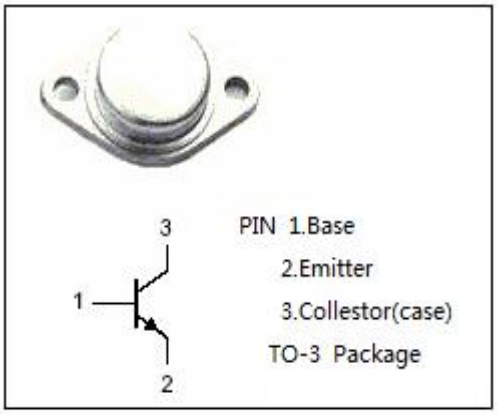
isc Silicon NPN Power Transistor — BUV51

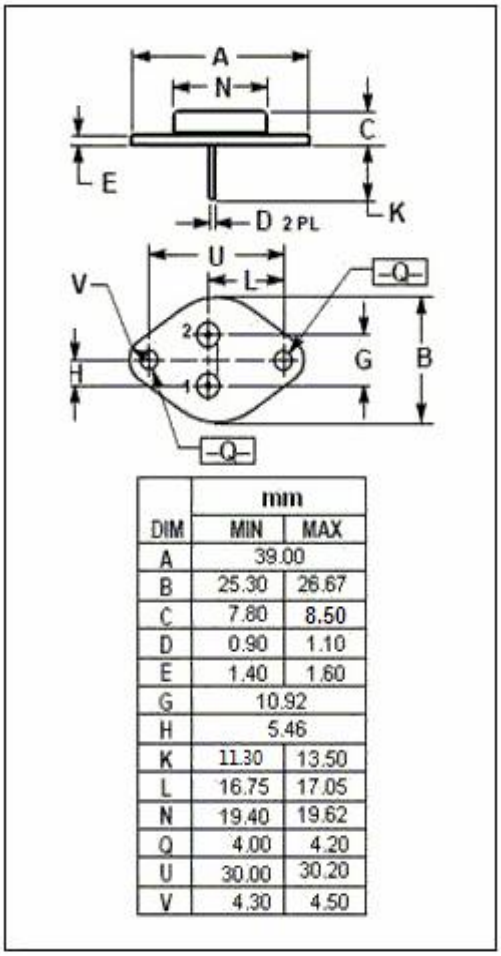
DESCRIPTION

- High Current Capability
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 0.8V (Max.) @I_C= 5A
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- Designed for high current, high speed, high power applications.



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage (V_{BE}= -1.5V)	300	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	28	A
I_B	Base Current-Continuous	4	A
I_{BM}	Base Current-peak	7	A
P_C	Collector Power Dissipation @T_C=25℃	150	W
T_j	Junction Temperature	200	℃
T_{stg}	Storage Temperature Range	-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.17	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 50mA; I_B= 0	200		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= 5A; I_B= 0.25A I_C= 5A; I_B= 0.25A; T_C= 100℃		0.8 0.9	V
$V_{CE\ (sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 1A I_C= 10A; I_B= 1A; T_C= 100℃		0.9 1.5	V
$V_{CE\ (sat)-3}$	Collector-Emitter Saturation Voltage	I_C= 14A; I_B= 1.75A I_C= 14A; I_B= 1.75A; T_C= 100℃		1.2 1.9	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 10A; I_B= 1A I_C= 10A; I_B= 1A; T_C= 100℃		1.4 1.4	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 14A; I_B= 1.75A I_C= 14A; I_B= 1.75A; T_C= 100℃		1.7 1.7	V
I_{CER}	Collector Cutoff Current	V_{CE}= V_{CEV}; R_{BE}= 10Ω V_{CE}= V_{CEV}; R_{BE}= 10Ω; T_C=100℃		0.5 2.5	mA
I_{CEV}	Collector Cutoff Current	V_{CE}= V_{CEV}; V_{BE}= -1.5V V_{CE}= V_{CEV}; V_{BE}= -1.5V;T_C=100℃		0.5 2.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		1.0	mA