

Silicon NPN Power Transistor

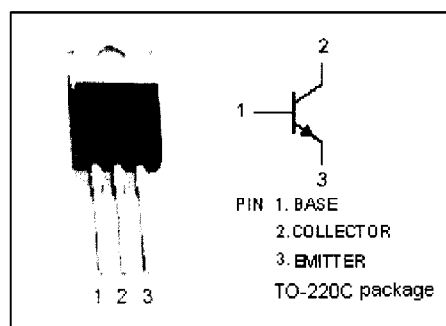
BU505

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 700V(\text{Min.})$
- High Switching Speed

APPLICATIONS

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

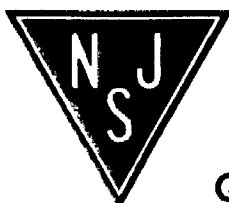
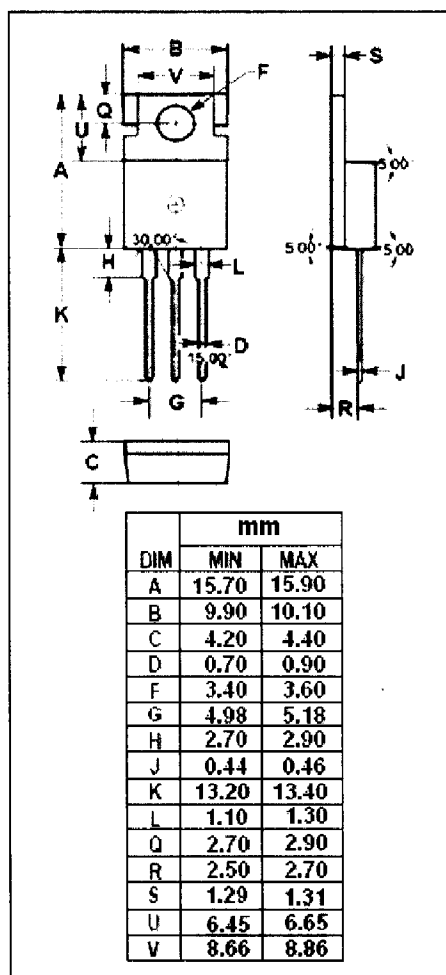


ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage- $V_{BE}=0$	1350	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	2.5	A
I_{CM}	Collector Current-Peak	4	A
I_B	Base Current-Continuous	2	A
I_{BM}	Base Current-Peak	4	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	75	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ\text{C/W}$



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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	$I_C=100\text{mA}; I_B=0$	700			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.9\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.9\text{A}$			1.3	V
I_{CES}	Collector Cutoff Current	$V_{CE}=V_{CESmax}; V_{BE}=0$ $V_{CE}=V_{CESmax}; V_{BE}=0; T_J=125^{\circ}\text{C}$			0.15 1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA
h_{FE}	DC Current Gain	$I_C=0.1\text{A}; V_{CE}=5\text{V}$	6		30	
f_T	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}; V_{CE}=5\text{V}$		7		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$		65		pF

Switching Times; Resistive load

t_{stg}	Storage Time	$I_C=2\text{A}, I_{B(end)}=0.9\text{A}; V_{dr}=-4\text{V}$ $L_B=25\mu\text{H}$		9.5		μs
t_f	Fall Time			0.85		μs