

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistor

BUX40A

DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 125V(\text{Min})$
- High Current Capability
- Good Linearity of  $h_{FE}$

APPLICATIONS

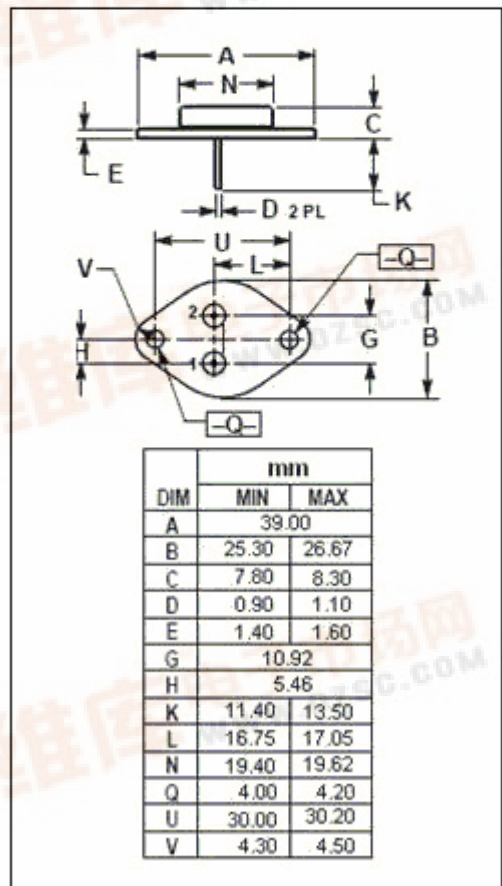
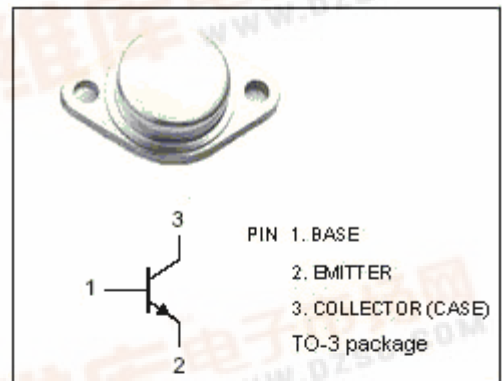
- Designed for switching and linear applications in military equipment.

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	$^\circ\text{C/W}$



**isc Silicon NPN Power Transistor****BUX40A****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	$I_C=200\text{mA}; I_B=0$	125			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$			1.2	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=15\text{A}; I_B=1.88\text{A}$			1.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=15\text{A}; I_B=1.88\text{A}$			2.0	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=100\text{V}; I_B=0$			3.0	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE}=160\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=160\text{V}; V_{BE}=-1.5\text{V}; T_C=125^\circ\text{C}$			3.0 12	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA
$h_{FE-1}$	DC Current Gain	$I_C=10\text{A}; V_{CE}=4\text{V}$	15		45	
$h_{FE-2}$	DC Current Gain	$I_C=15\text{A}; V_{CE}=4\text{V}$	8			
$f_T$	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=15\text{V}; f_{test}=10\text{MHz}$	50			MHz