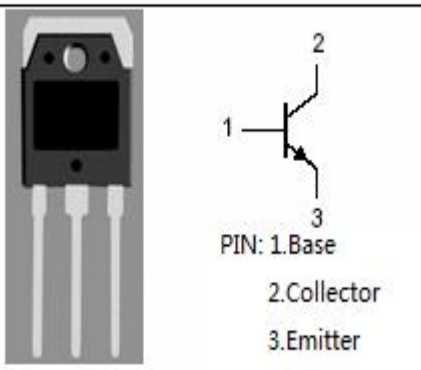
isc Silicon NPN Power Transistor — BD545/A/B/C

DESCRIPTION

- Collector Current -I_C= 15A
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$ = 40V(Min)- BD545; 60V(Min)- BD545A
  80V(Min)- BD545B; 100V(Min)- BD545C
- Complement to Type BD546/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

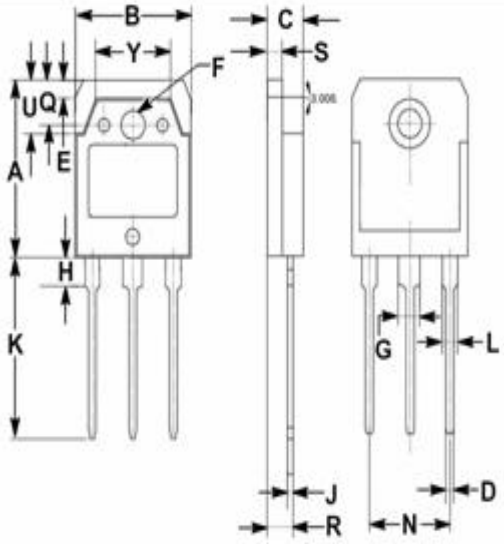
APPLICATIONS

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



ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BD545	40	V
		BD545A	60	
		BD545B	80	
		BD545C	100	
V_{CEO}	Collector-Emitter Voltage	BD545	40	V
		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℃		3.5	W
	Collector Power Dissipation @ T_C=25℃		85	
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃



DIM	mm MIN	MAX
A	19.60	20.30
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	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

THERMAL CHARACTERISTICS

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

isc Silicon NPN Power Transistor BD545/A/B/C

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BD545	I_C= 30mA ;I_B=0	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= 5Ω ; $V_{BE(off)}$= -4V		0.6		μs
t_{off}	Turn-off Time				1.0		μs

NOTICE：

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.