

isc Silicon NPN Power Transistor

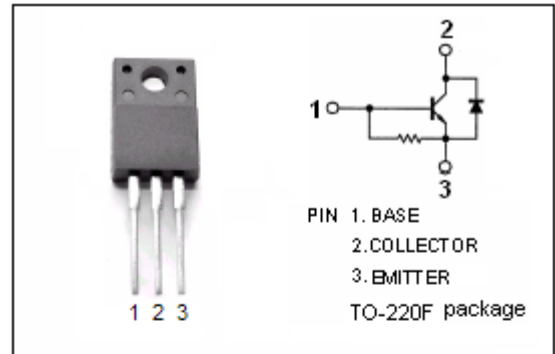
BU1507DX

DESCRIPTION

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

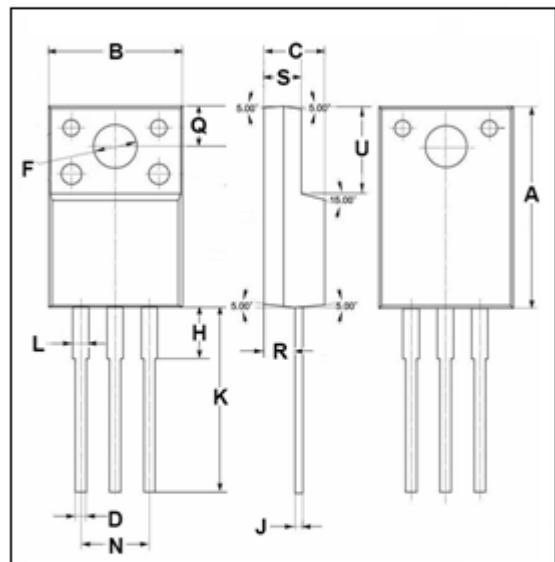
APPLICATIONS

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



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CESM}	Collector-Emitter Voltage $V_{BE} = 0$	1500	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage	7.5	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	4	A
I_{BM}	Base Current-peak	6	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$	35	W
T_j	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}C$



DIM	mm	
	MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.80
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.85
U	6.40	6.60

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.7	$^{\circ}C/W$

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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	$I_C=0.1\text{A}; I_B=0; L=25\text{mH}$	700			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=600\text{mA}; I_C=0$	7.5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.8\text{A}$			5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.8\text{A}$			1.1	V
I_{CES}	Collector Cutoff Current	$V_{CE}=V_{CESM}; V_{BE}=0$ $V_{CE}=V_{CESM}; V_{BE}=0; T_C=125^\circ\text{C}$			1.0 2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7.5\text{V}; I_C=0$		160		mA
h_{FE-1}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$		14		
h_{FE-2}	DC Current Gain	$I_C=4\text{A}; V_{CE}=5\text{V}$	5		9	
V_{ECF}	C-E Diode Forward Voltage	$I_F=4\text{A}$			2.0	V
C_{OB}	Collector Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f=1\text{MHz}$		68		pF

Switching Times Resistive Load

t_s	Storage Time	$I_C=4\text{A}; I_{B(end)}=0.7\text{A}; L_B=6\mu\text{H};$ $-V_{BB}=4\text{V}$			6.0	μs
t_f	Fall Time				0.5	μs