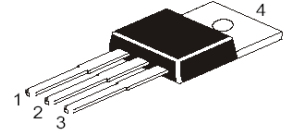
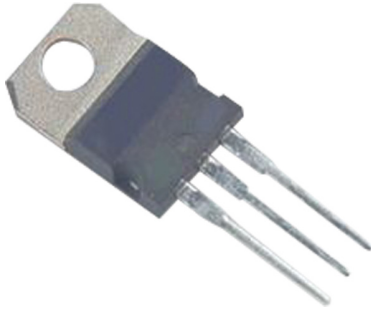


# Plastic Power Transistor



### Pin Configuration:

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

### Feature:

- Complementary Silicon Transistors Intended for a Wide Variety of Switching and Amplifier Applications, Series and Shunt Regulators, Driver and Output Stages of Hi-Fi Amplifiers

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ ):

Description	Symbol	TIP41C	Unit
Collector Emitter Voltage	$V_{CEO}$	100	V
Collector Base Voltage	$V_{CBO}$		
Emitter Base Voltage	$V_{EBO}$		
Collector Current Continuous	$I_C$	6	A
Collector Current Peak	$I_{CM}$	10	
Base Current	$I_B$	2	
Power Dissipation upto $T_c = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	65	W
Power Dissipation upto $T_a = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$		520	
Unclamped Inductive Load Energy	*E	62.5	mJ
Storage Temperature	$T_{stg}$	150	$^\circ\text{C}$
Junction Temperature	$T_j$	- 65 to +150	

### Thermal Resistance

Junction to Case	$R_{th(j-c)}$	1.92	$^\circ\text{C/W}$
Junction to Ambient in Free Air	$R_{th(j-a)}$	62.5	

\*  $I_C = 2.5\text{A}$ ,  $L = 20\text{mH}$ , P.R.F. = 10Hz,  $V_{CC} = 10\text{V}$ ,  $R_{BE} = 100\Omega$

## Electrical Characteristics ( $T_C = 25^\circ\text{C}$ unless specified otherwise):

Description	Symbol	Test Condition	Min.	Max.	Unit
Collector Emitter Voltage	$*V_{CEO}$	$I_C = 30\text{mA}, I_B = 0$	100	-	V
Collector Cut off Current	$I_{CEO}$	$V_{CE} = 60\text{V}, I_B = 0$	-	0.7	mA
Collector Cut off Current	$I_{CES}$	$V_{CE} = V_{CEO} (\text{max.}), V_{BE} = 0$	-	0.4	
Emitter Cut off Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$	-	1	
DC Current Gain	$*h_{FE}$	$I_C = 0.3\text{A}, V_{CE} = 4\text{V}$ $I_C = 3\text{A}, V_{CE} = 4\text{V}$	30 15	75	-
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C = 6\text{A}, I_B = 0.6\text{A}$	-	1.5	V
Base Emitter on Voltage	$*V_{BE(on)}$	$I_C = 6\text{A}, V_{CE} = 4\text{V}$	-	2	

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

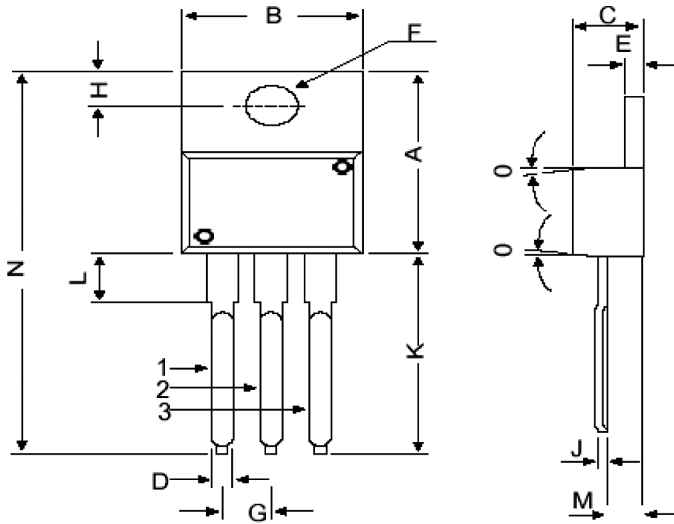
## Dynamic Characteristics

Description	Symbol	Test Condition	Min.	Max.	Unit
Small Signal Current Gain	$h_{fe}$	$I_C = 0.5\text{A}, V_{CE} = 10\text{V}, f = 1\text{kHz}$	20	-	-
Transition Frequency	$f_T$	$I_C = 0.5\text{A}, V_{CE} = 10\text{V}, f = 1\text{MHz}$	3	-	MHz

## Switching Characteristics

Description	Symbol	Test Condition	Typical	Unit
Turn On Time	$t_{on}$	$V_{CC} = 30\text{V}, I_C = 6\text{A}, I_{B1} = I_{B2} = 0.6\text{A},$ $RL = 5\Omega$	0.6	$\mu\text{s}$
Turn Off Time	$t_{off}$		1.4	

# Plastic Power Transistor



## Pin Configuration:

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Dimensions	Min.	Max.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	-	0.9
E	1.15	1.4
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	-	0.56
K	12.7	14.73
L	2.8	4.07
M	2.03	2.92
N	-	31.24
O	7°	

Dimensions : Millimetres

## Part Number Table

Description	Part Number
Transistor, NPN, TO-220	TIP41C

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