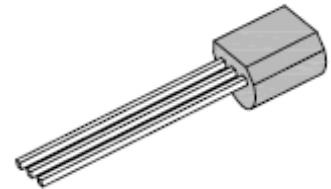


Small Signal High Voltage Transistor (PNP)

Features

- High Voltage PNP Transistor for General Purpose and Telephony Applications



TO-92

Mechanical Data

Case:	TO-92, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.18 gram



Maximum Ratings ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	2N5401	Unit
V_{CEO}	Collector-Emitter Voltage	150	V
V_{CBO}	Collector-Base Voltage	160	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current Continuous	600	mA
P_D	Power Dissipation	625	mW
	Derate above 25°C	5.0	mW/° C
R_{θJC}	Junction to Case	83.3	° C/W
R_{θJA}	Junction to Ambient	200	
T_J , T_{STG}	Operation and Storage Junction Temperature Range	-55 to +150	° C

Small Signal High Voltage Transistor (PNP)

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Electrical Characteristics ($T_{Ambient}=25^{\circ}\text{C}$ unless noted otherwise)

Symbol	Description	Min.	Max.	Unit	Conditions
V_{CEO}*	Collector-Emitter Voltage	150	-	V	$I_C=1\text{mA}$, $I_B=0$
V_{CBO}	Collector-Base Voltage	160	-	V	$I_C=100\mu\text{A}$, $I_E=0$
V_{EBO}	Emitter-Base Voltage	5.0	-	V	$I_E=10\mu\text{A}$, $I_C=0$
I_{CBO}	Collector Cut-Off Current	-	50	nA	$V_{CB}=160\text{V}$, $I_E=0$
		-	50	μA	$V_{CB}=160\text{V}$, $I_E=0$, $T_A=100^{\circ}\text{C}$
I_{EBO}	Emitter Cut-Off Current	-	50	nA	$V_{EB}=4\text{V}$, $I_C=0$
h_{FE}*	D.C. Current Gain	50	-		$V_{CE}=5\text{V}$, $I_C=1\text{mA}$
		60	240		$V_{CE}=5\text{V}$, $I_C=10\text{mA}$
		50	-		$V_{CE}=5\text{V}$, $I_C=50\text{mA}$
V_{CE(Sat)}*	Collector Emitter Saturation Voltage	-	0.2	V	$I_C=10\text{mA}$, $I_B=1\text{mA}$
		-	0.5		$I_C=50\text{mA}$, $I_B=5\text{mA}$
V_{BE(Sat)}*	Base Emitter Saturation Voltage	-	1.0	V	$I_C=10\text{mA}$, $I_B=1\text{mA}$
			1.0		$I_C=50\text{mA}$, $I_B=5\text{mA}$
h_{fe}	Small Signal Current Gain	40	200		$V_{CE}=10\text{V}$, $I_C=1\text{mA}$, $f=1\text{KHz}$
f_t	Transition Frequency	100	300	MHz	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$
C_{ob}	Output Capacitance	-	6.0	pF	$V_{CB}=10\text{V}$, $f=1.0\text{MHz}$, $I_E=0$
NF	Noise Figure	-	8.0	dB	$V_{CE}=5\text{V}$, $I_C=250\mu\text{A}$, $R=1\text{K ohms}$, $f=10\text{Hz}$ to 15.7KHz

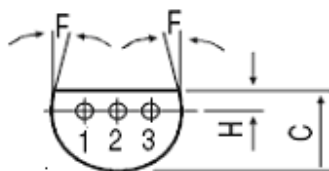
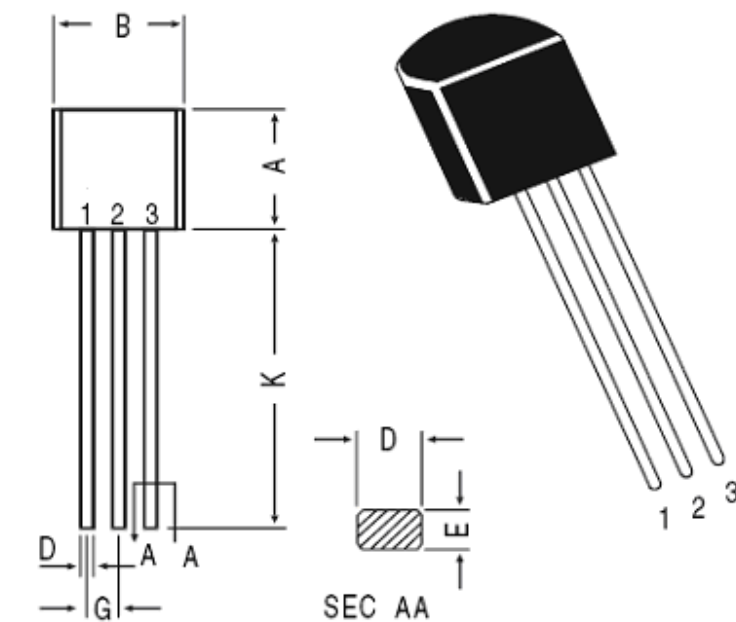
*Pulse Test: Pulse Width=300 μs , Duty Cycle=2%

