

**isc Silicon NPN Power Transistor**

**BU705DF**

**DESCRIPTION**

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

**APPLICATIONS**

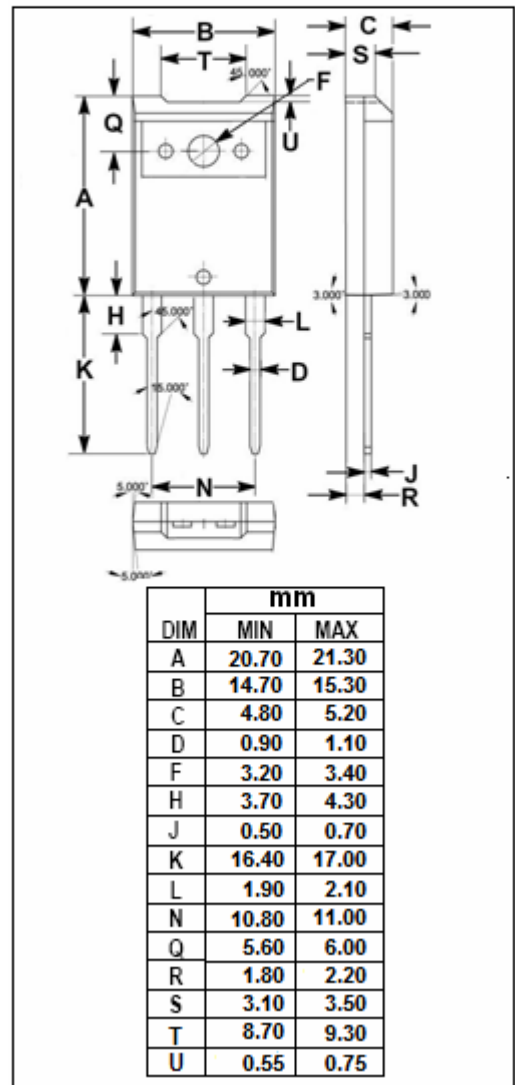
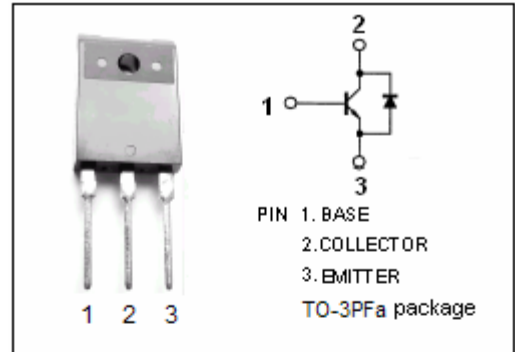
- Designed for use in horizontal deflection circuits of TV receivers.

**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	4	A
$I_B$	Base Current- Continuous	2	A
$I_{BM}$	Base Current-Peak	4	A
$P_C$	Collector Power Dissipation @ $T_c=25^{\circ}C$	29	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	4.37	$^{\circ}C/W$



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## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 100mA ; I <sub>B</sub> = 0; L= 25mH	700			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.9A			5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 0.9A			1.3	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> = V <sub>CESmax</sub> ; V <sub>BE</sub> = 0 V <sub>CE</sub> = V <sub>CESmax</sub> ; V <sub>BE</sub> = 0; T <sub>J</sub> =125°C			0.15 1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V ; I <sub>C</sub> = 0			1	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 5V	2.2			
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 3A			1.8	V
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 0.1MHz		65		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.1A; V <sub>CE</sub> = 5V; f <sub>test</sub> = 5MHz		7		MHz

## Switching Times

t <sub>stg</sub>	Storage Time	I <sub>C</sub> = 2A ; I <sub>B(end)</sub> = 0.9A; L <sub>B</sub> = 15 μ H		7.5		μ s
t <sub>f</sub>	Fall Time			0.9		μ s