

# TIP42C

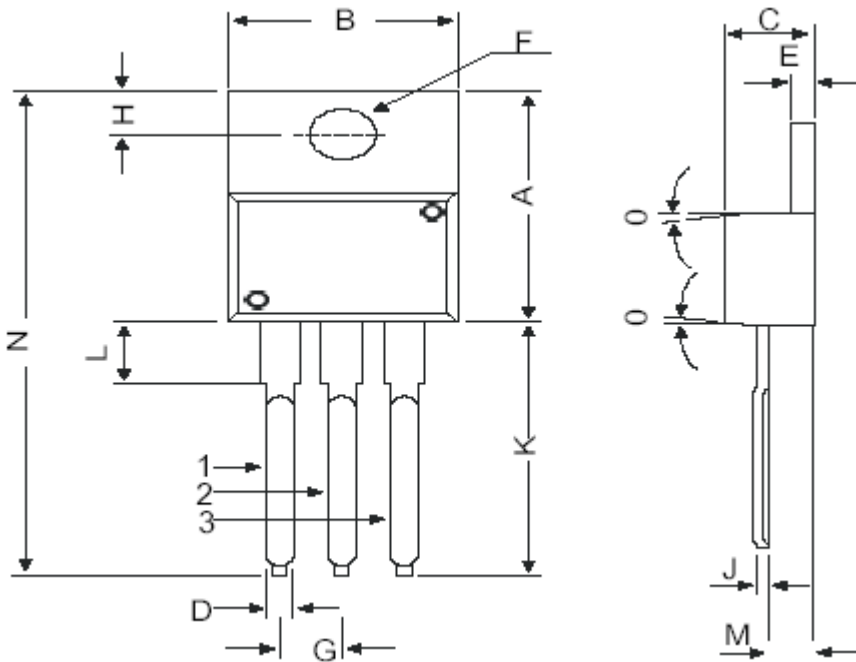
## Plastic Power Transistors



### Feature:

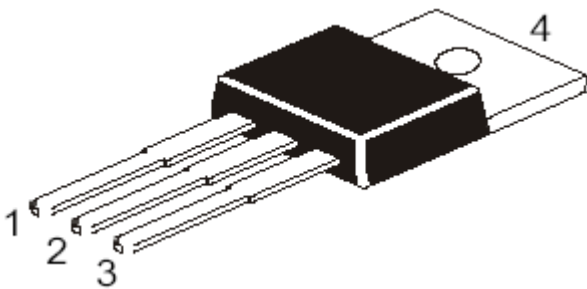
- Complementary Silicon Transistors Intended for a Wide Variety of Switching and Amplifier Applications, Series and Shunt Regulators, Driver and Output Stages of Hi-Fi Amplifiers.

### 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



# TIP42C

## Plastic Power Transistors



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

Description	Symbol	TIP42C	Unit
Collector Emitter Voltage	$V_{CEO}$	100	V
Collector Base Voltage	$V_{CBO}$		
Emitter Base Voltage	$V_{EBO}$		
Collector Current Continuous	$I_C$	6.0	A
Collector Current Peak	$I_{CM}$	10	
Base Current	$I_B$	2.0	
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	
		2.0	mW/°C
		16	
Unclamped Inductive Load Energy	*E	62.5	mJ
Storage Temperature	$T_{stg}$	150	°C
Junction Temperature	$T_j$	- 65 to +150	

### Thermal Resistance

Description	Symbol	TIP42C	Unit
Junction to Case	$R_{th(j-c)}$	1.92	°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	Minimum	Maximum	Unit
Collector Emitter Voltage	* $V_{CEO}$	$I_C = 30\text{mA}$ , $I_B = 0$ <b>TIP42C</b>	100	-	V
Collector Cut off Current	$I_{CEO}$	$V_{CE} = 60\text{V}$ , $I_B = 0$ <b>TIP42C</b>	-	0.7	mA
Collector Cut off Current	$I_{CES}$	$V_{CE} = V_{CEO}$ (maximum), $V_{BE} = 0$	-	0.4	
Emitter Cut off Current	$I_{EBO}$	$V_{EB} = 5\text{V}$ , $I_C = 0$	-	1.0	
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	* $V_{BE(on)}$	$I_C = 6\text{A}$ , $V_{CE} = 4\text{V}$	-	2.0	

