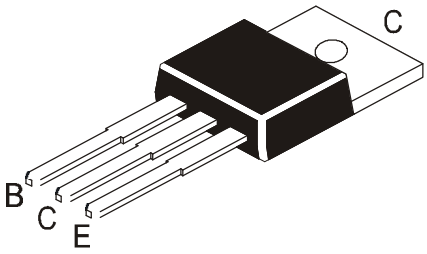
NPN PLASTIC POWER TRANSISTORS

TIP47, TIP48
TIP49, TIP50



TO-220
Plastic Package

Line Operated Audio Output Amplifier, Switch Mode Power Supply Driver and General Purpose Switching Applications

ABSOLUTE MAXIMUM RATINGS (T_a=25ºC)

DESCRIPTION	SYMBOL	TIP47	TIP48	TIP49	TIP50	UNIT
Collector Emitter Voltage	V_{CEO}	250	300	350	400	V
Collector Base Voltage	V_{CBO}	350	400	450	500	V
Emitter Base Voltage	V_{EBO}	5.0				V
Collector Current Continuous	I_C	1.0				A
Collector Current Peak	I_{CM}	2.0				A
Base Current	I_B	0.6				A
Power Dissipation upto T_c=25ºC	P_D	40				W
Power Dissipation upto T_a=25ºC Derate above 25ºC	P_D	2.0 16				W mW/ºC
Operating and Storage Junction Temperature	T_j , T_{stg}	- 65 to +150				ºC

THERMAL RESISTANCE

Junction to Case	$R_{th\ (j\text{-}c)}$	3.125	ºC/W
Junction to Ambient in free air	$R_{th\ (j\text{-}a)}$	62.5	ºC/W

ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION		MIN	TYP	MAX	UNIT
Collector Emitter (sus) Voltage	*$V_{CEO(sus)}$	I_C=30mA, I_B=0					
			TIP47	250			V
			TIP48	300			V
			TIP49	350			V
			TIP50	400			V
Collector Cut off Current	I_{CEO}	V_{CE}=150V, I_B=0	TIP47			1.0	mA
		V_{CE}=200V, I_B=0	TIP48			1.0	mA
		V_{CE}=250V, I_B=0	TIP49			1.0	mA
		V_{CE}=300V, I_B=0	TIP50			1.0	mA
Collector Cut off Current	I_{CES}	V_{CE} = $V_{CB(max)}$, V_{BE}=0				1.0	mA
Emitter Cut off Current	I_{EBO}	V_{BE}=5V, I_C=0				1.0	mA
DC Current Gain	*h_{FE}	I_C=0.3A, V_{CE}=10V I_C=1A, V_{CE}=10V		30 10		150	
Collector Emitter Saturation Voltage	*$V_{CE\ (sat)}$	I_C=1A, I_B=0.2A				1.0	V
Base Emitter on Voltage	*$V_{BE(on)}$	I_C=1A, V_{CE}=10V				1.5	V

***Pulse Test : Pulse width ≤300µs, Duty Cycle ≤2%**

NPN PLASTIC POWER TRANSISTOR

TIP47, TIP48
TIP49, TIP50

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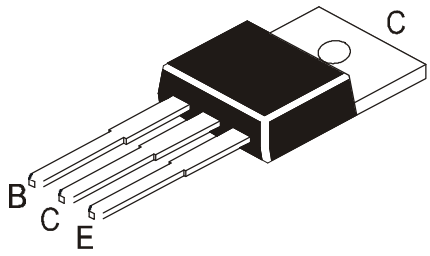
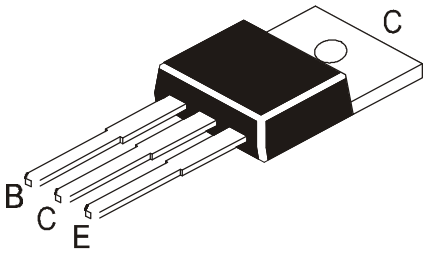


