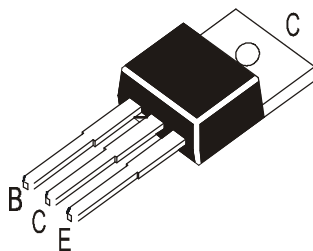


PLASTIC POWER TRANSISTORS

TIP41, A, B, C NPN
TIP42, A, B, C PNP

TO-220
Plastic Package



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

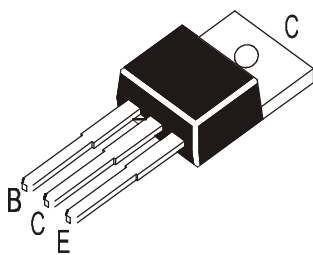
ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

DESCRIPTION	SYMBOL	TIP41	TIP41A	TIP41B	TIP41C	UNIT
		TIP42	TIP42A	TIP42B	TIP42C	
Collector Emitter Voltage	V_{CEO}	40	60	80	100	V
Collector Base Voltage	V_{CBO}	40	60	80	100	V
Emitter Base Voltage	V_{EBO}	5.0				V
Collector Current Continuous	I_C	6.0				A
Collector Current Peak	I_{CM}	10				A
Base Current	I_B	2.0				A
Power Dissipation upto $T_c=25^\circ\text{C}$ Derate above 25°C	P_D	65 520				W mW/°C
Power Dissipation upto $T_a=25^\circ\text{C}$ Derate above 25°C	P_D	2.0 16				W mW/°C
Unclamped Inductive Load Energy	*E	62.5				mJ
Storage Temperature	T_{stg}	150				°C
Junction Temperature	T_j	- 65 to +150				°C

THERMAL RESISTANCE

Junction to Case	$R_{th(j-c)}$	1.92	°C/W
Junction to Ambient in free air	$R_{th(j-a)}$	62.5	°C/W

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

ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Emitter Voltage	$*V_{CEO}$	$I_C=30\text{mA}$, $I_B=0$ TIP41/42	40		V
		TIP41A/42A	60		V
		TIP41B/42B	80		V
		TIP41C/42C	100		V
Collector Cut off Current	I_{CEO}	$V_{CE}=30\text{V}$, $I_B=0$ TIP41, A / 42, A		0.7	mA
		$V_{CE}=60\text{V}$, $I_B=0$ TIP41B, C / 42B, C		0.7	mA
Collector Cut off Current	I_{CES}	$V_{CE}=V_{CEO}(\text{max})$, $V_{BE}=0$		0.4	mA
Emitter Cut off Current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$		1.0	mA
DC Current Gain	$*h_{FE}$	$I_C=0.3\text{A}$, $V_{CE}=4\text{V}$	30		
		$I_C=3\text{A}$, $V_{CE}=4\text{V}$	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	V

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

DYNAMIC CHARACTERISTIC

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

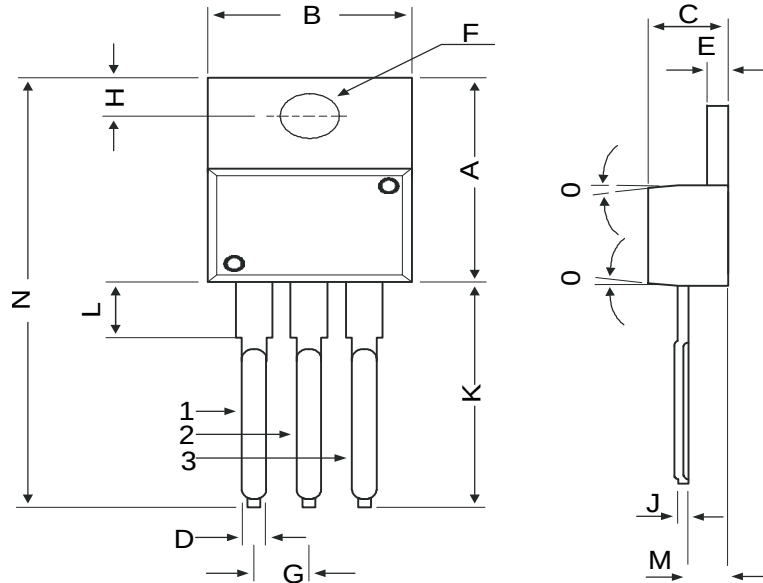
SWITCHING CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	TYP	UNIT
Turn On Time	t_{on}	$V_{CC}=30\text{V}$, $I_C=6\text{A}$, $I_{B1}=I_{B2}=0.6\text{A}$, $R_L=5\Omega$	0.6	μs
Turn Off Time	t_{off}		1.4	μs