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



# TIP42C

## Plastic Power Transistors



### Dynamic Characteristics

Description	Symbol	Test Condition	Minimum	Maximum	Unit
Small Signal Current Gain	$h_{fe}$	$I_C = 0.5A, V_{CE} = 10V, f = 1KHz$	20	-	-
Transition Frequency	$f_T$	$I_C = 0.5A, V_{CE} = 10V, f = 1MHz$	3	-	MHz

### Switching Characteristics

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

### Part Number Table

Description	Part Number
Transistor, PNP, TO-220	TIP42C

# TIP42C

## Plastic Power Transistors



### Notes:

### International Sales Offices:



**AUSTRALIA - Farnell**  
Tel No: ++61 1300 361 005  
Fax No: ++61 1300 361 225



**FINLAND - Farnell**  
Tel No: ++ 358 9 560 7780  
Fax No: ++ 358 9 345 5411



**ITALY - Farnell**  
Tel No: ++ 39 02 93 995 200  
Fax No: ++ 39 02 93 995 300



**SPAIN - Farnell**  
Tel No: 901 20 20 80  
Fax No: 901 20 20 90



**AUSTRIA - Farnell**  
Tel No: ++ 43 662 2180 680  
Fax No: ++ 43 662 2180 670



**FRANCE - Farnell**  
Tel No: ++ 33 474 68 99 99  
Fax No: ++ 33 474 68 99 90



**MALAYSIA - Farnell-Newark**  
Tel No: ++ 60 3 7873 8000  
Fax No: ++ 60 3 7873 7000



**SWEDEN - Farnell**  
Tel No: ++ 46 8 730 50 00  
Fax No: ++ 46 8 83 52 62



**BELGIUM - Farnell**  
Tel No: ++ 32 3 475 2810  
Fax No: ++ 32 3 227 3648



**GERMANY - Farnell**  
Tel No: ++ 49 89 61 39 39 39  
Fax No: ++ 49 89 613 59 01



**NETHERLANDS - Farnell**  
Tel No: ++ 31 30 241 7373  
Fax No: ++ 31 30 241 7333



**SWITZERLAND - Farnell**  
Tel No: ++ 44 204 64 64  
Fax No: ++ 44 204 64 54



**BRAZIL - Farnell-Newark**  
Tel No: ++ 55 11 4066 9400  
Fax No: ++ 55 11 4066 9410



**HONG KONG - Farnell-Newark**  
Tel No: ++ 852 2268 9888  
Fax No: ++ 852 2268 9899



**NEW ZEALAND - Farnell**  
Tel No: 0800 90 80 80  
Fax No: 0800 90 80 81



**UK - Farnell**  
Tel No: ++ 44 8701 200 200  
Fax No: ++ 44 8701 200 201



**CHINA - Farnell-Newark**  
Tel No: ++86 10 6238 5152  
Fax No: ++86 10 6238 5022



**HUNGARY - Farnell**  
Tel No: ++ 44 870 1200 208  
Fax No: ++ 44 870 1200 209



**NORWAY - Farnell**  
Tel No: 800 146 70  
Fax No: 800 146 76



**UK - CPC**  
++ 44 8701 202 530  
++ 44 8701 202 531



**CZECH REPUBLIC - Farnell**  
Tel No: ++ 44 870 1200 208  
Fax No: ++ 44 870 1200 209



**INDIA - Farnell**  
Tel No: ++ 44 870 1200 208  
Fax No: ++ 44 870 1200 209



**PORTUGAL - Farnell**  
Tel No: ++ 34 93 475 8804  
Fax No: ++ 34 93 474 5288



**USA - Newark**  
Tel No: 800 463 9275



**DENMARK - Farnell**  
Tel No: ++ 45 44 53 66 44  
Fax No: ++ 45 44 53 66 06



**IRELAND - Farnell**  
Tel No: ++ 353 1 830 9277  
Fax No: ++ 353 1 830 9016



**RUSSIA - Farnell**  
Tel No: ++ 44 870 1200 208  
Fax No: ++ 44 870 1200 209



**EXPORT - Farnell**  
Tel No: ++ 44 8701 200 208  
Fax No: ++ 44 8701 200 209

For enquiries from all other markets



**ESTONIA - Farnell**  
Tel No: ++ 358 9 560 7780  
Fax No: ++ 358 9 345 5411



**ISRAEL - Farnell**  
Tel No: ++ 180 937 0015  
Fax No: ++ 180 937 0014



**SINGAPORE - Farnell-Newark**  
Tel No: ++ 65 6788 0200  
Fax No: ++ 65 6788 0300

<http://www.farnell.com>  
<http://www.newark.com>  
<http://www.cpc.co.uk>

**Disclaimer** This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2008.

