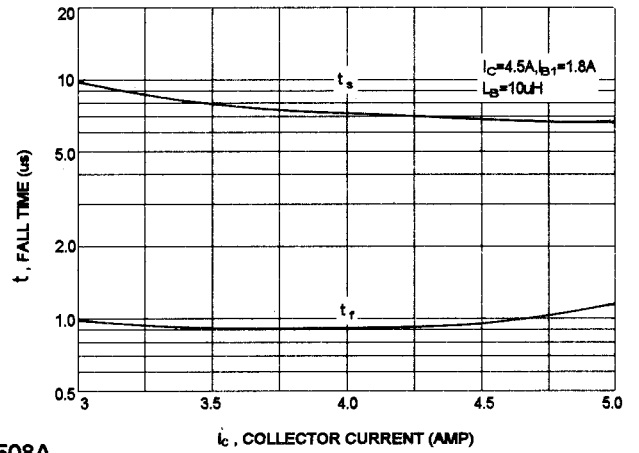


"ON" VOLTAGES

BU508, BU508A

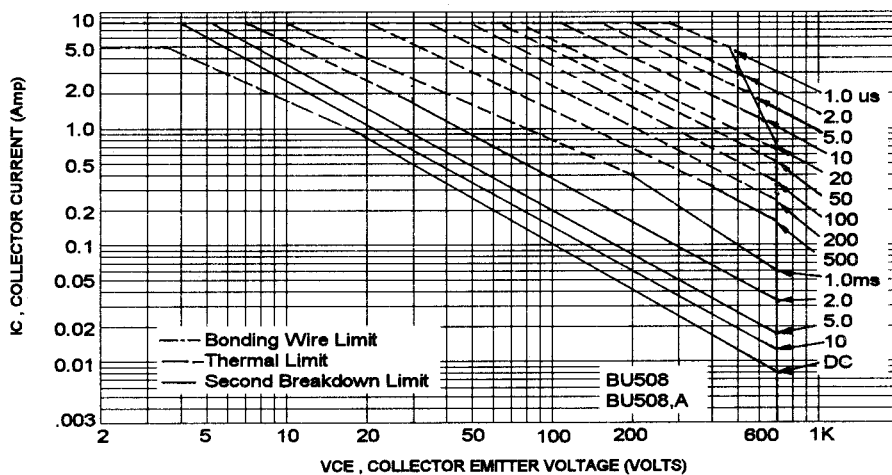


SWITCHING BEHAVIOR VERSUS ICM



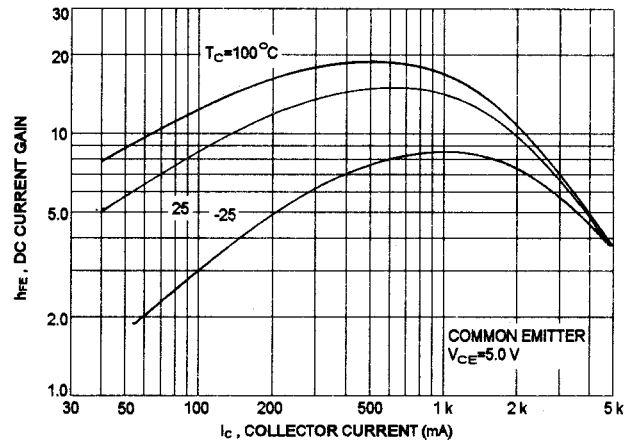
BU508, BU508A

FORWARD BIAS SAFE OPERATING AREA

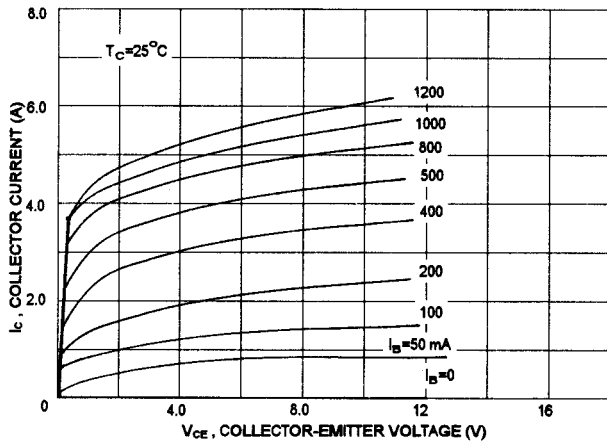


BU508D

DC CURRENT GAIN

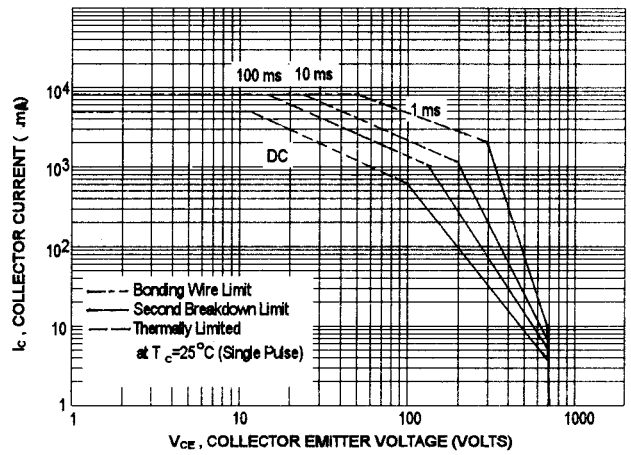


$I_C - V_{CE}$



BU508D

ACTIVE-REGION SAFE OPERATING AREA (SOA)



$I_C - V_{BE}$

