

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistors

BUX16/A/B/C

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 200V(\text{Min})$ - BUX16
= 250V(Min)- BUX16A
= 300V(Min)- BUX16B
= 350V(Min)- BUX16C
- High Power Dissipation
- Wide Area of Safe Operation

APPLICATIONS

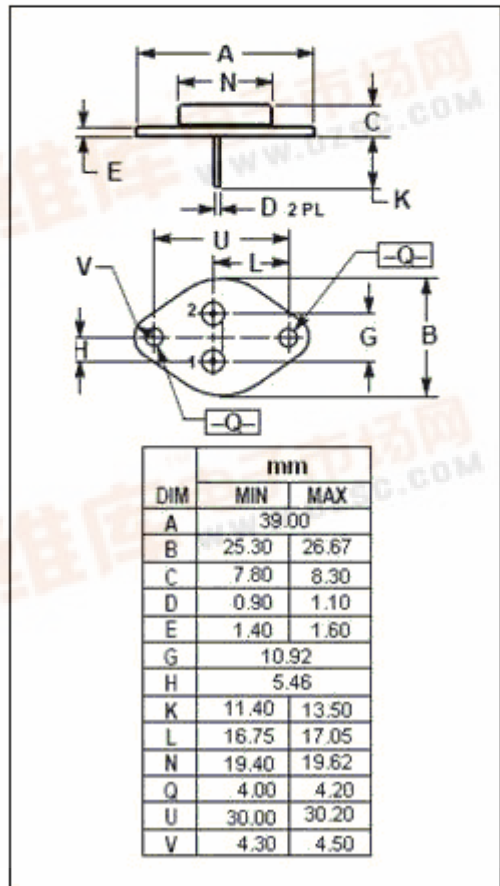
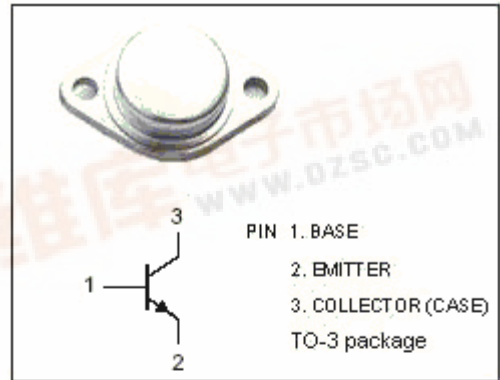
- Designed for use in series regulators, power amplifiers, Inverters , deflection circuits , switching regulators, and high voltage bridge amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BUX16	250	V
		BUX16A	325	
		BUX16B	375	
		BUX16C	425	
V_{CER}	Collector-Emitter Voltage $R_{BE} \leq 50 \Omega$	BUX16	225	V
		BUX16A	300	
		BUX16B	350	
		BUX16C	400	
$V_{CEO(SUS)}$	Collector-Emitter Voltage	BUX16	200	V
		BUX16A	250	
		BUX16B	300	
		BUX16C	350	
V_{EBO}	Emitter-Base Voltage	6	V	
I_C	Collector Current-Continuous	5	A	
I_B	Base Current-Continuous	2	A	
P_C	Collector Power Dissipation@ $T_C=25^\circ\text{C}$	100	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	1.75	$^\circ\text{C/W}$



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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	BUX16	$I_C=200\text{mA}; I_B=0$	200			V
		BUX16A		250			
		BUX16B		300			
		BUX16C		350			
$V_{CER(SUS)}$	Collector-Emitter Sustaining Voltage	BUX16	$I_C=200\text{mA}; R_{BE}\leq 50\Omega$	225			V
		BUX16A		300			
		BUX16B		350			
		BUX16C		400			
V_{EBO}	Emitter-Base Voltage		$I_E=20\text{mA}; I_C=0$	6			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C=2\text{A}; I_B=0.25\text{A}$			2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C=4.5\text{A}; I_B=1.125\text{A}$			5.0	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C=2\text{A}; V_{CE}=10\text{V}$			3.0	V
I_{CEV}	Collector Cutoff Current	BUX16	$V_{CE}=250\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=250\text{V}; V_{BE}=-1.5\text{V}; T_C=150^\circ\text{C}$			5 8	mA
		BUX16A	$V_{CE}=325\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=250\text{V}; V_{BE}=-1.5\text{V}; T_C=150^\circ\text{C}$			5 8	
		BUX16B	$V_{CE}=375\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=250\text{V}; V_{BE}=-1.5\text{V}; T_C=150^\circ\text{C}$			2 3	
		BUX16C	$V_{CE}=425\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=250\text{V}; V_{BE}=-1.5\text{V}; T_C=150^\circ\text{C}$			2 3	
I_{EBO}	Emitter Cutoff Current	BUX16/A	$V_{EB}=5\text{V}; I_C=0$			5.0	mA
		BUX16B/C		2.0			
h_{FE-1}	DC Current Gain		$I_C=0.4\text{A}; V_{CE}=10\text{V}$	15		130	
h_{FE-2}	DC Current Gain	BUX16/A	$I_C=2\text{A}; V_{CE}=10\text{V}$	15			
		BUX16B/C		12			
h_{FE-3}	DC Current Gain		$I_C=4.5\text{A}; V_{CE}=10\text{V}$	5			
C_{OB}	Output Capacitance		$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$			150	pF
f_T	Current-Gain—Bandwidth Product		$I_C=0.2\text{A}; V_{CE}=10\text{V}$	5			MHz