TIP41, A, B, C NPN
TIP42, A, B, C PNP

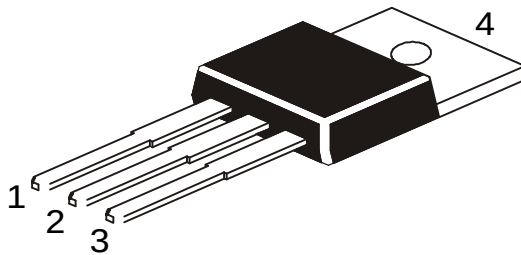
TO-220 Plastic Package

TO-220 Plastic Package



DIM	MIN	MAX
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 DEG	

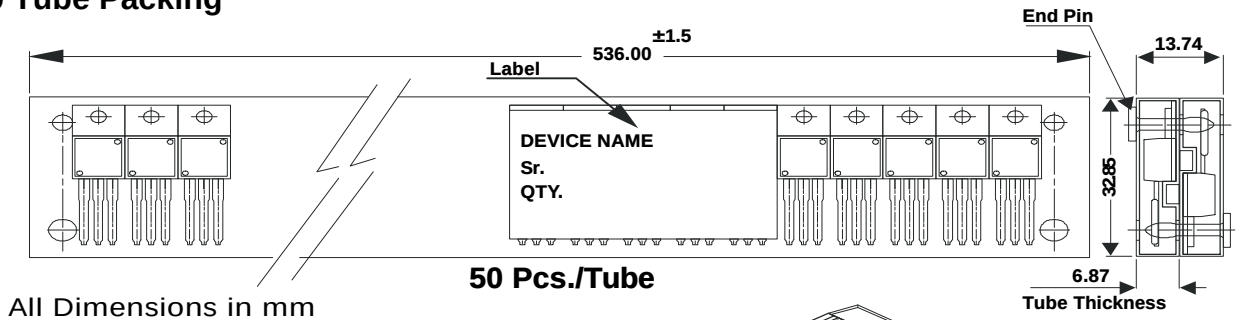
All diminsions in mm.



Pin Configuration

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

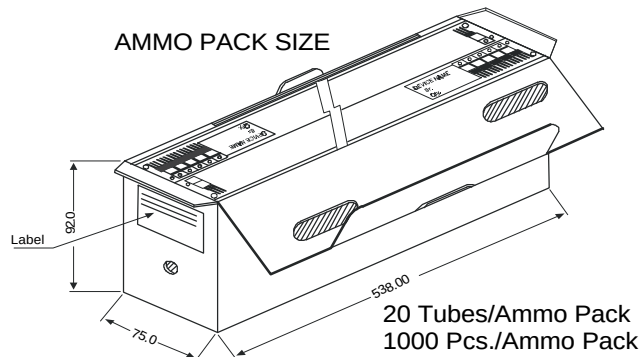
TO-220 Tube Packing



All Dimensions in mm

50 Pcs./Tube

AMMO PACK SIZE



Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-220 /FP	200 pcs/polybag	396 gm/200 pcs	3" x 7.5" x 7.5"	1.0K	17" x 15" x 13.5"	16.0K	36 kgs
	50 pcs/tube	120 gm/50 pcs	3.5" x 3.7" x 21.5"	1.0K	19" x 19" x 19"	10.0K	29 kgs

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of
Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119
email@cdil.com www.cdilsemi.com