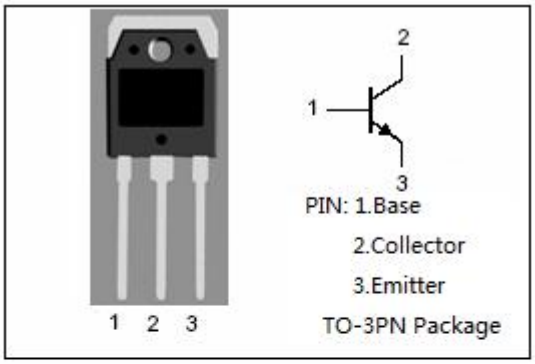
isc Silicon NPN Power Transistor — BUW89

DESCRIPTION

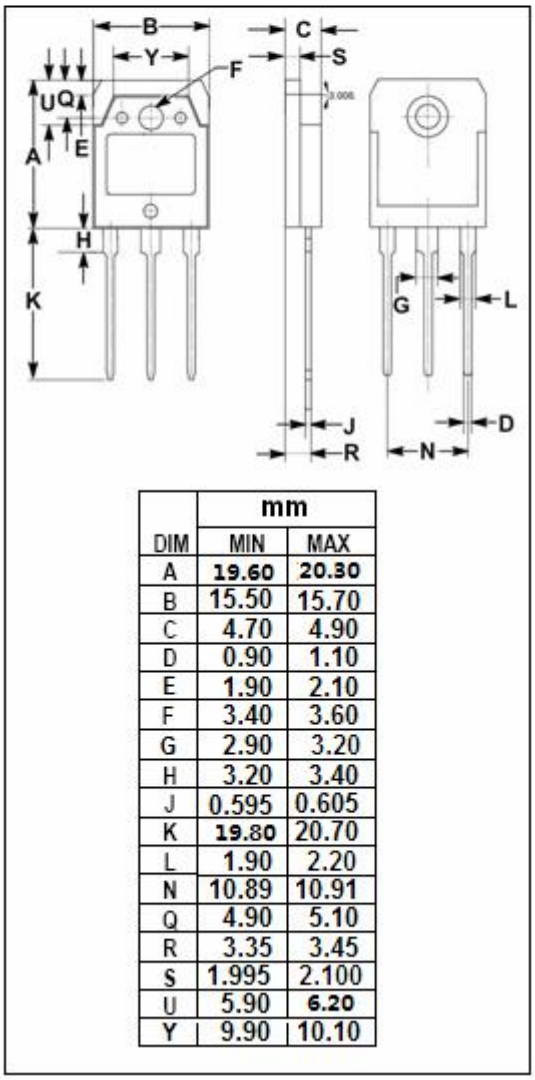
- High Current Capability
- Fast Switching Speed
- Low Saturation Voltage and High Gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

Designed for use in high frequency and efficiency converters such as motor controllers and industrial equipment such as:

- Switching regulators
- Motor control
- High frequency and efficiency converters



DIM	mm MIN	mm MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage (V_{BE}= -1.5V)	160	V
V_{CEO}	Collector-Emitter Voltage	90	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	25	A
I_{CM}	Collector Current-Peak	45	A
I_B	Base Current-Continuous	6	A
I_{BM}	Base Current-peak	9	A
P_C	Collector Power Dissipation @T_C=25℃	125	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	1.2	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 50mA ; I_B= 0	90			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 50mA; I_C= 0	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 7.5A; I_B= 0.375A			0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 15A; I_B= 1.5A			0.9	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 15A; I_B= 1.5A			1.7	V
I_{CBO}	Collector-Base Cutoff Current	V_{CB}= 160; I_E= 0 V_{CB}= 160; I_E= 0;T_C=100℃			1.0 5.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			1.0	mA
Switching times; Resistive Load						
t_r	Rise Time	I_C= 20A; I_{B1}= 2.5A; V_{CC}= 72V; V_{BB}= -5V; R_{B2}= 1Ω ; t_p= 30μs			1.1	μs
t_s	Storage Time				1.0	μs
t_f	Fall Time				0.25	μs

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