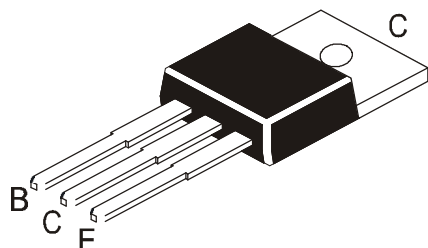


PLASTIC POWER TRANSISTORS



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°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

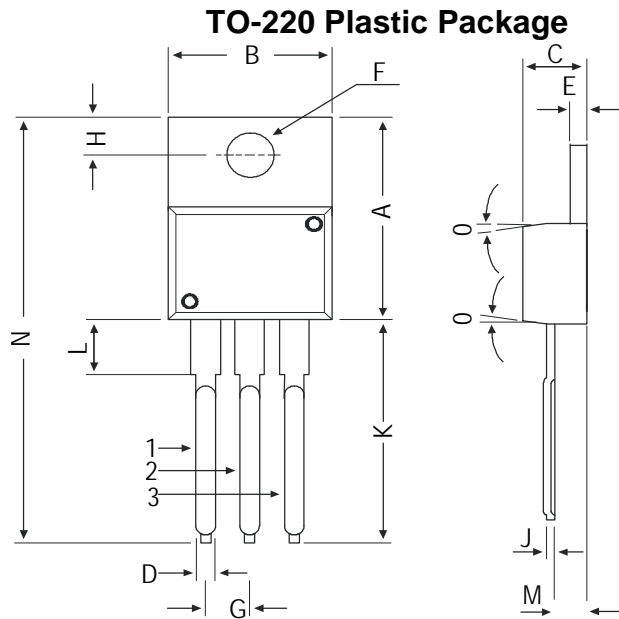
ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless specified otherwise)

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	$*V_{CEO(sus)}$	$I_C=30mA, I_B=0$	TIP110/115	60	V
			TIP111/116	80	V
			TIP112/117	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 $\leq 2\%$

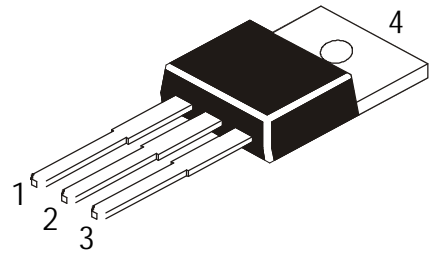
TIP110	TIP115
TIP111	TIP116
TIP112	TIP117
NPN	PNP

TO-220 Plastic Package



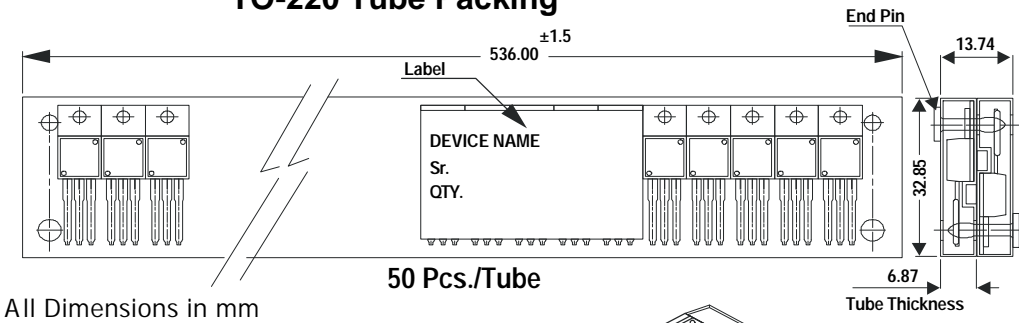
DIM	MIN	MAX
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	—	0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	—	0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N	—	31.24
O	7 DEG	

All diminsions in mm.

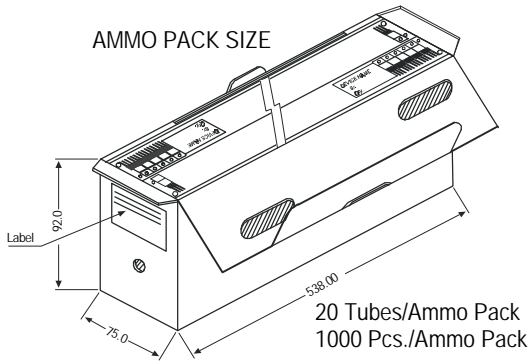


- Pin Configuration
1. Base
 2. Collector
 3. Emitter
 4. Collector

TO-220 Tube Packing



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

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