

isc Silicon NPN Power Transistor

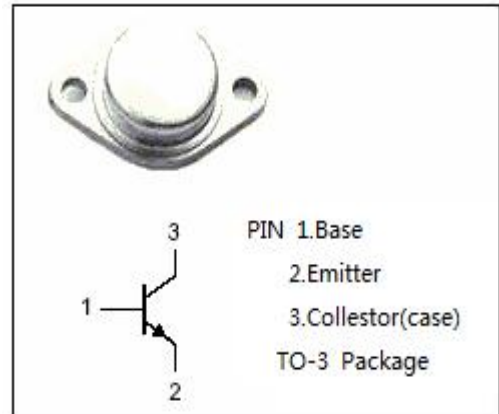
BUX40A

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 125V(\text{Min})$
- High Current Capability
- Good Linearity of h_{FE}
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

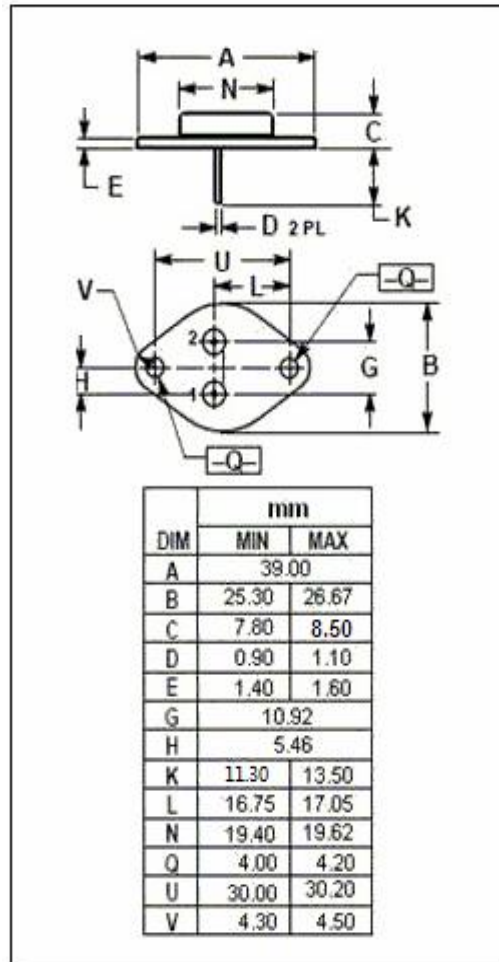
APPLICATIONS

- Designed for switching and linear applications in military equipment.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	160	V
$V_{CEO(SUS)}$	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 @ $T_C=100^\circ\text{C}$	120	W
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~200	$^\circ\text{C}$



THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA ; I _B = 0	125			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			3.0	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 160V; I _E = 0 V _{CB} = 160V; I _E = 0; T _C = 125°C			3.0 12	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			
f _T	Current-Gain—Bandwidth Product	I _C = 1A ; V _{CE} = 15V; f _{test} = 10MHz	50			MHz

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