

isc Silicon NPN Power Transistor

BUX40

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 125V(\text{Min.})$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 1.2V(\text{Max.}) @ I_C = 10A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

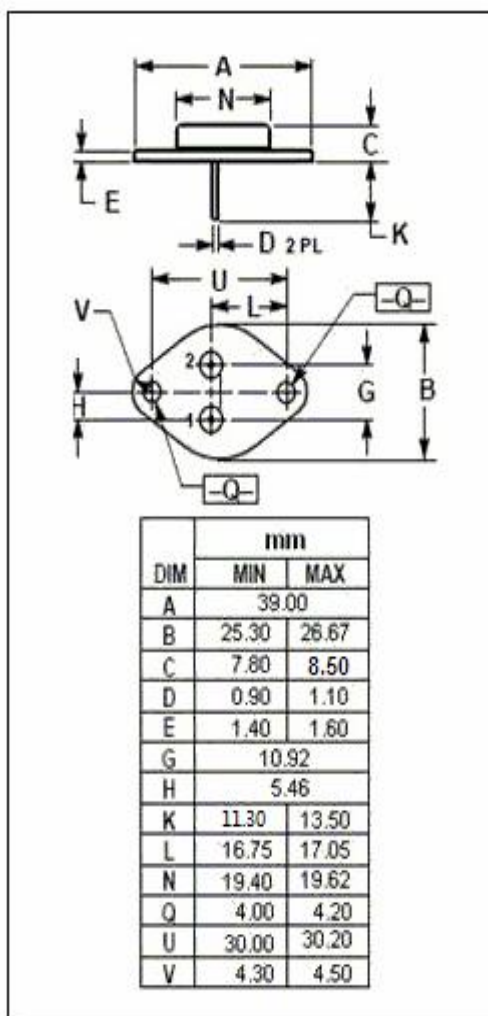
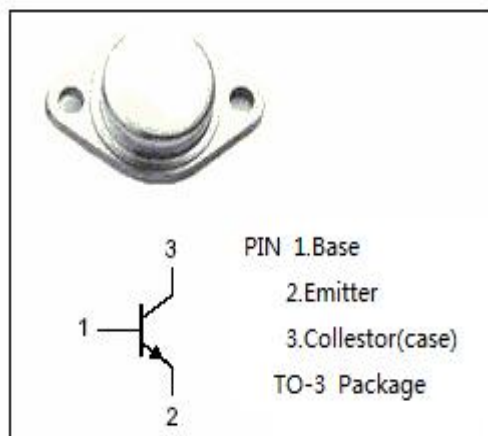
- Designed for high current, high speed, high power applications.

Absolute maximum ratings($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	160	V
V_{CER}	Collector-Emitter Voltage $R_{BE} = 100\ \Omega$	150	V
V_{CEX}	Collector-Emitter Voltage $V_{BE} = -1.5V$	160	V
V_{CEO}	Collector-Emitter Voltage	125	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
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	120	W
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.46	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**BUX40****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 = 50mA; I _B = 0	125			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 = 10A; I _B = 1A			1.2	V
V _{CE(sat)} -2	Collector-Emitter Saturation Voltage	I _C = 15A; I _B = 1.88A			1.6	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 15A; I _B = 1.88A			2.0	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 100V; I _B = 0			1.0	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 160V; I _E = 0 V _{CB} = 160V; I _E = 0; T _C =125°C			1.0 5.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			1.0	mA
h _{FE-1}	DC Current Gain	I _C = 10A; V _{CE} = 4V	15		45	
h _{FE-2}	DC Current Gain	I _C = 15A; V _{CE} = 4V	8			

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