

isc Silicon NPN Power Transistor

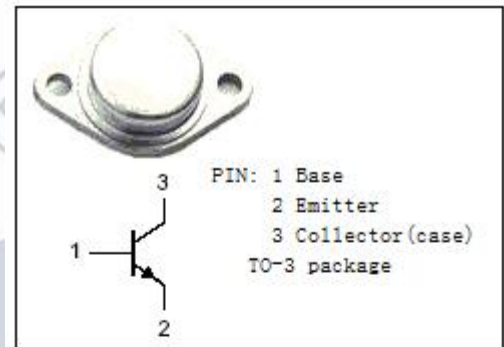
BUT100

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 125V(\text{Min.})$
- Hight Current Capability
- Hight Ruggedness

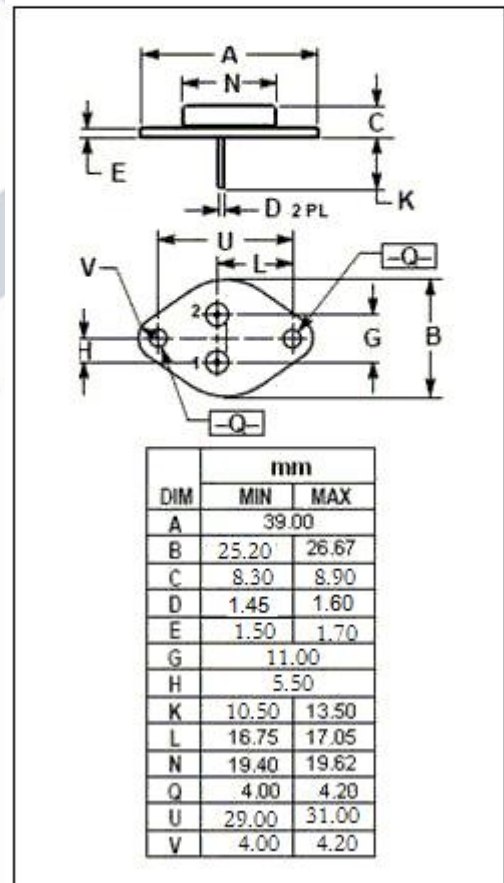
APPLICATIONS

- Motor Control
- Uninterruptable Power Supply



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	200	V
V_{CEO}	Collector-Emitter Voltage	125	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	50	A
I_{CM}	Collector Current-Peak Repetitive	150	A
P_C	Collector Power Dissipation @ $T_c=75^\circ C$	300	W
T_J	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature Range	-55~200	$^\circ C$



isc Silicon NPN Power Transistor**BUT100****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	$I_C= 50\text{mA}; I_B= 0$	125			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C= 1\text{mA}; I_E= 0$	200			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 1\text{mA}; I_C= 0$	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 50\text{A}; I_B= 2.5\text{A}$ $I_C = 50\text{A } I_B = 2.5\text{A } T_j = 100^{\circ}\text{C}$			0.9 1.2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 50\text{A}; I_B= 2.5\text{A}$ $I_C = 50\text{A } I_B = 2.5\text{A } T_j = 100^{\circ}\text{C}$			1.4 1.4	V
h_{FE}	DC Current Gain	$I_C= 1\text{A}; V_{CE}= 5\text{V}$	50			
I_{CBO}	Collector Cutoff Current	$V_{CB}= 200\text{V}; I_E= 0$			10	μA
I_{CEO}	Collector Cut-off Current	$V_{CE}=125\text{V}; I_E= 0$ $V_{CE} = 125\text{V}; T_C= 100^{\circ}\text{C}$			1 5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 5\text{V}; I_C= 0$			10	μA

* Pulsed: Pulse duration = $3\mu\text{s}$, duty cycle = 2 %