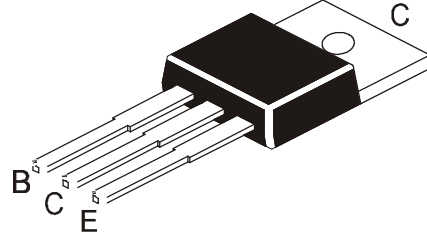


**TO-220 PLASTIC PACKAGE
NPN PLASTIC POWER TRANSISTOR**

Used in Energy Saving Lights and Power Switch Circuits



ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	V_{CBO}	700	V
Collector Emitter Voltage	V_{CEO}	400	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current Continuous	I_C	8	A
Power Dissipation upto $T_a=25^\circ\text{C}$	P_D	2	W
Power Dissipation upto $T_c=25^\circ\text{C}$	P_D	80	W
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +150	$^\circ\text{C}$

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut Off Current	I_{CBO}	$V_{CB}=700\text{V}, I_E=0$			1.0	mA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=9\text{V}, I_C=0$			1.0	mA
DC Current Gain	$*h_{FE}$	$I_C=2\text{A}, V_{CE}=5\text{V}$ (Note1)	8		40	
Ratio Between h_{FE1} of Low Current and h_{FE2} of High Current	h_{FE1}/h_{FE2}	$h_{FE1} I_C=5\text{mA}, V_{CE}=5\text{V}$ $h_{FE2} I_C=2\text{A}, V_{CE}=5\text{V}$	0.75			
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=5\text{A}, I_B=1\text{A}$			1.5	V
Base Emitter Saturation Voltage	$*V_{BE(sat)}$	$I_C=5\text{A}, I_B=1\text{A}$			1.5	V
Transition Frequency	f_T	$V_{CE}=10\text{V}, I_C=500\text{mA}, f=1\text{MHz}$	4			MHz

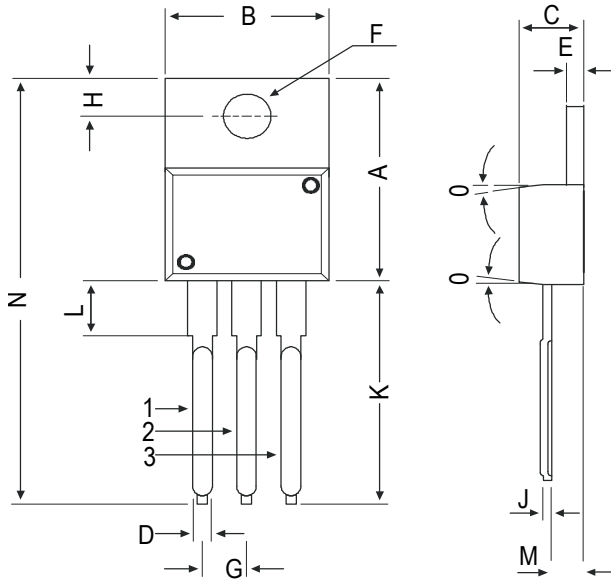
Switching Time

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Fall Time	t_f	$I_C=2\text{A}, I_{B1} = -I_{B2}=0.4\text{A}$			0.8	μs
Storage Time	t_s	$V_{CC}=120\text{V}$			3.6	μs

$*h_{FE}$ Classification	A : 08 - 17	B : 16 - 25	C : 24 - 33	E : 32 - 40
Marking	CDL	CDL	CDL	CDL
Product is pre-selected in DC Current Gain (Groups A to E). RECTRON reserves the right to ship any of the group(s) to customers depending on production availability.	13007A	13007B	13007C	13007E
XX=date code	XX	XX	XX	XX

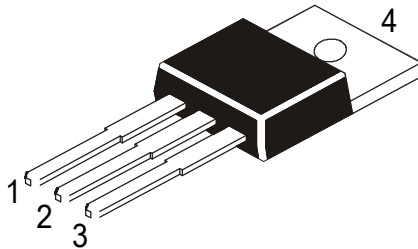
*Pulse test $t_p \leq 300\text{ms}$, duty cycle $\leq 2\%$

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	

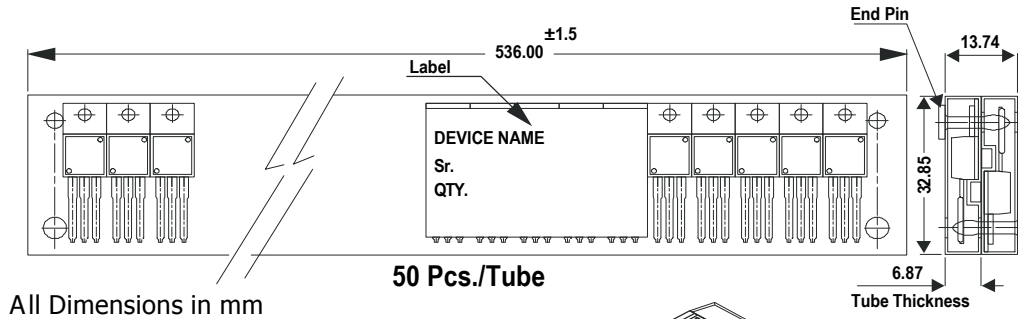
All dimensions in mm.



Pin Configuration

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

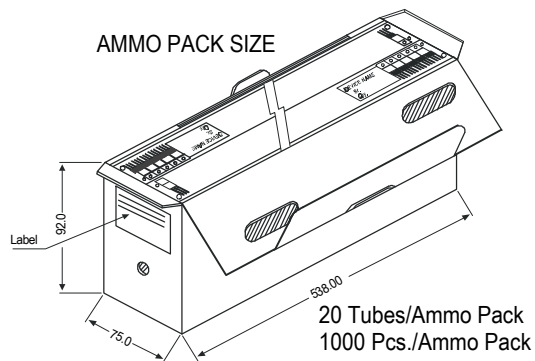
TO-220 Tube Packing



All Dimensions in mm

50 Pcs./Tube

AMMO PACK SIZE



20 Tubes/Ammo Pack
1000 Pcs./Ammo Pack

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

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