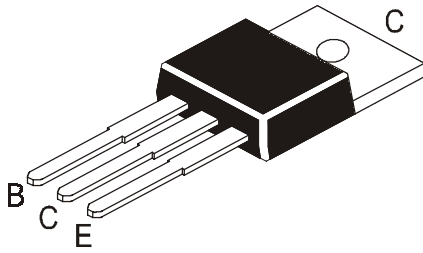


**SILICON PLANAR POWER DARLINGTON TRANSISTORS**

TIP142T NPN  
TIP147T PNP

TO-220  
Plastic Package



For use in Power Linear and Switching Applications

**ABSOLUTE MAXIMUM RATINGS**

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	$V_{CBO}$	100	V
Collector Emitter Voltage	$V_{CEO}$	100	V
Emitter Base Voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	10	A
Collector Peak Current (Repetitive)	$I_{CM}$	20	
Base Current	$I_B$	0.5	A
Power Dissipation @ $T_c=25^\circ\text{C}$	$P_{tot}$	80	W
Operating & Storage Junction Temperature Range	$T_j, T_{stg}$	- 65 to +150	$^\circ\text{C}$

**THERMAL RESISTANCE**

Junction to Case	$R_{th(j-c)}$	1.0	$^\circ\text{C/W}$
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**ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$  Unless Otherwise Specified)**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut off Current	$I_{CBO}$	$V_{CB}=100\text{V}, I_E=0$			1.0	mA
Collector Cut off Current	$I_{CEO}$	$V_{CE}=50\text{V}, I_B=0$			2.0	mA
Emitter Cut off Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			2.0	mA
Collector Emitter (sus) voltage	$V_{CEO}^*$	$I_C=30\text{mA}, I_B=0$	100			V
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C=5\text{A}, I_B=10\text{mA}$			2.0	V
		$I_C=10\text{A}, I_B=40\text{mA}$			3.0	
Base Emitter on Voltage	$V_{BE(on)}^*$	$I_C=10\text{A}, V_{CE}=4\text{V}$			3.0	V
DC Current Gain	$h_{FE}^*$	$I_C=5\text{A}, V_{CE}=4\text{V}$	1000			
		$I_C=10\text{A}, V_{CE}=4\text{V}$	500			

**SWITCHING TIME**

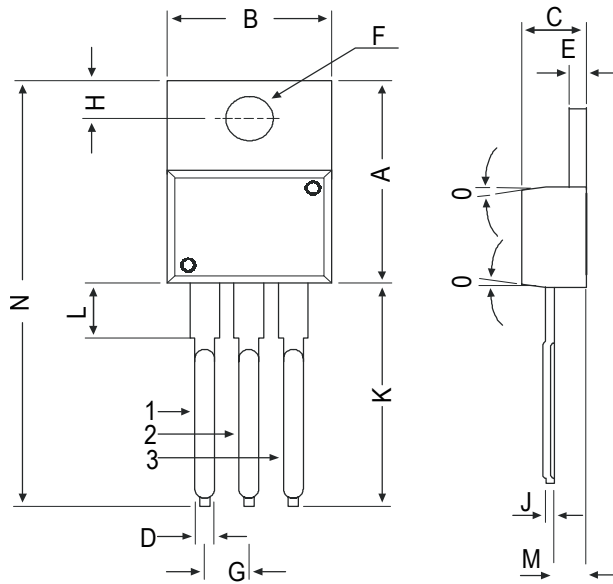
Turn on time	$t_{on}$	$I_C=10\text{A}, I_{B1}=I_{B2}= - 40\text{mA}, R_L=3\Omega$	0.9		$\mu\text{s}$
Turn off time	$t_{off}$		4.0		$\mu\text{s}$

\*Pulsed : Pulse duration =200 $\mu\text{s}$ , Duty Cycle=1.5%

TIP142T NPN  
TIP147T PNP

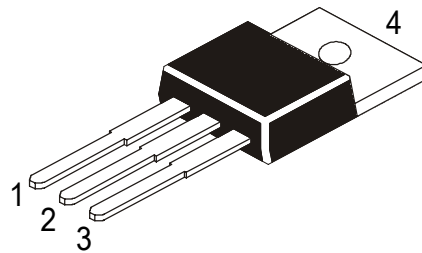
TO-220  
Plastic Package

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	

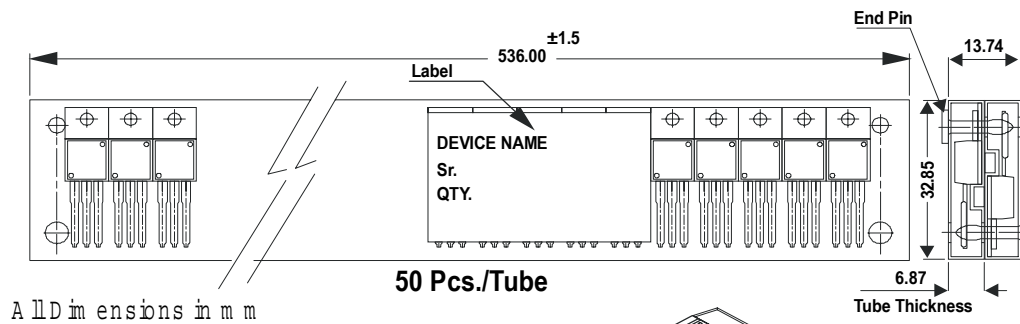
All dimensions in mm.



Pin Configuration

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

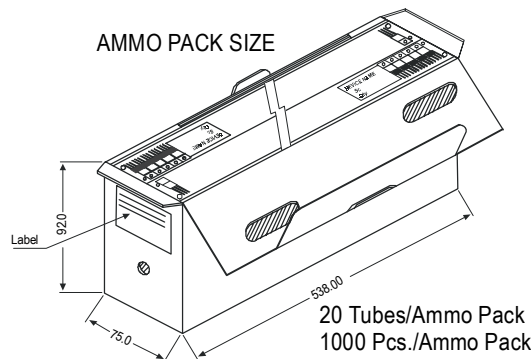
TO-220 Tube Packing



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

### **Disclaimer**

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