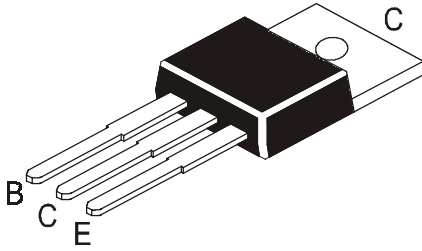


SILICON PLANAR POWER DARLINGTON TRANSISTORS

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	A
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	V
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

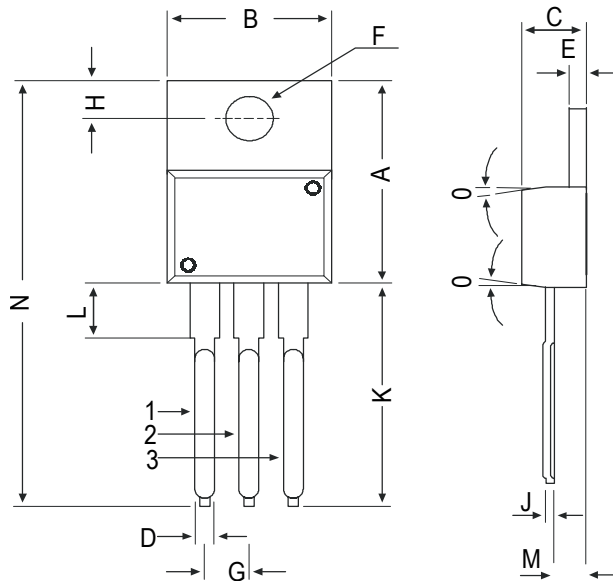
Turn on time	t_{on}	$I_C=10\text{A}, I_{B1}=I_{B2}= - 40\text{mA}, R_L=3\Omega$		0.9		μs
Turn off time	t_{off}			4.0		μs

*Pulsed : Pulse duration =200 μs , Duty Cycle=1.5%

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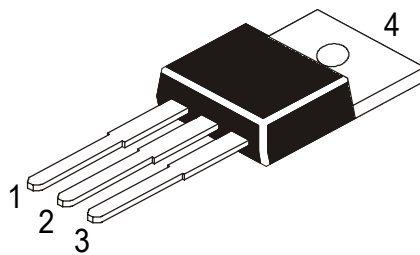
TO-220
Plastic Package

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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	

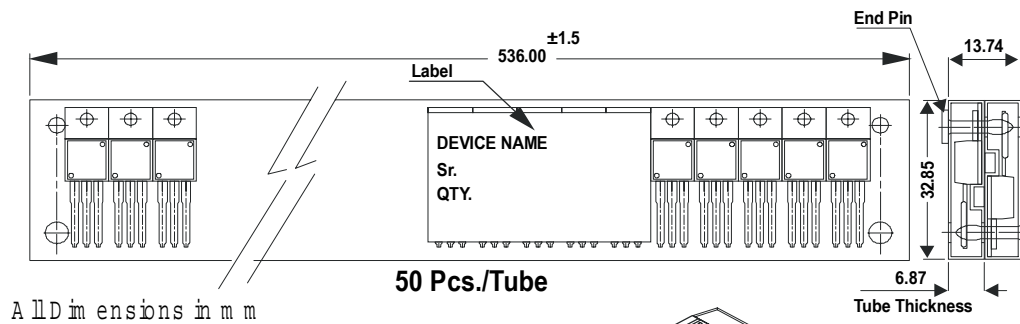
All dimensions in mm.



Pin Configuration

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

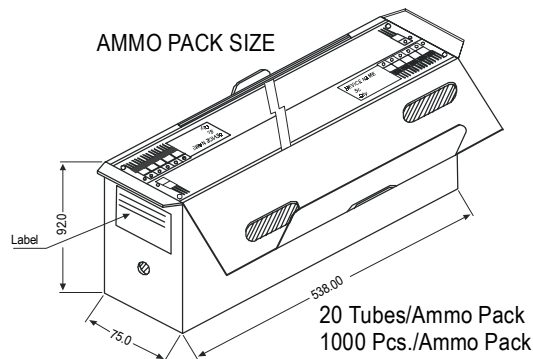
TO-220 Tube Packing



50 Pcs./Tube

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

Disclaimer

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