

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistors

BUW133/A

DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V$ (Min)-BUW133
500V (Min)-BUW133A

APPLICATIONS

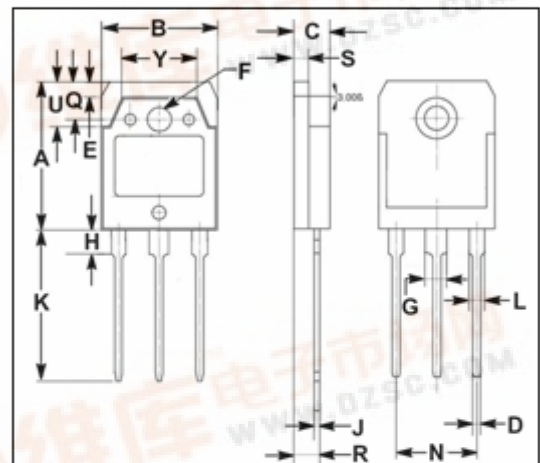
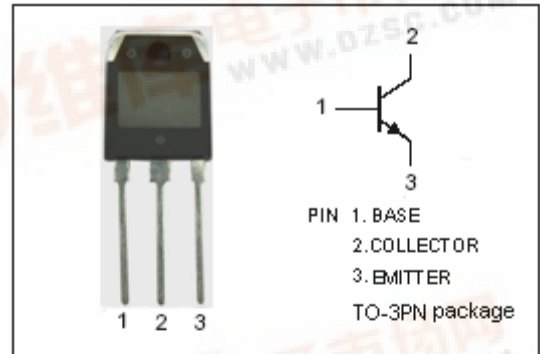
- Designed for use in very fast switching applications in inductive circuits.

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

SYMBOL	PARAMETER	MAX	UNIT	
V_{CES}	Collector- Emitter Voltage($V_{BE} = 0$)	BUW133	850	V
		BUW133A	1000	
V_{CEO}	Collector-Emitter Voltage	BUW133	450	V
		BUW133A	500	
V_{EBO}	Emitter-Base Voltage	6	V	
I_C	Collector Current-Continuous	15	A	
I_{CM}	Collector Current-Peak	20	A	
I_B	Base Current	10	A	
I_{BM}	Base Current-Peak	15	A	
P_C	Collector Power Dissipation @ $T_c=25^{\circ}C$	135	W	
T_j	Junction Temperature	150	$^{\circ}C$	
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}C$	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.93	$^{\circ}C/W$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	BUW133	$I_C=0.1\text{A}; I_B=0; L=10\text{mH}$			V
		BUW133A				
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	BUW133	$I_C=5\text{A}; I_B=0.7\text{A}$		2.5	V
		BUW133A				
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	BUW133	$I_C=10\text{A}; I_B=1.3\text{A}$		3.0	V
		BUW133A				
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BUW133	$I_C=10\text{A}; I_B=1.3\text{A}$		1.5	V
		BUW133A				
I_{CEV}	Collector Cutoff Current	$V_{CE}=V_{CESMmax}; V_{BE}=-1.5\text{V}$ $V_{CE}=V_{CESMmax}; V_{BE}=-1.5\text{V}; T_J=100^{\circ}\text{C}$			0.25 1.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			1	mA
h_{FE}	DC Current Gain	$I_C=15\text{A}; V_{CE}=5\text{V}$	5			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{kHz}$			400	pF

Switching Times , Resistive Load

t_{on}	Turn-On Time	$I_C=10\text{A}; I_{B1}=1.3\text{A}; I_{B2}=-2.6\text{A}$		0.4		μs
t_{stg}	Storage Time			1.3		μs
t_f	Fall Time			0.15		μs