

isc Silicon NPN Power Transistor

BU705D

DESCRIPTION

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

APPLICATIONS

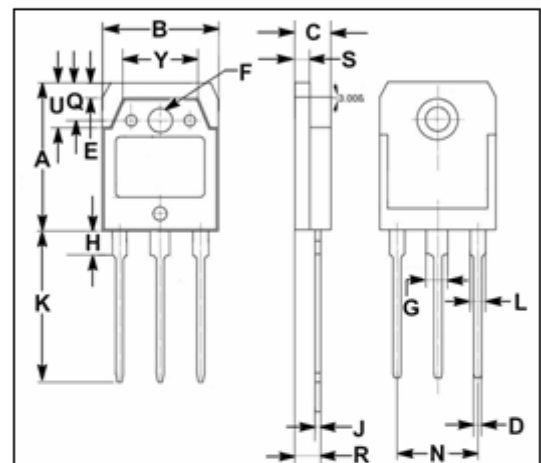
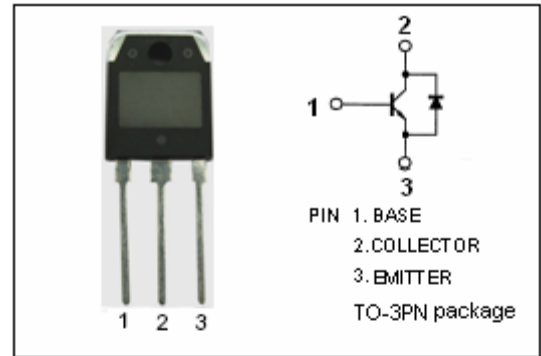
- Designed for use in horizontal deflection circuits of TV receivers.

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

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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	$I_C=100\text{mA}$; $I_B=0$; $L=25\text{mH}$	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		μs
t_f	Fall Time			0.7		μs