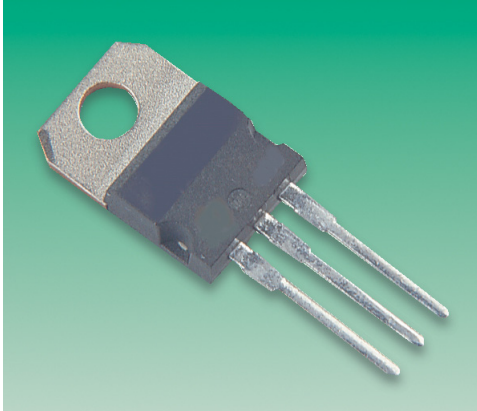


# BD241C & BD242C

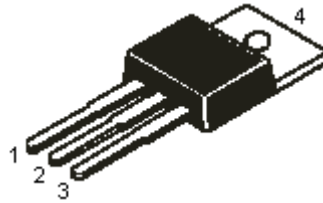
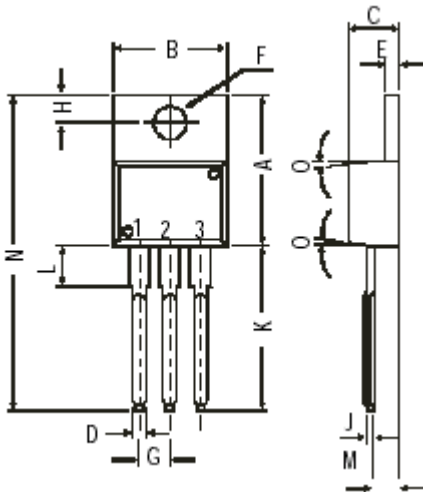
## General Purpose Amplifiers



### 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



# BD241C & BD242C

## General Purpose Amplifiers



### 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 $T_C = 25^\circ\text{C}$	$P_{tot}$		40	40	W
Junction Temperature	$T_j$		150		$^\circ\text{C}$
Collector-Emitter Saturation Voltage $I_C = 3\text{A}; I_B = 0.6\text{A}$	$V_{CE(sat)}$		1.2	1.2	V
DC Current Gain $I_C = 1\text{A}; V_{CE} = 4\text{V}$	$h_{FE}$	minimum	25	25	-

### Ratings (at $T_A=25^\circ\text{C}$ 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 ( $R_{BE} = 100\Omega$ )	$V_{CER}$		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 $T_C = 25^\circ\text{C}$ Derate Above $25^\circ\text{C}$	$P_{tot}$		40 0.32	40 0.32	W W/ $^\circ\text{C}$
Junction Temperature	$T_j$		150		$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-	-65 to +150		
<b>Thermal Resistance</b>					
From Junction to Case	$R_{th(j-c)}$	-	3.125	3.125	$^\circ\text{C}/\text{W}$
From Junction to Ambient	$R_{th(j-a)}$	-	62.5	62.5	

# BD241C & BD242C

## General Purpose Amplifiers



Characteristics  $T_{amb} = 25^{\circ}\text{C}$  unless otherwise specified

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

\* Pulse Test : Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

$$(1) f_T = \left| h_{fe} \right| \cdot f_{test}$$

### Part Number

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

# BD241C & BD242C

## General Purpose Amplifiers



### Notes:

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