2N4400

TO-92 Plastic-Encapsulate Transistors

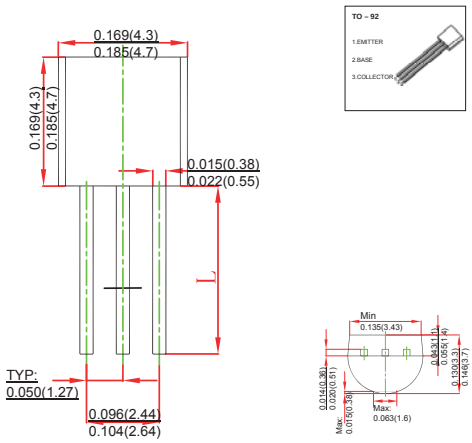
FEATURES

- General Purpose Amplifier Transistor
- TRANSISTOR (NPN)

MECHANICAL DATA

- Case style:TO-92 molded plastic
- Mounting position:any

TO-92



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current -Continuous	0.6	A
P_D	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	℃ /W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

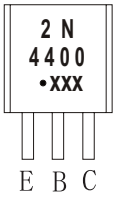
ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2N4400	TO-92	Bulk	1000pcs/Bag
2N4400-TA	TO-92	Tape	2000pcs/Box

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 0.1mA,I_E=0	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=60V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=6V,I_C=0			0.1	μA
DC current gain	h_{FE}*	V_{CE}=1V, I_C=1mA	20			
		V_{CE}=1V, I_C=10mA	40			
		V_{CE}=1V, I_C=150mA	50		150	
		V_{CE}=2V, I_C=500mA	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=150mA,I_B=15mA			0.4	V
		I_C=500mA,I_B=50mA			0.75	
Base-emitter saturation voltage	$V_{BE\ (sat)}$*	I_C=150mA,I_B=15mA	0.75		0.95	
		I_C=500mA,I_B=50mA			1.2	V
Collector output capacitance	C_{ob}	V_{CB}=5V,I_E=0, f=1MHz			6.5	pF
Emitter input capacitance	C_{ib}	V_{EB}=5V,I_C=0, f=1MHz			30	p
Transition frequency	f_T	V_{CE}=10V,I_C=20mA, f=100MHz	200			MHz

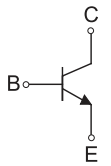
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

MARKING

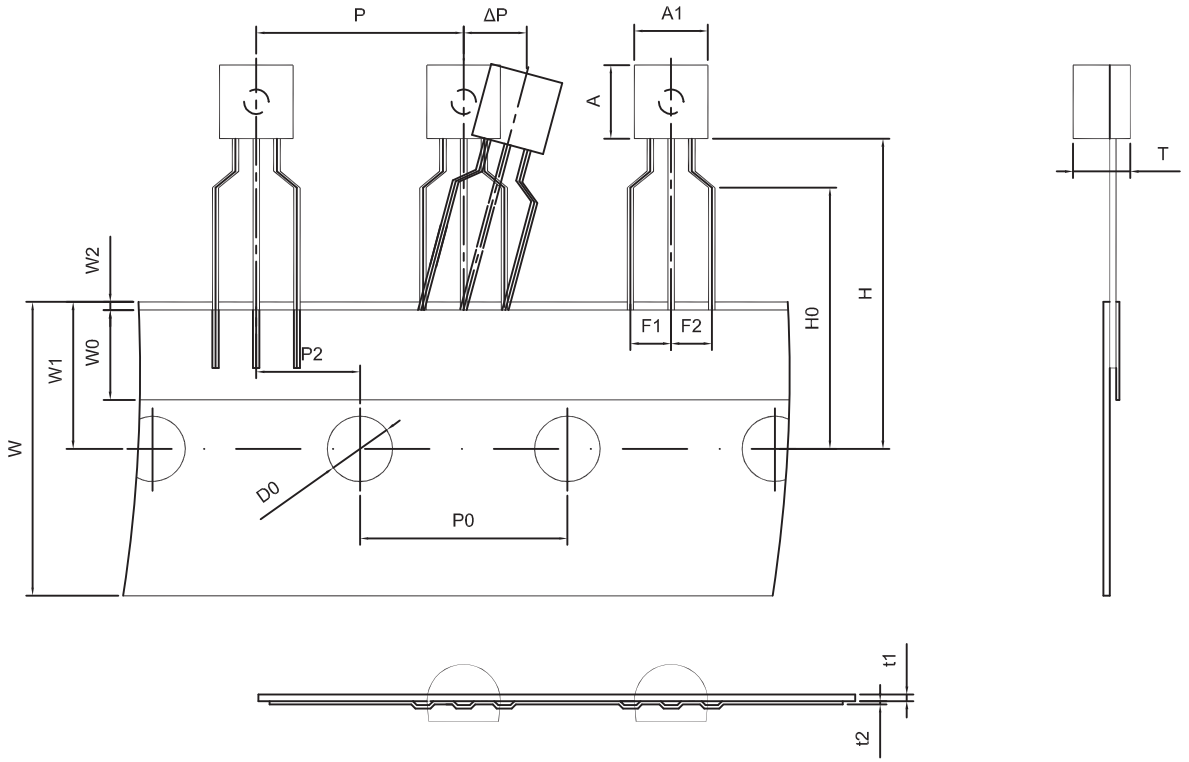


2N4400=Device code
Solid dot=Green molding compound device, if none,the normal device
XXX=Code

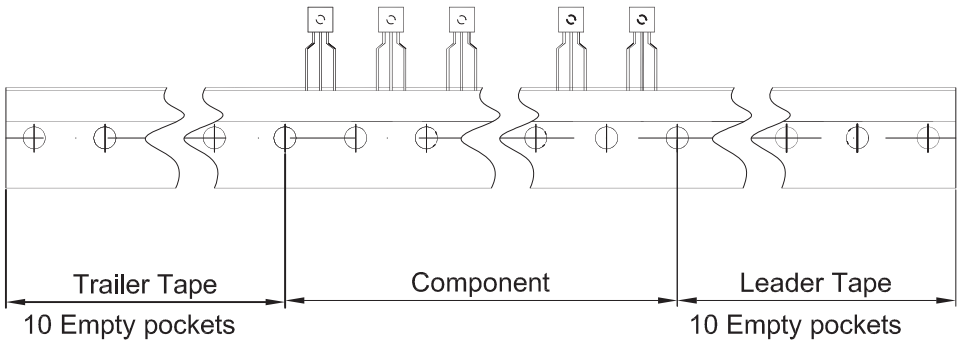
Equivalent Circuit



TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250