Small Signal High Voltage Transistor (PNP)

2N5401

Dimensions in mm

TO-92



PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

All dimensions in mm.

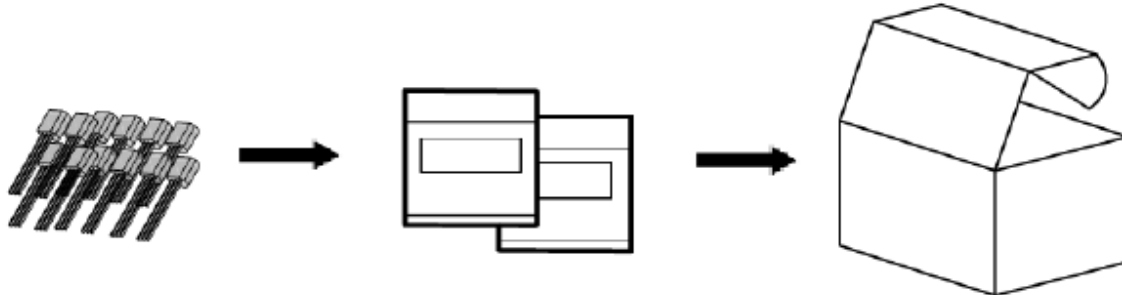
DIM	MIN.	MAX.
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5 DEG	
G	1.14	1.40
H	1.14	1.53
K	12.70	—

Small Signal High Voltage Transistor (PNP)

