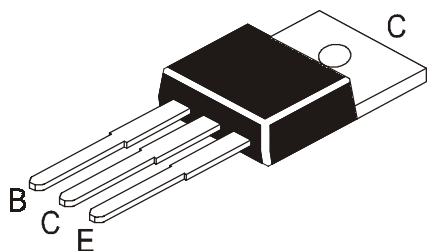


## NPN SILICON PLANAR POWER TRANSISTOR

BD707

TO-220  
Plastic Package



For use in Power Linear and Switching Applications

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	$V_{CBO}$	60	V
Collector Emitter Voltage	$V_{CER}$	60	V
Collector Emitter Voltage	$V_{CEO}$	60	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	12	A
Collector Peak Current	$I_{CM}$	18	A
Base Current	$I_B$	5	A
Power Dissipation @ $T_c \leq 25^\circ\text{C}$	$P_{tot}$	75	W
Operating & Storage Junction Temperature Range	$T_j, T_{stg}$	- 65 to +150	$^\circ\text{C}$

### THERMAL RESISTANCE

Junction to Case	$R_{th(j-c)}$	1.67	$^\circ\text{C/W}$
Junction to Ambient	$R_{th(j-a)}$	70	$^\circ\text{C/W}$

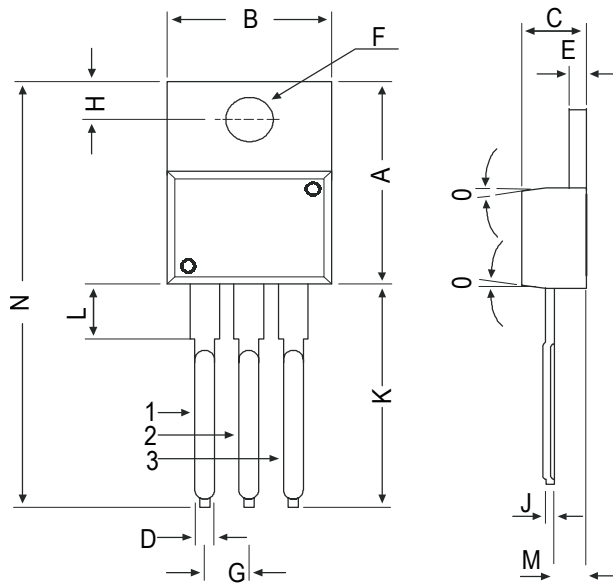
### ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ Unless Specified Otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut off Current	$I_{CBO}$	$V_{CB}=60\text{V}, I_E=0$  $T_c=150^\circ\text{C}$ $V_{CB}=60\text{V}, I_E=0$			100 1.0	$\mu\text{A}$ mA
Collector Cut off Current	$I_{CEO}$	$V_{CE}=30\text{V}, I_B=0$			100	mA
Emitter Cut off Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			1.0	mA
Collector Emitter Sustaining Voltage	$V_{CEO(sus)}^*$	$I_C=100\text{mA}, I_B=0$	60			V
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C=4\text{A}, I_B=0.4\text{A}$			1.0	V
Knee Voltage	$V_{CEK}^*$	$I_C=3\text{A}, I_B=**$			0.4	V
Base Emitter on Voltage	$V_{BE(on)}^*$	$I_C=4\text{A}, V_{CE}=4\text{V}$			1.5	V
DC Current Gain	$h_{FE}^*$	$I_C=0.5\text{A}, V_{CE}=2\text{V}$ $I_C=2\text{A}, V_{CE}=2\text{V}$ $I_C=4\text{A}, V_{CE}=4\text{V}$ $I_C=10\text{A}, V_{CE}=4\text{V}$	40 30 15 5		400 150	
Transition frequency	$f_T$	$I_C=300\text{mA}, V_{CE}=3\text{V}$	3			MHz

\*Pulsed : Pulse duration =300 $\mu\text{s}$ , duty cycle1.5%

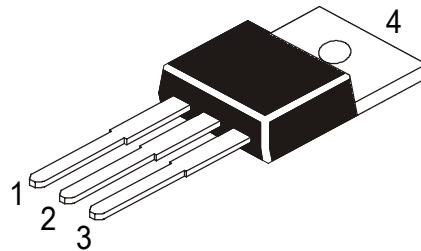
\*\*Value for which  $I_C=3.3\text{A}$  @  $V_{CE}=2\text{V}$

## 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	

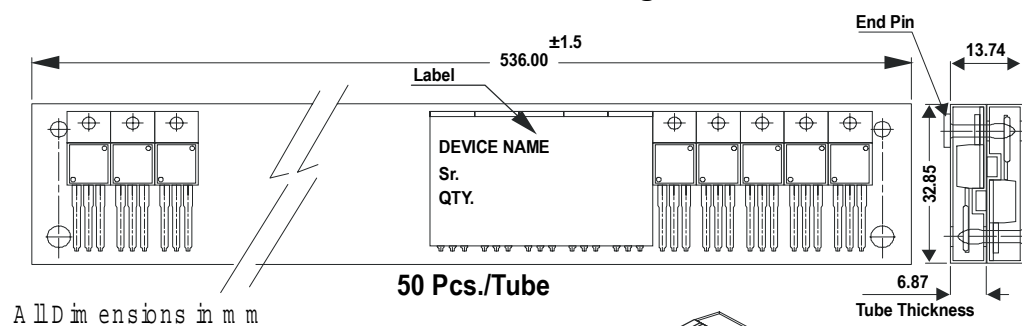
All dimensions in mm.



## Pin Configuration

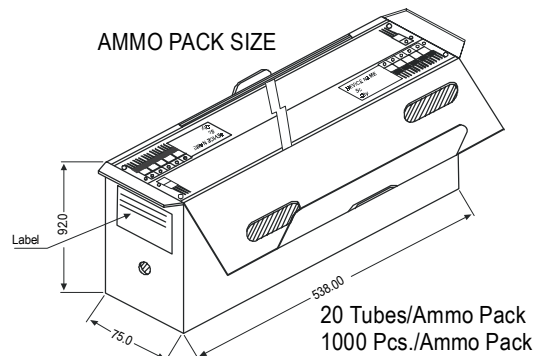
1. Base
2. Collector
3. Emitter
4. Collector

## TO-220 Tube Packing



All dimensions in mm

## 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

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