

**isc Silicon NPN Power Transistor**

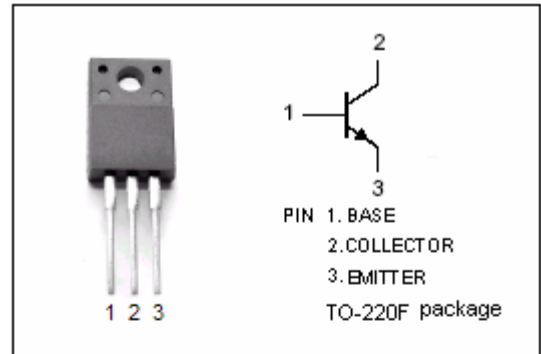
**BU1706AX**

**DESCRIPTION**

- High Voltage
- High Speed Switching

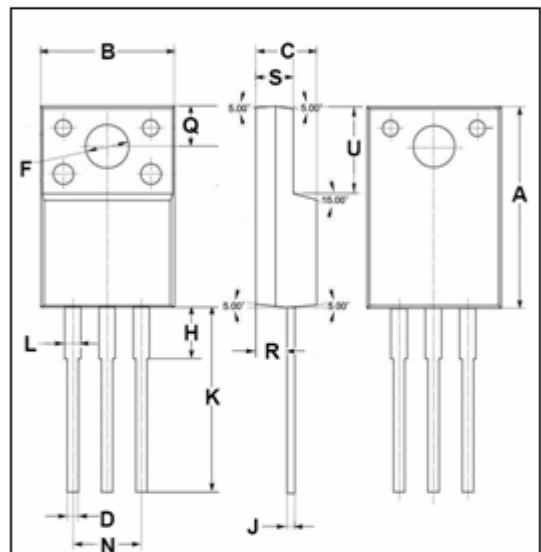
**APPLICATIONS**

- Designed for use in high frequency electronic lighting ballast applications.



**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CESM</sub>	Collector-Emitter Voltage V <sub>BE</sub> = 0	1750	V
V <sub>CEO</sub>	Collector-Emitter Voltage	750	V
V <sub>EBO</sub>	Emitter-Base Voltage	12	V
I <sub>C</sub>	Collector Current-Continuous	5	A
I <sub>CM</sub>	Collector Current-Peak	8	A
I <sub>B</sub>	Base Current-Continuous	3	A
I <sub>BM</sub>	Base Current-peak	5	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	32	W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-40~150	°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 <sub>th j-c</sub>	Thermal Resistance, Junction to Case	4.0	°C/W

**isc Silicon NPN Power Transistor****BU1706AX****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	$I_C=0.1\text{A}; I_B=0; L=25\text{mH}$	750			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1.5\text{A}; I_B=0.3\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1.5\text{A}; I_B=0.3\text{A}$			1.3	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	$V_{EB}=12\text{V}; I_C=0$			1.0	mA
$h_{FE-1}$	DC Current Gain	$I_C=5\text{mA}; V_{CE}=10\text{V}$	8			
$h_{FE-2}$	DC Current Gain	$I_C=400\text{mA}; V_{CE}=3\text{V}$	12		35	
$h_{FE-3}$	DC Current Gain	$I_C=1.5\text{A}; V_{CE}=1\text{V}$	5			

## Switching Times Resistive Load

$t_{on}$	Turn-On Time	$I_C=1.5\text{A}; I_{B1}=-I_{B2}=0.3\text{A}$			1.5	$\mu\text{s}$
$t_s$	Storage Time				6.5	$\mu\text{s}$
$t_f$	Fall Time				1.0	$\mu\text{s}$