

isc Silicon NPN Power Transistor
BUL416T
DESCRIPTION

- Collector–Emitter Sustaining Voltage
: $V_{CE(SUS)} = 800V(\text{Min.})$
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 1.5V(\text{Max}) @ I_C = 2A$
- Very High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

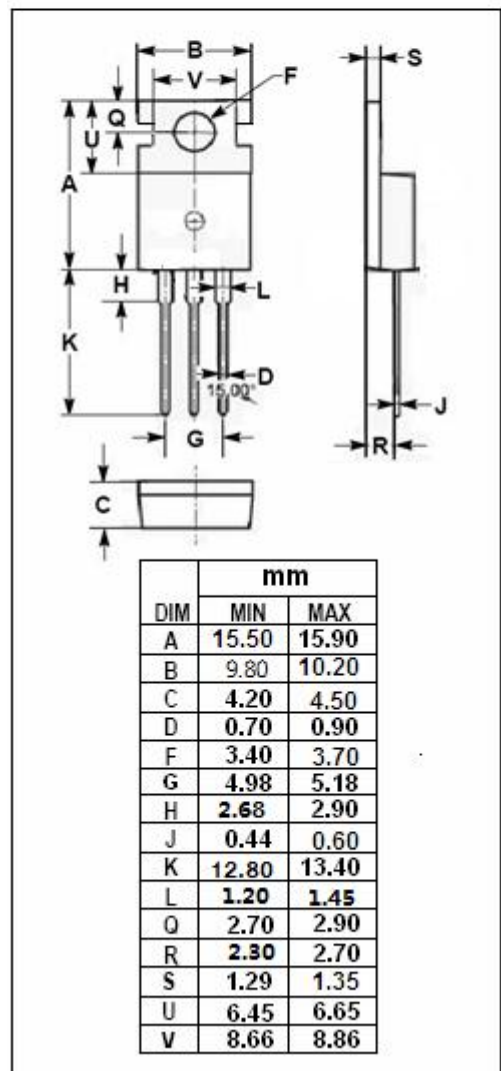
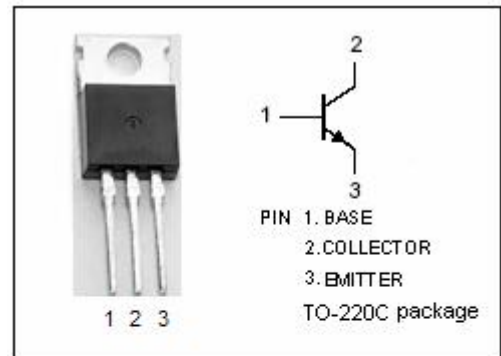
- Designed for use in lighting applications and low cost switch-mode power supplies.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	1600	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-peak $t_p < 5\text{ms}$	9	A
I_B	Base Current-Continuous	5	A
I_{BM}	Base Current-peak $t_p < 5\text{ms}$	8	A
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	110	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	1.14	$^\circ\text{C}/\text{W}$
$R_{th\ j-A}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$



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ELECTRICAL CHARACTERISTICS

 T_c =25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 100mA; I _B =0	800			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 10mA; I _C = 0	9			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 0.4A			1.2	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 1.33A			1.5	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 2A; I _B = 0.4A			1.2	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 1.33A			1.5	V
I _{CES}	Collector Cutoff Current	V _{CE} = 1600V; V _{BE} = 0 V _{CE} = 1600V; V _{BE} = 0; T _C = 125°C			0.1 0.5	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 800V; I _B = 0			0.25	mA
h _{FE-1}	DC Current Gain	I _C = 10mA; V _{CE} = 5V	10			
h _{FE-2}	DC Current Gain	I _C = 0.7A; V _{CE} = 5V	18		32	

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