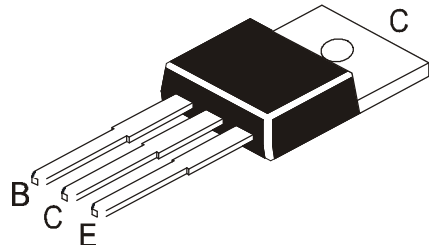


DARLINGTON

PLASTIC POWER TRANSISTORS



TIP100	TIP105
TIP101	TIP106
TIP102	TIP107
NPN	PNP

TO-220

Plastic Package

Intended for use in Linear Switching Applications

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

DESCRIPTION		TIP100/105	TIP101/106	TIP102/107	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	8			A
Collector Current Peak	I_{CM}	15			A
Base Current	I_B	1			A
Power Dissipation upto $T_c=25^\circ\text{C}$	P_D	80			W
Power Dissipation upto $T_a=25^\circ\text{C}$ Derate above 25°C	P_D	2 16			W mW/ $^\circ\text{C}$
Operating And Storage Junction Temperature	T_j, T_{stg}	- 65 to +150			$^\circ\text{C}$

THERMAL RESISTANCE

Junction to Case	$R_{th(j-c)}$	1.56	$^\circ\text{C/W}$
Junction to Ambient in free air	$R_{th(j-a)}$	62.5	$^\circ\text{C/W}$

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

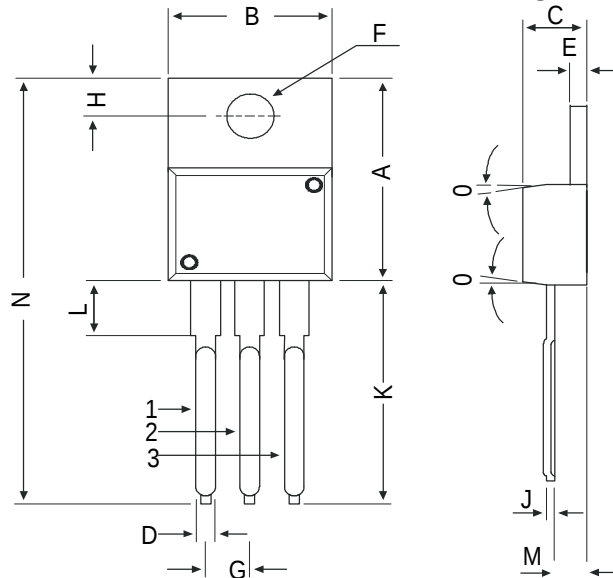
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Cut Off Current	I_{CEO}	$V_{CE}=30\text{V}, I_B=0$ $V_{CE}=40\text{V}, I_B=0$ $V_{CE}=50\text{V}, I_B=0$		50 50 50	μA μA μA
Collector Cut Off Current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$ $V_{CB}=80\text{V}, I_E=0$ $V_{CB}=100\text{V}, I_E=0$		50 50 50	μA μA μA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		8.0	mA
Collector Emitter (sus) Voltage	$*V_{CEO(sus)}$	$I_C=30\text{mA}, I_B=0$	60 80 100		V V V
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=3\text{A}, I_B=6\text{mA}$ $I_C=8\text{A}, I_B=80\text{mA}$		2.0 2.5	V V
Base Emitter On Voltage	$*V_{BE(on)}$	$I_C=8\text{A}, V_{CE}=4\text{V}$		2.8	V
DC Current Gain	$*h_{FE}$	$I_C=3\text{A}, V_{CE}=4\text{V}$ $I_C=8\text{A}, V_{CE}=4\text{V}$	1,000 200	20,000	
Forward Voltage of Commutation Diode	$*V_F$	$I_F=I_C=10\text{A}, I_B=0$		6.0	V

*Pulse Test : Pulse Width=300ms, Duty Cycle $\leq 2\%$

TIP100	TIP105
TIP101	TIP106
TIP102	TIP107
NPN	PNP

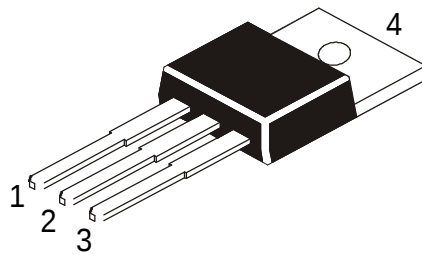
TO-220 Plastic Package

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	

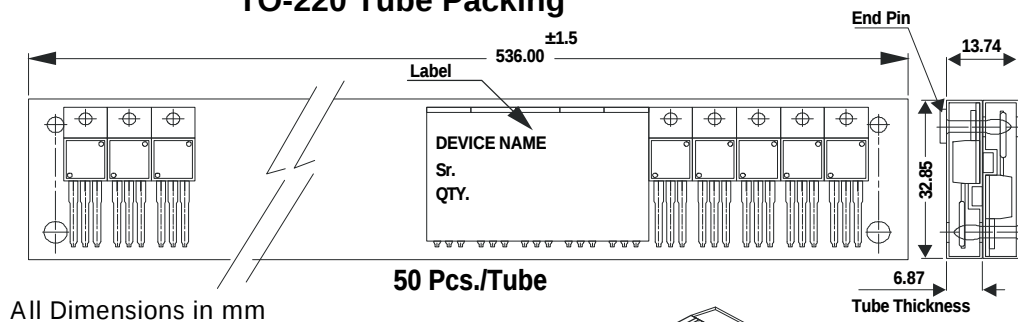
All dimensions in mm.



Pin Configuration

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

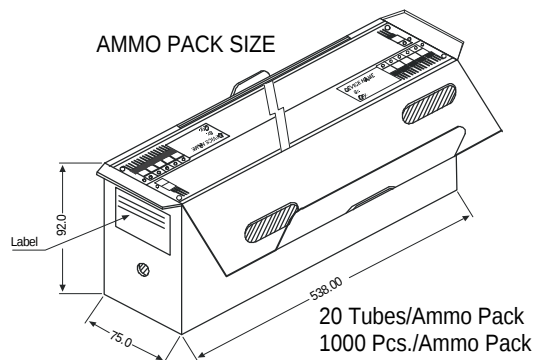
TO-220 Tube Packing



50 Pcs./Tube

All Dimensions in mm

AMMO PACK SIZE



Packing Details

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

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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