

INCHANGE Semiconductor

isc Product Specification

isc Silicon PNP Power Transistors

BD500/B

DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = -50V(\text{Min})$   
-80V(Min)
- High Power Dissipation

APPLICATIONS

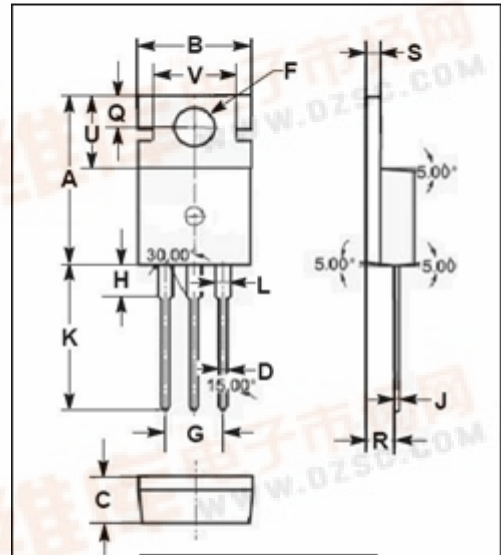
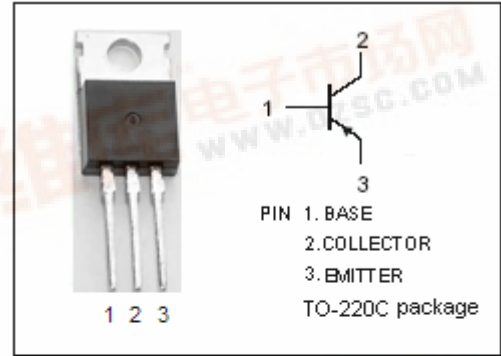
- Designed for use in high power audio amplifiers utilizing complementary or quasi complementary circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CBO}$	Collector-Base Voltage	BD500	-55	V
		BD500B	-85	
$V_{CEO}$	Collector-Emitter Voltage	BD500	-50	V
		BD500B	-80	
$V_{EBO}$	Emitter-Base Voltage	-5	V	
$I_C$	Collector Current-Continuous	-10	A	
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	75	W	
$T_J$	Junction Temperature	150	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.39	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86



## isc Silicon PNP Power Transistors

## BD500/B

## 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	BD500	$I_C = -30\text{mA}; I_B = 0$	-50		V
		BD500B		-80		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BD500	$I_C = -5\text{A}; I_B = -0.5\text{A}$		-1.0	V
		BD500B		$I_C = -3.5\text{A}; I_B = -0.35\text{A}$		
$V_{BE(on)}$	Base-Emitter On Voltage	BD500	$I_C = -5\text{A}; V_{CE} = -4\text{V}$		-1.6	V
		BD500B		$I_C = -3.5\text{A}; V_{CE} = -4\text{V}$		
$I_{CBO}$	Collector Cutoff Current		$V_{CB} = -55\text{V}; I_E = 0$		-1.0	mA
				$V_{CB} = -85\text{V}; I_E = 0$		
$I_{EBO}$	Emitter Cutoff Current		$V_{EB} = -5\text{V}; I_C = 0$		-1.0	mA
$h_{FE}$	DC Current Gain	BD500	$I_C = -5\text{A}; V_{CE} = -4\text{V}$	15	90	
		BD500B				
$f_T$	Current-Gain—Bandwidth Product		$I_C = -1.0\text{A}; V_{CE} = -10\text{V}$		8	MHz