

isc Silicon NPN Power Transistor
BU505DF
DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 700V(\text{Min.})$
- High Switching Speed
- Built-in Damper Diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

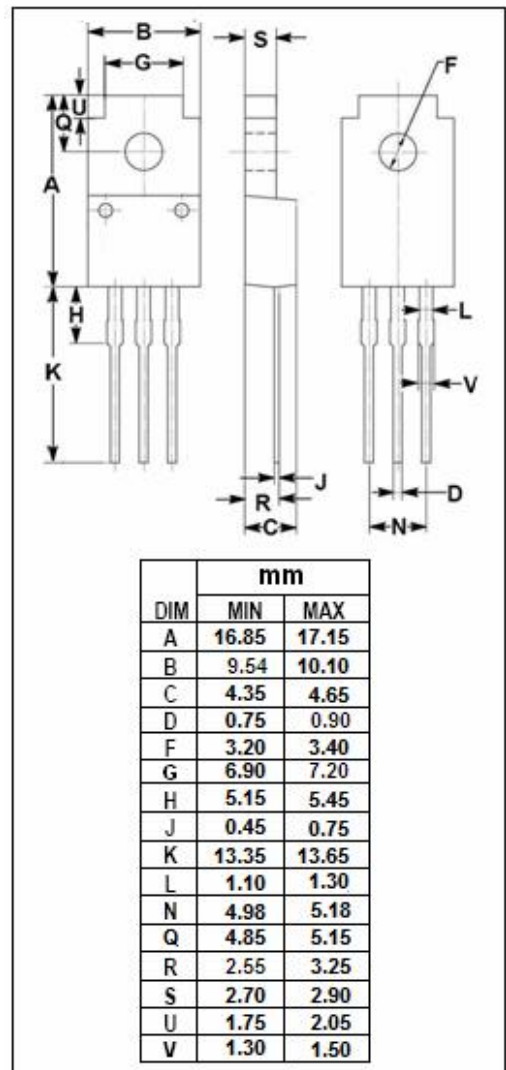
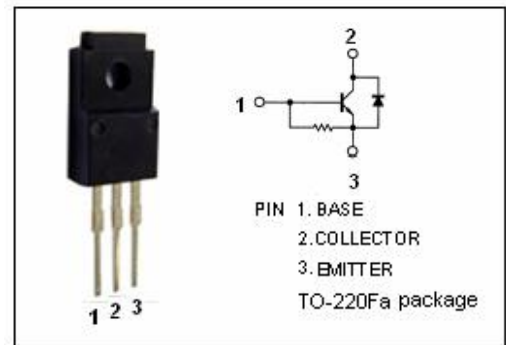
- Designed for use in horizontal deflection circuits of color TV receivers.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage- $V_{BE}=0$	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 @ $T_C=25^\circ\text{C}$	20	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	3.85	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	700			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 200mA; I _C = 0	5			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 0.9A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 2A; I _B = 0.9A			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°C			0.15 1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			200	mA
h _{FE-1}	DC Current Gain	I _C = 0.1A; V _{CE} = 5V	6		30	
h _{FE-2}	DC Current Gain	I _C = 2A; V _{CE} = 5V	2.22			
f _T	Current-Gain—Bandwidth Product	I _C = 0.1A; V _{CE} = 5V		7		MHz
V _{ECF}	C-E Diode Forward Voltage	I _F = 2A			1.8	V
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1.0MHz		65		pF

Switching Times; Resistive load

t _{stg}	Storage Time	I _C = 2A , I _{B(end)} = 0.9A; V _{dr} = -4V L _B = 25 μ H		9.5		μ s
t _f	Fall Time			0.85		μ s

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