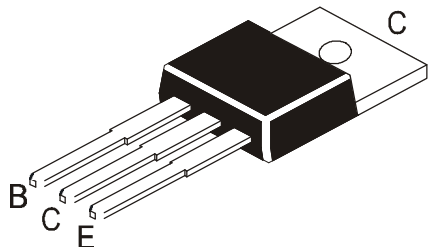


## PLASTIC POWER TRANSISTORS

TIP110	TIP115
TIP111	TIP116
TIP112	TIP117
NPN	PNP

TO-220  
Plastic Package



Intended for use in Medium Power Linear and Switching Applications

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

DESCRIPTION	SYMBOL	TIP110/115	TIP111/116	TIP112/117	UNIT
Collector Emitter Voltage	$V_{CEO}$	60	80	100	V
Collector Base Voltage	$V_{CBO}$	60	80	100	V
Emitter Base Voltage	$V_{EBO}$		5		V
Collector Current Continuous	$I_C$		2		A
Collector Current Peak	$I_{CM}$		4		A
Base Current	$I_B$		50		mA
Power Dissipation upto $T_c=25^\circ\text{C}$	$P_D$		50		W
Power Dissipation upto $T_a=25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$		2 16		W mW/°C
Operating And Storage Junction Temperature	$T_j, T_{stg}$		-65 to +150		°C

### THERMAL RESISTANCE

Junction to Case	$R_{th(j-c)}$	2.5	°C/W
Junction to Ambient in free air	$R_{th(j-a)}$	62.5	°C/W

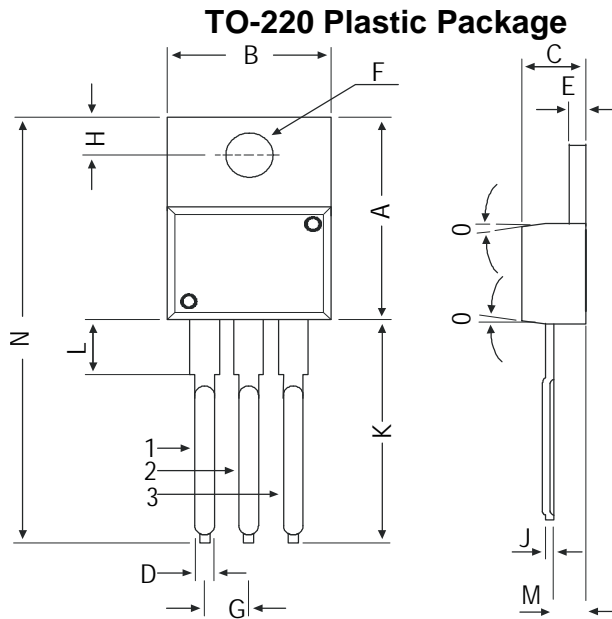
### ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Cut Off Current	$I_{CEO}$	$V_{CE} = \text{Half Rated } V_{CEO}$		2.0	mA
Collector Cut Off Current	$I_{CBO}$	$V_{CB} = \text{Half Rated } V_{CBO}$		1.0	mA
Emitter Cut Off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$		2.0	mA
Collector Emitter (sus) Voltage	$*V_{CEO(sus)}$	$I_C=30mA, I_B=0$	<b>TIP110/115</b>	60	V
			<b>TIP111/116</b>	80	V
			<b>TIP112/117</b>	100	V
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=2A, I_B=8mA$		2.5	V
Base Emitter On Voltage	$*V_{BE(on)}$	$I_C=2A, V_{CE}=4V$		2.8	V
DC Current Gain	$*h_{FE}$	$I_C=1A, V_{CE}=4V$	1,000		
		$I_C=2A, V_{CE}=4V$	500		

\*Pulse Test : Pulse width =300ms, Duty Cycle  $\leq 2\%$

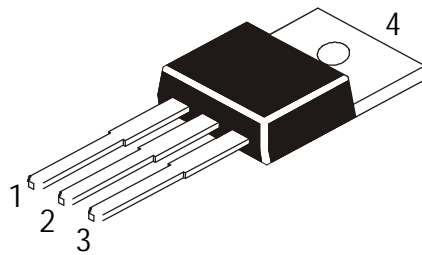
TIP110	TIP115
TIP111	TIP116
TIP112	TIP117
NPN	PNP

### 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	

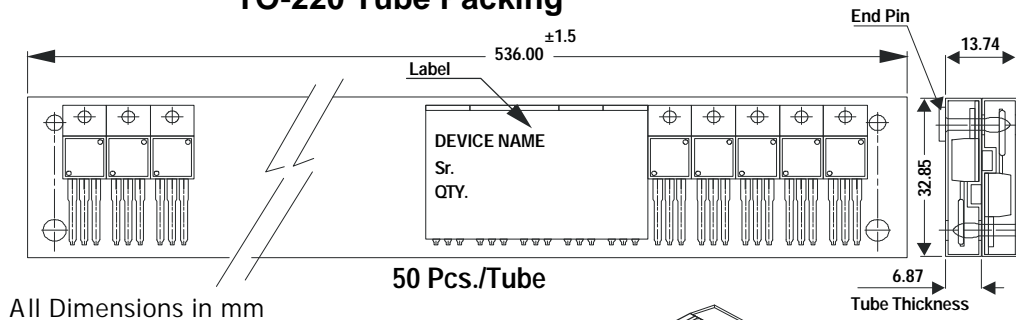
All dimensions in mm.



#### Pin Configuration

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

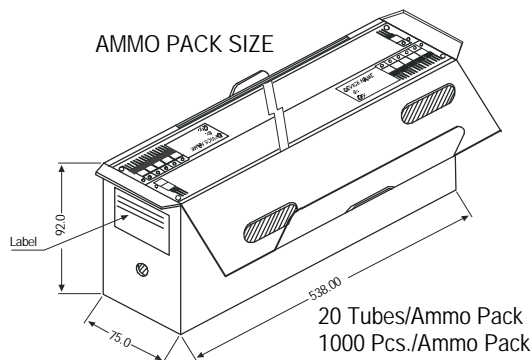
### TO-220 Tube Packing



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	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

## Notes

TIP110	TIP115
TIP111	TIP116
TIP112	TIP117
NPN	PNP

**TO-220**  
**Plastic Package**

### 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).

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