DYNAMIC CHARACTERISTICS

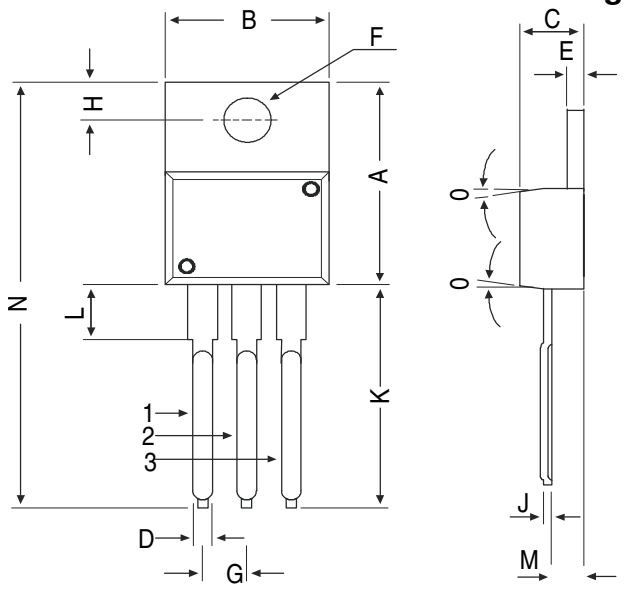
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Small Signal Current Gain	h_{fe}	I_C=0.2A, V_{CE}=10V, f=1KHz	25			
Transition Frequency	f_T	I_C=0.2A, V_{CE}=10V, f=2MHz	10			MHz



TIP47, TIP48
TIP49, TIP50

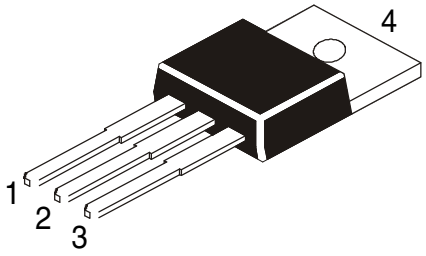
TO-220
Plastic Package

TO-220 Plastic Package



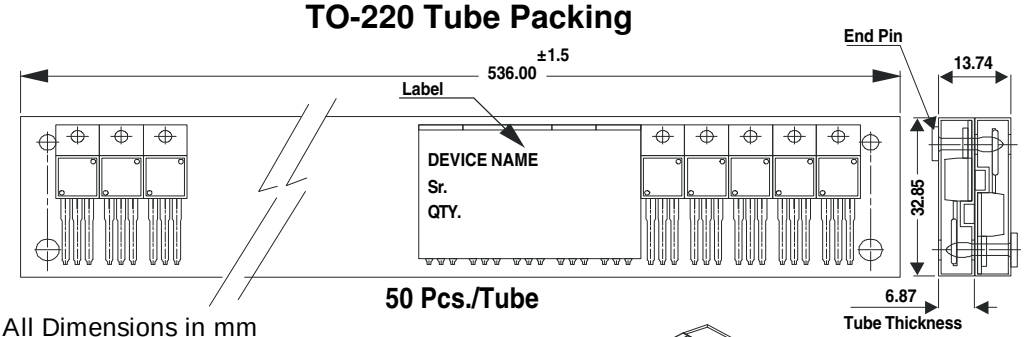
DIM	MIN	MAX
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	—	0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	—	0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N	—	31.24
O	7 DEG	

All diminsions in mm.



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

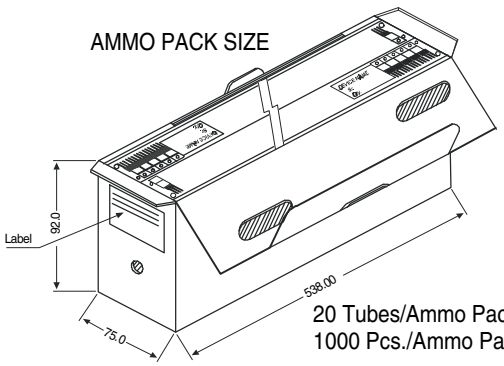
TO-220 Tube Packing



50 Pcs./Tube

All Dimensions in mm

AMMO PACK SIZE



20 Tubes/Ammo Pack
1000 Pcs./Ammo Pack

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

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Continental Device India Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119
email@cdil.com www.cdilsemi.com