

**Silicon PNP Power Transistors**

**BD544/A/B/C**

**DESCRIPTION**

- 70 W at 25°C Case Temperature
- Complement to Type BD543/A/B/C
- 8 A Continuous Collector Current

**APPLICATIONS**

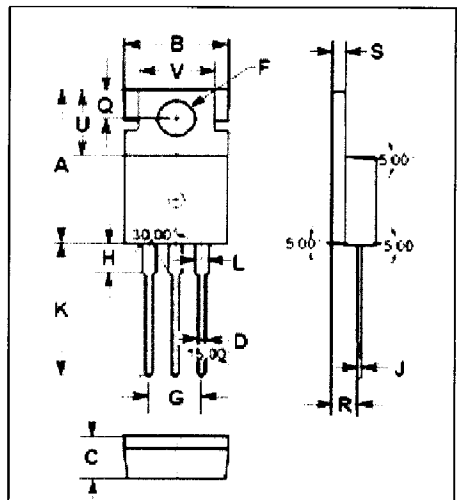
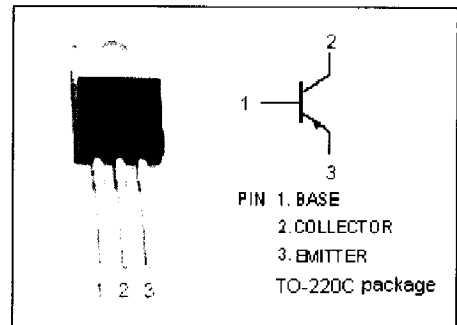
- Designed for high power audio amplifier applications.

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT	
V <sub>CB0</sub>	Collector-Base Voltage	BD544	-40	V
		BD544A	-60	
		BD544B	-80	
		BD544C	-100	
V <sub>CE0</sub>	Collector-Emitter Voltage	BD544	-40	V
		BD544A	-60	
		BD544B	-80	
		BD544C	-100	
V <sub>EB0</sub>	Emitter-Base Voltage	-5	V	
I <sub>c</sub>	Collector Current-Continuous	-8	A	
I <sub>CM</sub>	Collector Current-Peak	-10	A	
P <sub>c</sub>	Collector Power Dissipation @ T <sub>c</sub> =25°C	70	W	
	Collector Power Dissipation @ T <sub>a</sub> =25°C	2		
T <sub>j</sub>	Junction Temperature	150	°C	
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th-j-c</sub>	Thermal Resistance, Junction to Case	4.17	°C/W
R <sub>th-j-a</sub>	Thermal Resistance, Junction to Ambient	62.5	°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

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



# Silicon PNP Power Transistors

# BD544/A/B/C

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BD544	-40			V	
		BD544A	-60				
		BD544B	-80				
		BD544C	-100				
		$I_C = -30\text{mA}; I_B = 0$					
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -3\text{A}; I_B = -0.3\text{A}$			-0.5	V	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}; I_B = -1\text{A}$			-0.5	V	
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C = -8\text{A}; I_B = -1.6\text{A}$			-1.0	V	
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -5\text{A}; V_{CE} = -4\text{V}$			-1.4	V	
$I_{CES}$	Collector Cutoff Current	BD544	$V_{CE} = -40\text{V}; V_{BE} = 0$			-0.4	mA
		BD544A	$V_{CE} = -60\text{V}; V_{BE} = 0$			-0.4	
		BD544B	$V_{CE} = -80\text{V}; V_{BE} = 0$			-0.4	
		BD544C	$V_{CE} = -100\text{V}; V_{BE} = 0$			-0.4	
$I_{CEO}$	Collector Cutoff Current	BD544/A	$V_{CE} = -30\text{V}; I_B = 0$			-0.7	mA
		BD544B/C	$V_{CE} = -60\text{V}; I_B = 0$				
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-1	mA	
$h_{FE-1}$	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -4\text{V}$	60				
$h_{FE-2}$	DC Current Gain	$I_C = -3\text{A}; V_{CE} = -4\text{V}$	40				
$h_{FE-3}$	DC Current Gain	$I_C = -5\text{A}; V_{CE} = -4\text{V}$	15				

### Switching Times

$t_{on}$	Turn-On Time	$I_C = -6\text{A}; I_{B1} = -I_{B2} = -0.6\text{A}; V_{BE(off)} = 4\text{V}; R_L = 5\Omega$		0.4	$\mu\text{s}$
$t_{off}$	Turn-Off Time			0.7	$\mu\text{s}$