

TBD243C, TBD244C

High Power Bipolar Transistor



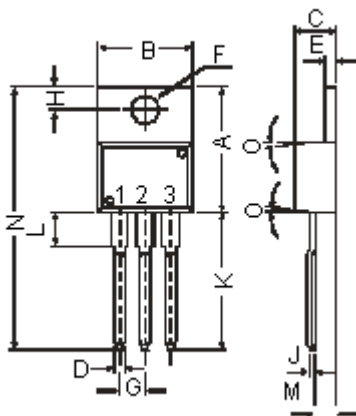
TO-220, General Purpose



Features:

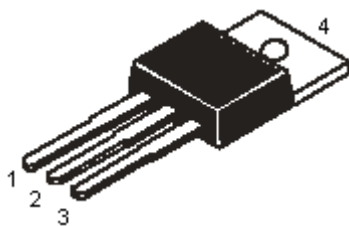
- NPN and PNP plastic power transistors.
- General purpose amplifier and switching applications.

TO-220 Plastic Package



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



Pin Configuration

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

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Absolute Maximum Ratings

Characteristic	Symbol		TBD243C TBD244C	Unit
Collector-Base Voltage (Open Emitter)	V_{CBO}	Maximum	100	V
Collector Emitter Voltage (Open Base)	V_{CEO}			
Collector Current	I_C		6.0	A
Total Power Dissipation upto $T_C = 25^\circ\text{C}$	P_{tot}		65	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Collector Current Saturation Voltage $I_C = 6\text{A}$; $I_B = 1\text{A}$	$V_{CE}(\text{Sat})$	Minimum	1.5	V
D.C. Current Gain $I_C = 0.3\text{A}$; $V_{CE} = 4\text{V}$	h_{FE}		30	

Ratings (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting Values

Collector-Base Voltage (Open Emitter)	V_{CBO}	Maximum	100	V
Collector Emitter Voltage (Open Base)	V_{CEO}			
Emitter-Base Voltage (Open Collector)	V_{EBO}		5.0	A
Collector Current	I_C		6.0	
Collector Current (Peak)			10	
Base Current	I_B		2.0	
Total Power Dissipation upto $T_C = 25^{\circ}\text{C}$	P_{tot}		65	W
Junction Temperature	T_j		150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		-65 to +150	

Thermal Resistance

From Junction to Case	$R_{th(j-c)}$	-	1.92	$^\circ\text{C/W}$
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Characteristics

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

Collector Cut off Current $I_B = 0$; $V_{CE} = 60\text{V}$ $V_{BE} = 0$; $V_{CE} = V_{CEO}$	I_{CEO} I_{CES}	Maximum	0.7 0.4	mA
Emitter Cut off Current $I_C = 0$; $V_{EB} = 5\text{V}$	I_{EBO}	Maximum	1.0	mA
Breakdown Voltages $I_C = 30\text{mA}$; $I_B = 0$ $I_C = 1\text{mA}$; $I_E = 0$ $I_E = 1\text{mA}$; $I_C = 0$	$V_{CEO}(\text{Sus})^*$ V_{CBO} V_{EBO}	Minumum	100 100 5.0	V
Saturation Voltage $I_C = 6\text{A}$; $I_B = 1\text{A}$	$V_{CE(\text{sat})}^*$	Maximum	1.5	
Base Emitter On Voltage $I_C = 6\text{A}$; $V_{CE} = 4\text{V}$	$V_{BE(\text{on})}^*$	Maximum	2.0	
D.C. Current Gain $I_C = 0.3\text{A}$; $V_{CE} = 4\text{V}$ $I_C = 3\text{A}$; $V_{CE} = 4\text{V}$	h_{FE}^*	Minimum	30 15	-



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Characteristics

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

Small Signal Current Gain $I_C = 0.5\text{A}; V_{CE} = 10\text{V}; f = 1\text{KHz}$	h_{fe}	Minimum	20	-
Transition Frequency $I_C = 0.5\text{A}; V_{CE} = 10\text{V}; f = 1\text{MHz}$	$f_T (1)$	Mimumum	3	MHz

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

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

Specifications

$I_C (av)$ maximum (A)	V_{CEO} maximum (V)	h_{FE} minimum at $I_C = 0.3\text{A}$	P_{tot} at 25°C (W)	TYPE	Part Number
6	100	30	65	NPN	TBD243C
				PNP	TBD244C

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