

**Silicon NPN Power Transistor**

**BD545/A/B/C**

**DESCRIPTION**

- Collector Current  $-I_C = 15A$
- Collector-Emitter Breakdown Voltage-  
 :  $V_{(BR)CEO} = 40V(\text{Min})$ - BD545;  $60V(\text{Min})$ - BD545A  
 $80V(\text{Min})$ - BD545B;  $100V(\text{Min})$ - BD545C
- Complement to Type BD546/A/B/C

**APPLICATIONS**

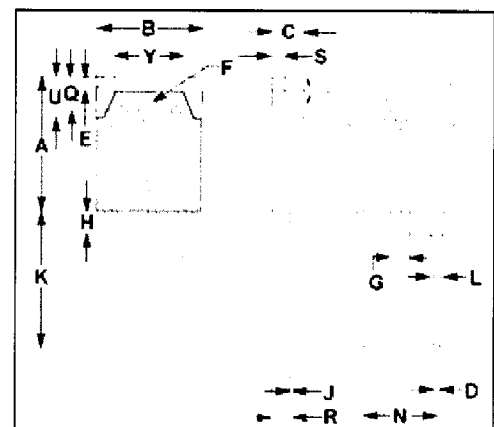
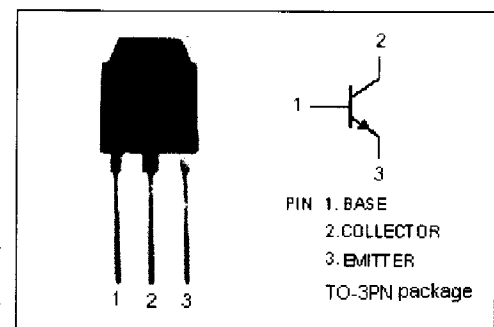
- Designed for use in general purpose power amplifier and switching applications

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

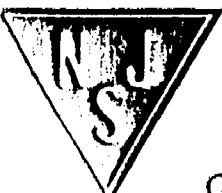
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	BD545	40
		BD545A	60
		BD545B	80
		BD545C	100
$V_{CEO}$	Collector-Emitter Voltage	BD545	40
		BD545A	60
		BD545B	80
		BD545C	100
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	15	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	3.5	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	85	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.47	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	35.7	$^\circ\text{C/W}$



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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# BD545/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	BD545	40			V	
		BD545A	60				
		BD545B	80				
		BD545C	100				
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5A; I_B=0.625A$			0.8	V	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10A; I_B=2A$			1.0	V	
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=10A; V_{CE}=4V$			1.8	V	
$I_{CES}$	Collector Cutoff Current	BD545	$V_{CE}=40V; V_{BE}=0$			0.4	mA
		BD545A	$V_{CE}=60V; V_{BE}=0$				
		BD545B	$V_{CE}=80V; V_{BE}=0$				
		BD545C	$V_{CE}=100V; V_{BE}=0$				
$I_{CEO}$	Collector Cutoff Current	BD545/A	$V_{CE}=30V; I_B=0$			0.7	mA
		BD545B/C	$V_{CE}=60V; I_B=0$				
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5V; I_C=0$			1.0	mA	
$h_{FE-1}$	DC Current Gain	$I_C=1A; V_{CE}=4V$	60				
$h_{FE-2}$	DC Current Gain	$I_C=5A; V_{CE}=4V$	25				
$h_{FE-3}$	DC Current Gain	$I_C=10A; V_{CE}=4V$	10				

### Switching times

$t_{on}$	Turn-on Time	$I_C=6A; I_{B1}=-I_{B2}=0.6A;$ $R_L=5\Omega; V_{BE(off)}=-4V$		0.6		$\mu\text{s}$
$t_{off}$	Turn-off Time			1.0		$\mu\text{s}$