

isc Silicon NPN Power Transistor

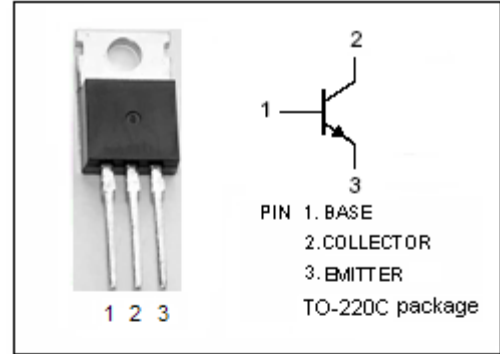
BUT211

DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 400V(\text{Min.})$
- High Speed Switching

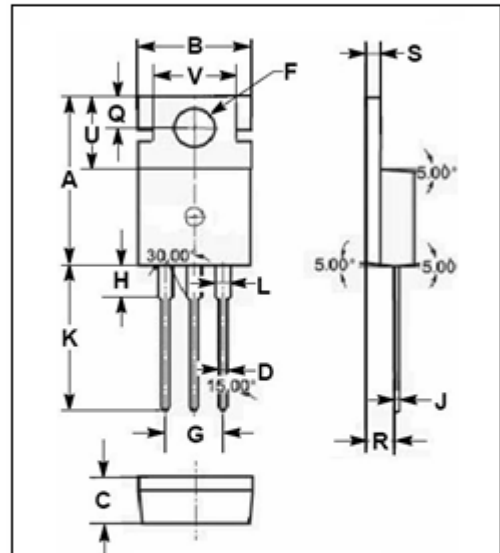
APPLICATIONS

- Designed for high frequency electronic lighting ballast applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	850	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	9	V
$I_C$	Collector Current-Continuous	5	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current-Continuous	2	A
$I_{BM}$	Base Current-peak	4	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	100	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ\text{C}/\text{W}$

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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}; I_B=0; L=25\text{mH}$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.4\text{A}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.4\text{A}$			1.3	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}=850\text{V}; V_{BE}=0$ $V_{CE}=850\text{V}; V_{BE}=0; T_j=125^{\circ}\text{C}$			1.0 2.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=9\text{V}; I_C=0$			10	mA
$h_{FE-1}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=2\text{V}$	13		30	
$h_{FE-2}$	DC Current Gain	$I_C=3\text{A}; V_{CE}=2\text{V}$	7.5			

Switching Times; Resistive Load

$t_s$	Storage Time	$I_C=3\text{A}; I_{B1}=0.3\text{A}; I_{B2}=-0.6\text{A}$			2.0	$\mu\text{s}$
$t_f$	Fall Time				0.8	$\mu\text{s}$

◆  $h_{FE-1}$  Classifications

1	2	3
13-20	18-25	23-30