

isc Silicon NPN Power Transistor

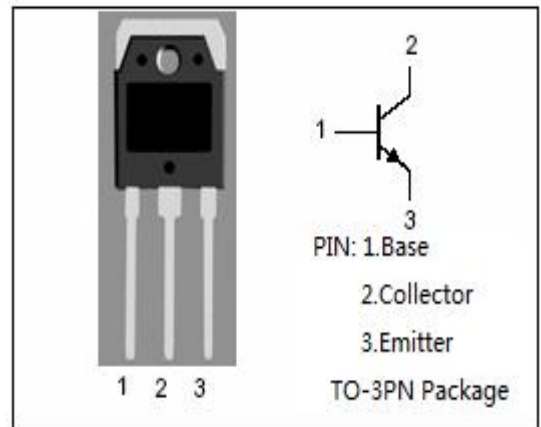
BD545/A/B/C

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
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

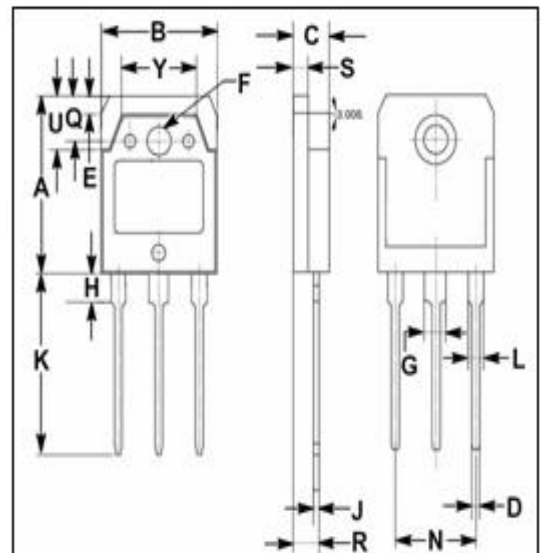
APPLICATIONS

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



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

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 @ $T_a=25^\circ C$	3.5	W	
	Collector Power Dissipation @ $T_c=25^\circ C$	85		
T_J	Junction Temperature	150	$^\circ C$	
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$	



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

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ELECTRICAL CHARACTERISTICS

T_C=25°C 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 = 5 Ω ; V _{BE(off)} = -4V		0.6		μ s
t _{off}	Turn-off Time				1.0		μ s

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