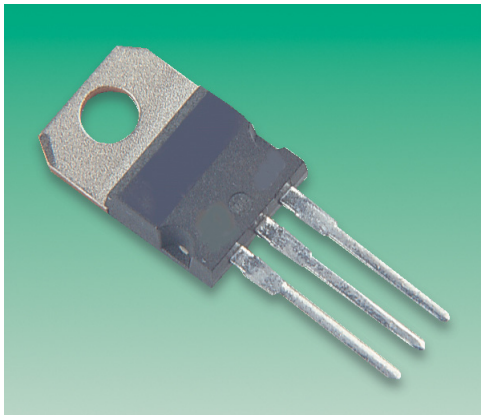
BD241C & BD242C

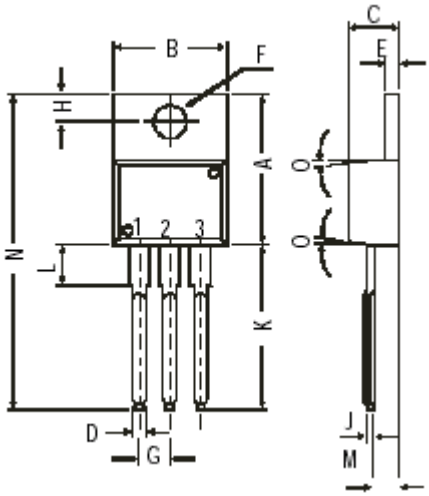
General Purpose Amplifiers

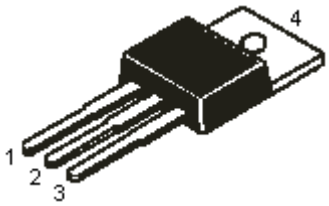


Features:

- NPN/PNP Plastic Power Transistors.
- General Purpose Amplifier and Switching Applications.

BD241C NPN
BD242C PNP
TO-220 Plastic Package





Pin Configuration

1. Base
2. Collector
3. Emitter
4. Collector

Dimensions	Minimum	Maximum
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	-	0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	-	0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N	-	31.24
O	7°	

Dimensions : Millimetres

Absolute Maximum Ratings

Limiting Values	Symbol		BD241C	BD242C	Unit
Collector-Emitter Voltage (V_{BE} = 0)	V_{CES}	maximum	115	115	V
Collector-Emitter Voltage (Open Base)	V_{CEO}		100		
Collector Current	I_C		5.0	5.0	A
Total Power Dissipation upto T_C = 25°C	P_{tot}		40	40	W
Junction Temperature	T_j		150		°C
Collector-Emitter Saturation Voltage I_C = 3A; I_B = 0.6A	$V_{CE(sat)}$		1.2	1.2	V
DC Current Gain I_C = 1A; V_{CE} = 4V	h_{FE}	minimum	25	25	-

Ratings (at T_A=25°C unless otherwise specified)

Limiting Values	Symbol		BD241C	BD242C	Unit
Collector-Emitter Voltage (V_{BE} = 0)	V_{CES}	maximum	115	115	V
Collector-Emitter Voltage (Open Base)	V_{CEO}		100	100	
Collector-Emitter Voltage (R_{BE} = 100Ω)	V_{CER}		115	115	
Emitter-Base Voltage (Open Collector)	V_{EBO}		5.0	5.0	
Collector Current	I_C		3.0	3.0	A
Collector Current (Peak Value)			5.0	5.0	
Base Current	I_B		1.0	1.0	
Total Power Dissipation upto T_C = 25°C Derate Above 25°C	P_{tot}		40 0.32	40 0.32	W W/°C
Junction Temperature	T_j		150		°C
Storage Temperature	T_{stg}	-	-65 to +150		
Thermal Resistance					
From Junction to Case	$R_{th(j-c)}$	-	3.125	3.125	°C/W
From Junction to Ambient	$R_{th(j-a)}$	-	62.5	62.5	

Characteristics T_{amb} = 25°C unless otherwise specified

Limiting Values	Symbol		BD241C BD242C	Unit
Collector Cutoff Current I_B = 0; V_{CE} = 60V V_{BE} = 0; V_{CE} = V_{CEO}	I_{CEO} I_{CES}	maximum	0.3	mA
Emitter Cutoff Current I_C = 0; V_{EB} = 5V	I_{EBO}		1.0	
Breakdown Voltages I_C = 30mA; I_B = 0 I_C = 1mA; V_{BE} = 0 I_E = 1mA; I_C = 0	$V_{CEO(sus)}$* V_{CES} V_{EBO}	minimum	100 115 5.0	V
Saturation Voltage I_C = 3A; I_B = 0.6A	$V_{CE(sat)}$*	maximum	1.2	
Base Emitter on Voltage I_C = 3A; V_{CE} = 4V	$V_{BE(on)}$*		1.8	
DC Current Gain I_C = 1A; V_{CE} = 4V	h_{FE}*	minimum	25	-
Transition Frequency I_C = 0.5A; V_{CE} = 10V; f = 1MHz	f_T (1)		3	MHz
Small Signal Current Gain I_C = 0.5A; V_{CE} = 10V; f = 1KHz	h_{fe}		20	-

* Pulse Test : Pulse Width ≤300µs, Duty Cycle ≤2%.

(1) $f_T = |h_{fe}| \bullet f_{test.}$

Part Number

$I_{C(av)}$ maximum (A)	V_{CEO} maximum (V)	h_{FE} minimum at I_C = 1A	P_{tot} at 25°C (W)	Type	Package	Part Number
5	100	25	40	NPN	TO-220	BD241C

Notes:

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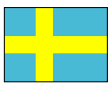

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