

isc Silicon NPN Power Transistor

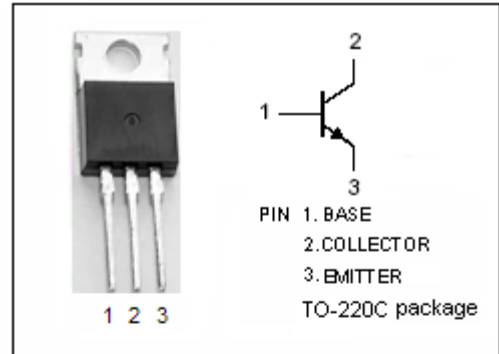
BUT211

DESCRIPTION

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

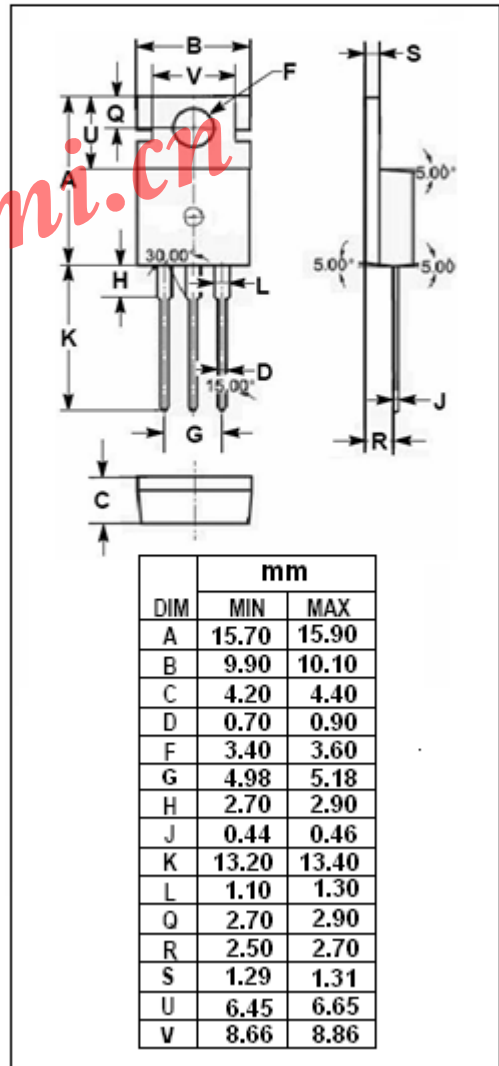
APPLICATIONS

- 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	$^\circ\text{C}$



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
$V_{CEO(SUS)}$	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	μs
t_f	Fall Time				0.8	μs

◆ h_{FE-1} Classifications

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