

isc Silicon NPN Power Transistor

BU508A

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 800V$ (Min)
- High Power Dissipation-
: $P_D = 125W @ T_C = 25^\circ C$

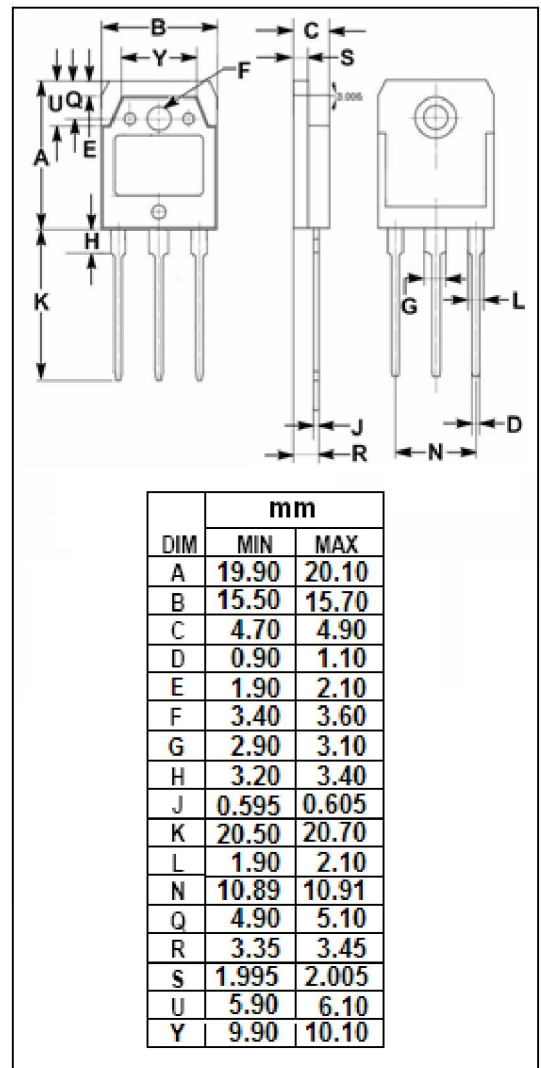
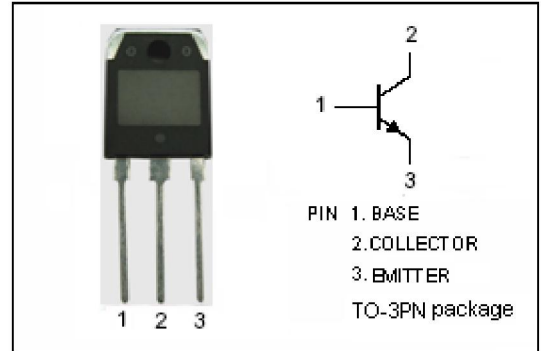
APPLICATIONS

- Designed for use in large screen color deflection circuits.

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	900	V
V_{EBO}	Emitter-Base Voltage	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 @ $T_C = 25^\circ C$	125	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	1.0	$^\circ C/W$



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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	$I_C=100\text{mA}; I_B=0$	900			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2.0\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2.0\text{A}$			1.5	V
I_{CES}	Collector Cutoff Current	$V_{CE}=1500\text{V}; V_{BE}=0$ $V_{CE}=1500\text{V}; V_{BE}=0; T_C=125^\circ\text{C}$			0.1 2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5.0\text{V}; I_C=0$			10	mA
h_{FE-1}	DC Current Gain	$I_C=0.1\text{A}; V_{CE}=5\text{V}$	6		30	
h_{FE-2}	DC Current Gain	$I_C=4.5\text{A}; V_{CE}=5\text{V}$	2.25			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=0.1\text{MHz}$		125		pF
f_T	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}; V_{CE}=5\text{V}; f_{test}=1.0\text{MHz}$		7		MHz

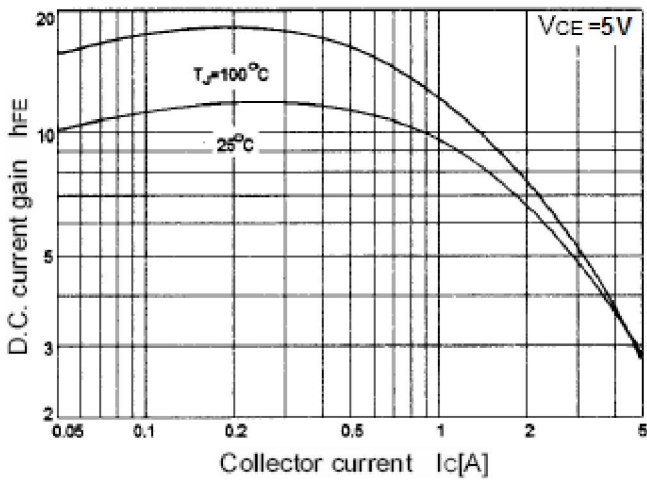
Switching times

t_{stg}	Storage Time	$I_C=4.5\text{A}, I_{B1}=1.8\text{A}; L_B=10\mu\text{H}$		8.0		μs
t_f	Fall Time			0.5		μs

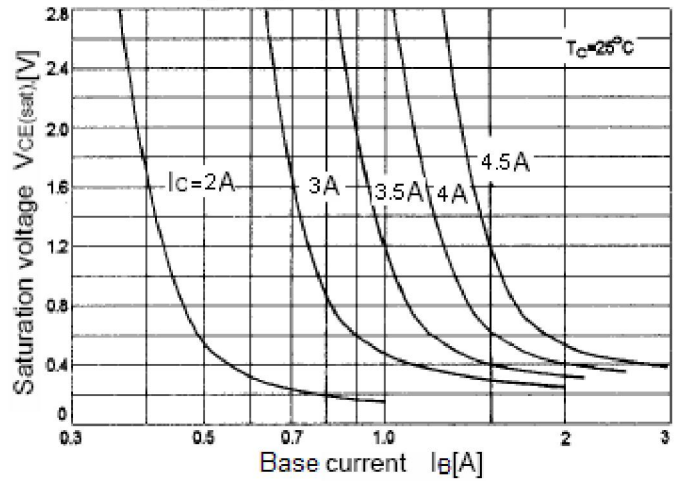
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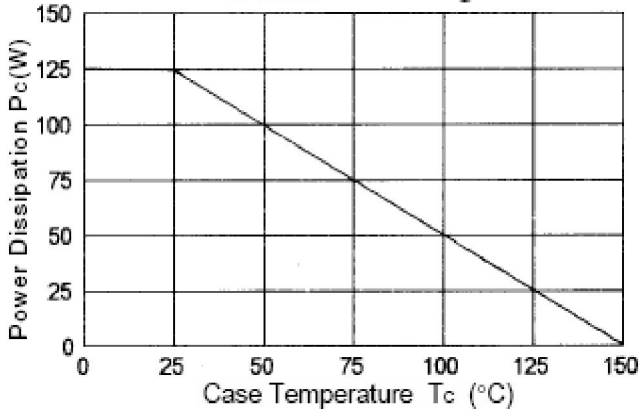
$h_{FE}-I_C$ Characteristics



$V_{CE(sat)}-I_B$ Characteristics



Power Derating



Safe Operating Area

