

## isc Silicon NPN Power Transistor

## BD743B

## DESCRIPTION

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 80V(\text{Min})$
- Collector Power Dissipation-  
:  $P_C = 90W @ I_C = 25^\circ C$
- 15A Continuous Collector Current
- Complement to Type BD744B
- 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( $T_a = 25^\circ C$ )

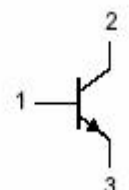
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	90	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	15	A
$I_{CM}$	Collector Current-Peak	20	A
$I_B$	Base Current-Continuous	5	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ C$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ C$	90	
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ C$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.4	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



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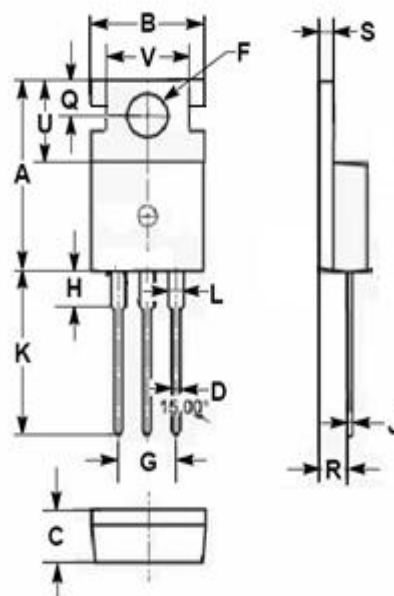


PIN 1. BASE

2. COLLECTOR

3. EMITTER

TO-220C package



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

**isc Silicon NPN Power Transistor****BD743B****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN		MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	80			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 0.5A			1.0	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 15A; I <sub>B</sub> = 5A			3.0	V
V <sub>BE(on)-1</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 5A ; V <sub>CE</sub> = 4V			1.0	V
V <sub>BE(on)-2</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 15A ; V <sub>CE</sub> = 4V			3.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 90V; I <sub>E</sub> = 0			0.1	mA
		V <sub>CB</sub> = 90V; I <sub>E</sub> = 0; T <sub>C</sub> = 125°C			5.0	
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 60V; I <sub>B</sub> = 0			0.1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			0.5	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 4V	40			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 5A ; V <sub>CE</sub> = 4V	20		150	
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 15A ; V <sub>CE</sub> = 4V	5			

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