

**Silicon NPN Power Transistor**

**BU705D**

**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
 :  $V_{CEO(SUS)} = 700V$  (Min)
- High Switching Speed
- Built-in Integrated Efficiency Diode

**APPLICATIONS**

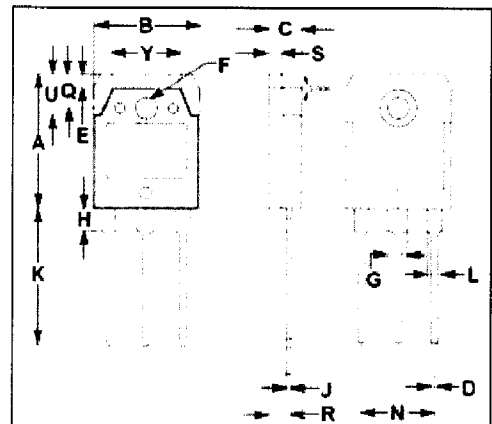
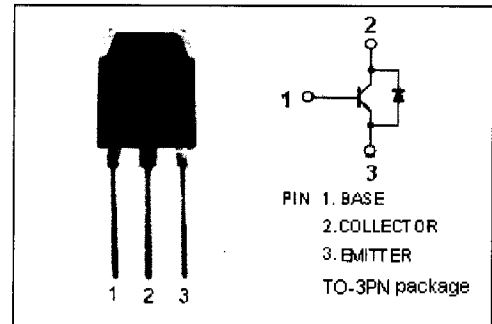
- Designed for use in horizontal deflection circuits of TV receivers.

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

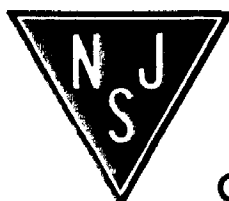
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CES}$	Collector- Emitter Voltage( $V_{BE} = 0$ )	1500	V
$V_{CEO}$	Collector-Emitter Voltage	700	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current- Continuous	2.5	A
$I_{CM}$	Collector Current-Peak $t_p < 2ms$	4	A
$I_B$	Base Current- Continuous	2	A
$I_{BM}$	Base Current-Peak $t_p < 2ms$	4	A
$P_C$	Collector Power Dissipation @ $T_C = 25^{\circ}C$	75	W
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{stg}$	Storage Temperature Range	-65~150	$^{\circ}C$

**THERMAL CHARACTERISTICS**

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



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10



**Quality Semi-Conductors**

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## ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 100\text{mA}; I_B= 0; L= 25\text{mH}$	700			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 10\text{mA}; I_C= 0$	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 2\text{A}; I_B= 0.9\text{A}$			5	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	$V_{CE}= V_{CESmax}; V_{BE}= 0$ $V_{CE}= V_{CESmax}; V_{BE}= 0; T_C=125^\circ\text{C}$			0.15 1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 5\text{V}; I_C= 0$			1	mA
$h_{FE}$	DC Current Gain	$I_C= 2\text{A}; V_{CE}= 5\text{V}$	2.25			
$V_{ECF}$	C-E Diode Forward Voltage	$I_F= 3\text{A}$		1.8		V
$C_{OB}$	Output Capacitance	$I_E= 0; V_{CB}= 10\text{V}; f_{test}= 0.1\text{MHz}$		65		pF
$f_T$	Current-Gain—Bandwidth Product	$I_C= 0.1\text{A}; V_{CE}= 5\text{V}; f_{test}= 5\text{MHz}$		7		MHz

### Switching Times

$t_{stg}$	Storage Time	$I_C= 2\text{A}; I_{B(end)}= 0.9\text{A}; L_B= 25\ \mu\text{H}$		10		$\mu\text{s}$
$t_f$	Fall Time			0.7		$\mu\text{s}$