

isc Silicon NPN Power Transistors
BD543/A/B/C
DESCRIPTION

- 70 W at 25°C Case Temperature
- Complement to Type BD544/A/B/C
- 8 A Continuous Collector Current
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

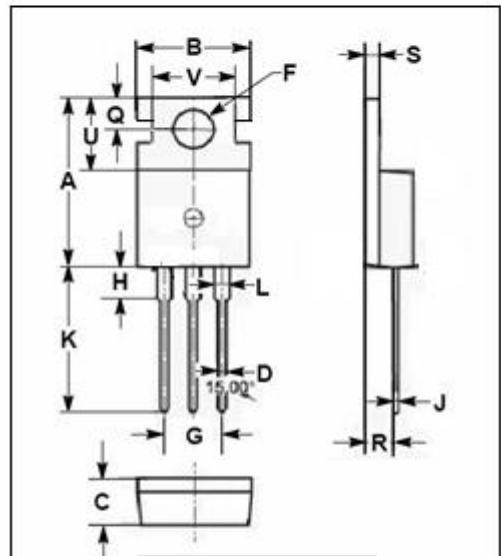
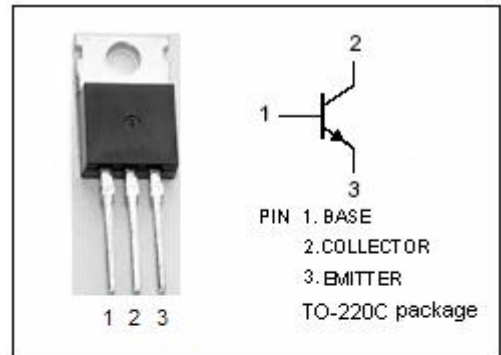
- Designed for high power audio amplifier applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT	
V _{CBO}	Collector-Base Voltage	BD543	40	V
		BD543A	60	
		BD543B	80	
		BD543C	100	
V _{CEO}	Collector-Emitter Voltage	BD543	40	V
		BD543A	60	
		BD543B	80	
		BD543C	100	
V _{EBO}	Emitter-Base Voltage	5	V	
I _C	Collector Current-Continuous	8	A	
I _{CM}	Collector Current-Peak	10	A	
P _C	Collector Power Dissipation @ T _C =25°C	70	W	
	Collector Power Dissipation @ T _a =25°C	2		
T _J	Junction Temperature	150	°C	
T _{stg}	Storage Temperature Range	-65~150	°C	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.79	°C/W
R _{th j-a}	Thermal Resistance, Junction to Ambient	62.5	°C/W



DIM	mm	
	MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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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	BD543	$I_C=30\text{mA}; I_B=0$			V
		BD543A				
		BD543B				
		BD543C				
$V_{CE(sat)-1}$	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	BD543				mA
		BD543A				
		BD543B				
		BD543C				
I_{CEO}	Collector Cutoff Current	BD543/A				mA
		BD543B/C				
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	$I_C=6\text{A}; I_{B1}=-I_{B2}=0.6\text{A}; V_{BE(off)}=-4\text{V}, R_L=5\Omega$		0.6		μs
t_{off}	Turn-Off Time			1.0		μs

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