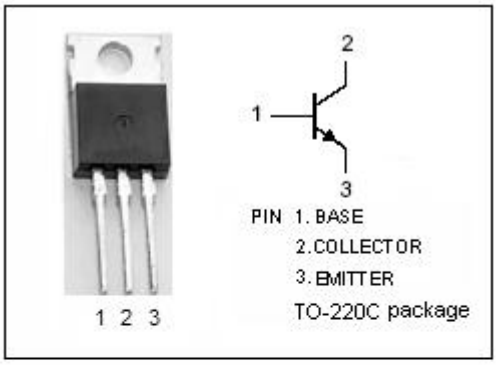
isc Silicon NPN Power Transistor BUF742

DESCRIPTION

- Collector–Emitter Breakdown Voltage
  : $V_{(BR)CEO}$ = 400V(Min.)
- Collector Saturation Voltage
  : $V_{CE(sat)}$ = 0.2V(Max) @ I_C= 0.8A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

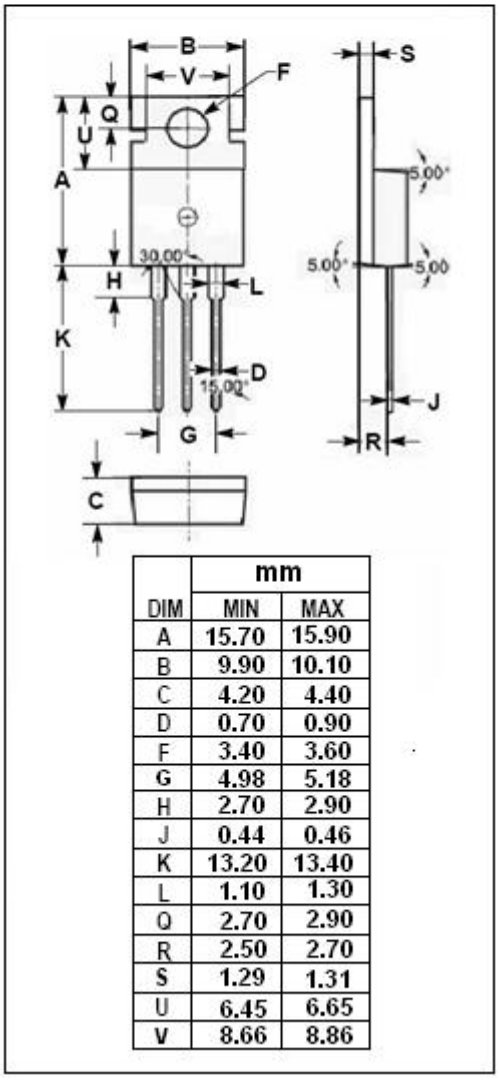
- Designed for electronic lamp ballast circuits switch-mode power supplies applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	11	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-peak	7.5	A
I_B	Base Current-Continuous	2.5	A
I_{BM}	Base Current-peak	4	A
P_C	Collector Power Dissipation T_C=25℃	50	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	2.5	℃/W



DIM	mm MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 50mA; I_B= 0	400			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 1mA; I_C= 0	11			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 0.8A; I_B= 0.2A			0.2	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 2.5A; I_B= 0.8A			0.4	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 0.8A; I_B= 0.2A			1.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 2.5A; I_B= 0.8A			1.2	V
I_{CES}	Collector Cutoff Current	V_{CES}= 900V; V_{EB}=0 V_{CES}= 900V; V_{EB}=0,T_C= 150℃			10 200	μA
h_{FE-1}	DC Current Gain	I_C= 10mA; V_{CE}= 2V	15			
h_{FE-2}	DC Current Gain	I_C= 0.8A; V_{CE}= 2V	15			
h_{FE-3}	DC Current Gain	I_C= 2.5A; V_{CE}= 2V	7			
h_{FE-4}	DC Current Gain	I_C= 5A; V_{CE}= 2V	4			
f_T	Current-Gain—Bandwidth Product	I_C= 0.2A; V_{CE}= 10V; f= 1MHz	4			MHz
Switching Times						
t_{on}	Turn on Time	I_C= 0.8A;I_{B1}=0.2A; I_{B2}= 0.4A;			0.2	μs
t_s	Storage Time				2.0	μs
t_f	Fall Time				0.3	μs

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