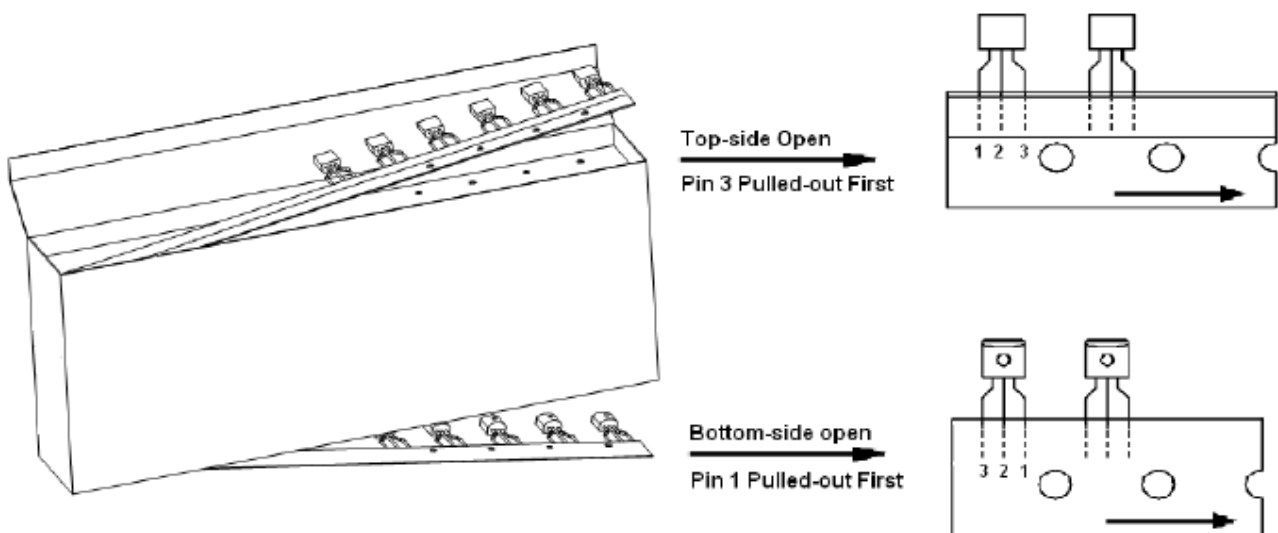
2N5401

Packing information

Bulk Packing: 1K/Polybag and 5K/Inner Box



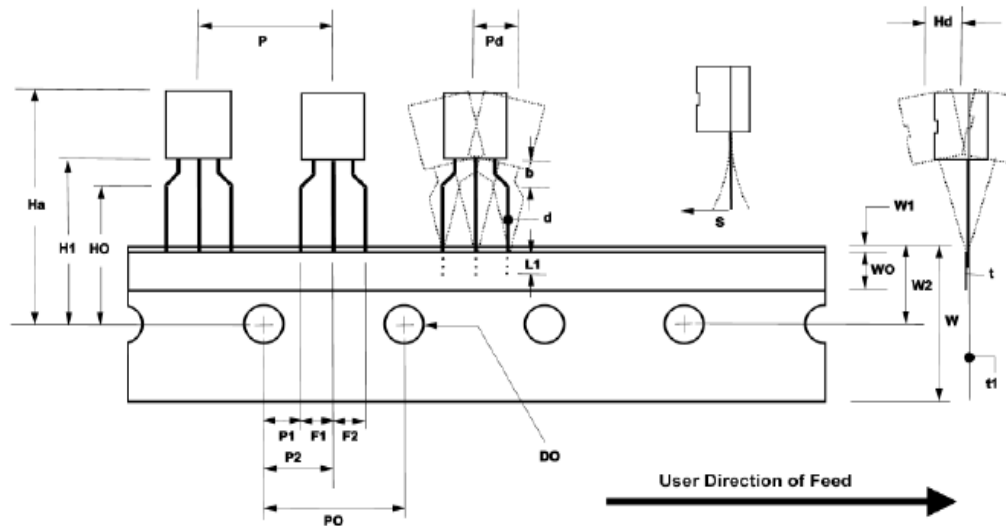
Tape and Ammo Packing: 2K/Ammo Box



Small Signal High Voltage Transistor (PNP)

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Tape and Ammo Dimensions

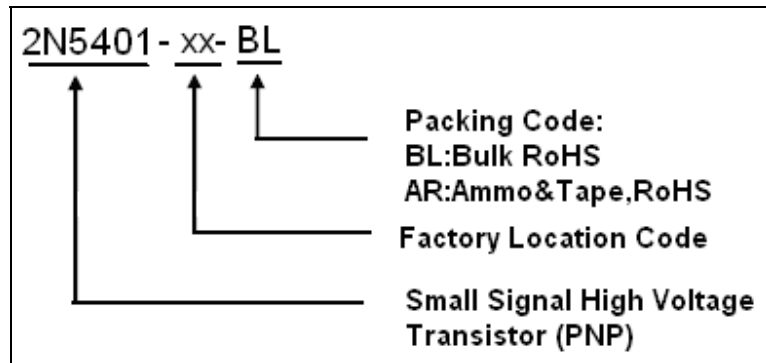


Item Description	Symbol	Dimensions	
		inch	mm
Base of Package to Lead Bend	b	0.118+/-0.015	3.00+/-0.40
Component Height	Ha	0.945+/-0.02	24.00+/-0.50
Lead Clinch Height	H0	0.63+/-0.016	16.00+/-0.40
Component Base Height	H1	0.748+/-0.015	19.00+/-0.40
Component Alignment (side/side)	Pd	0.314 max.	0.80 max.
Component Alignment (front/back)	Hd	0.039 max.	1.00 max.
Component Pitch	P	0.5+/-0.024	12.70+/-0.60
Feed Hole Pitch	P0	0.5+/-0.008	12.70+/-0.20
Hole Center to First Lead	P1	0.147+/-0.012	3.75+/-0.30
Hole Center to Component Center	P2	0.25+/-0.012	6.35+/-0.30
Lead Spread	F1/F2	0.104+0.01/-0.009	2.60+0.30/-0.20
Lead Thickness	d	0.017+0.04/-0.001	0.45+1.00/-0.05
Taped Lead Length	L1	0.098 max.	2.50 max.
Taped Lead Thickness	t	0.027+/-0.008	0.70+/-0.20
Carrier Tape Thickness	t1	0.015+/-0.002	0.40+/-0.05
Carrier tape Width	W	0.728+/-0.008	18.50+/-0.20
Hold-down Tape Width	W0	0.236+/-0.015	6.00+/-0.40
Hold-down Tape Position	W1	0.011+0.008/-0.11	0.30+0.20/-0.30
Feed Hole Position	W2	0.354+/-0.016	9.00+/-0.40
Sprocket Hole Diameter	D0	0.157+/-0.008	4.00+/-0.20
Lead Spring Out	S	0.016 max.	0.40 max.

Small Signal High Voltage Transistor (PNP)

2N5401

How to order



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