

Small Signal General Purpose Transistor (PNP)

Features

- Switching and Linear Application
DC to VHF Amplifier Application
- RoHS Compliant

Mechanical Data

Case:	TO-39, Metal can package
Terminals:	Solderable per MIL-STD-202, Method 208
Weight:	0.35 grams



TO-39



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

Symbol	Description	2N2904A	2N2905A	Unit
V_{CB0}	Collector-Base Voltage	60		V
V_{CEO}	Collector-Emitter Voltage	60		V
V_{EB0}	Emitter-Base Voltage	5.0		V
I_C	Collector Current Continuous	600		mA
P_D	Power Dissipation at $T_A=25^{\circ}C$	600		mW
	Power Dissipation Derate above $T_A=25^{\circ}C$	3.43		mW/ $^{\circ}C$
	Power Dissipation at $T_C=25^{\circ}C$	3.0		W
	Power Dissipation Derate above $T_C=25^{\circ}C$	17.2		mW/ $^{\circ}C$
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-65 to +200		$^{\circ}C$

Small Signal General Purpose Transistor (PNP)

2N2904A/2N2905A

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

Symbol	Description		Min.	Max.	Unit	Conditions		
V _{CB0}	Collector-Base Voltage		60	-	V	I _C =10μA, I _E =0		
*V _{CEO}	Collector-Emitter Voltage		60	-	V	I _C =10mA, I _B =0		
V _{EB0}	Emitter-Base Voltage		5.0	-	V	I _E =10μA, I _C =0		
h _{FE}	D.C. Current Gain	2N2904A	40	-		V _{CE} =10V, I _C =0.1mA		
			40	-		V _{CE} =10V, I _C =1mA		
			40	-		V _{CE} =10V, I _C =10mA		
			40	120		*V _{CE} =10V, I _C =150mA		
			40	-		*V _{CE} =10V, I _C =500mA		
		2N2905A	75	-		V _{CE} =10V, I _C =0.1mA		
			100	-		V _{CE} =10V, I _C =1mA		
			100	-		V _{CE} =10V, I _C =10mA		
			100	300		*V _{CE} =10V, I _C =150mA		
			50	-		*V _{CE} =10V, I _C =500mA		
	*V _{CE(sat)}	Collector-Emitter Saturation Voltage		-		0.4	V	I _C =150mA, I _B =15mA
				-		1.6	V	I _C =500mA, I _B =50mA
*V _{BE(sat)}	Base-Emitter Saturation Voltage		-	1.3	V	I _C =150mA, I _B =15mA		
			-	2.6	V	I _C =500mA, I _B =50mA		
I _{CBO}	Collector-Cut-off Current		-	10	nA	V _{CB} =50V, I _E =0		
			-	10	μA	V _{CB} =50V, I _E =0, T _A =150° C		
I _{CEx}	Collector-Cut-off Current		-	50	nA	V _{CE} =30V, V _{BE} =0.5V		
I _B	Base Current		-	50	nA	V _{CE} =30V, V _{BE} =0.5V		
**f _t	Transition Frequency		200	-	MHz	I _C =50mA, V _{CE} =20V, f=100MHz		
C _{ob}	Out-Put Capacitance		-	8.0	pF	V _{CB} =10V, I _E =0, f=100KHz		
C _{ib}	In-Put Capacitance		-	30	pF	V _{BE} =2V, I _C =0, f=100KHz		
t _d	Delay Time		-	10	nS	I _C =150mA, I _{B1} =15mA		
t _r	Rise Time		-	40	nS	V _{CC} =30V		
t _{on}	Turn-On Time		-	45	nS			
t _s	Storage Time		-	80	nS	I _C =150mA, I _{B1} =I _{B2} =15mA		
t _f	Fall Time		-	30	nS	V _{CC} =6V		
t _{off}	Turn-Off Time		-	100	nS			

*Pulse Test: -Pulse Width=300 μ s, Duty Cycle=2%

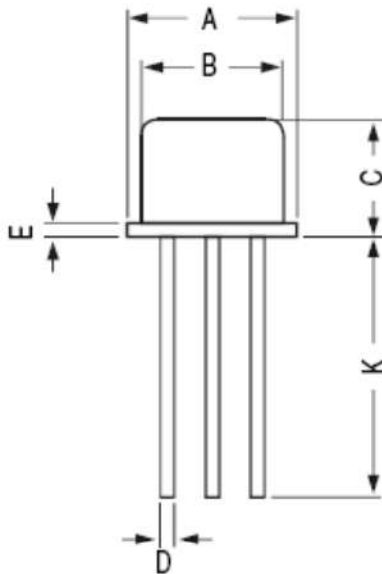
**f_t is defined as the frequency at which h_{fe}/ extrapolates to unity

Small Signal General Purpose Transistor (PNP)

2N2904A/2N2905A

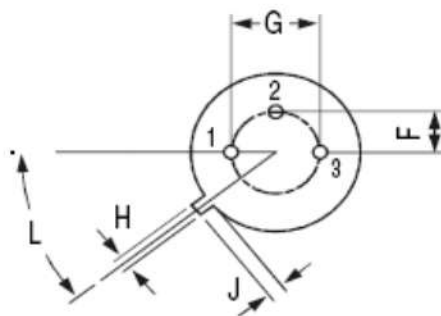
Dimensions in mm

TO-39



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG



PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

Packing Information:

Standard Pack	
Details	Net Weight/Qty.
500pcs/polybag	540gm/500pcs

Small Signal General Purpose Transistor (PNP)

2N2904A/2N2905A

Carton Information:

Inner Carton Box	
Size	Qty.
3' x 7.5' x 7.5'	2k

Outer Carton Box		
Size	Qty.	Gross Weight
17' x 15' x 13.5'	32k	40kgs

How to contact us:

US HEADQUARTERS

28040 WEST HARRISON PARKWAY, VALENCIA, CA 91355-4162

Tel: (800) TAITRON (800) 824-8766 (661) 257-6060

Fax: (800) TAITFAX (800) 824-8329 (661) 257-6415

Email: taitron@taitroncomponents.com

Http://www.taitroncomponents.com

TAITRON COMPONENTS MEXICO, S.A .DE C.V.

BOULEVARD CENTRAL 5000 INTERIOR 5 PARQUE INDUSTRIAL ATITALAQUIA, HIDALGO C.P.
42970 MEXICO

Tel: +52-55-5560-1519

Fax: +52-55-5560-2190

TAITRON COMPONENTS INCORPORATED REPRESENTAÇÕES DO BRASIL LTDA

RUA DOMINGOS DE MORAIS, 2777, 2.ANDAR, SALA 24 SAÚDE - SÃO PAULO-SP 04035-001 BRAZIL

Tel: +55-11-5574-7949

Fax: +55-11-5572-0052

TAITRON COMPONENTS INCORPORATED, SHANGHAI REPRESENTATIVE OFFICE

METROBANK PLAZA, 1160 WEST YAN' AN ROAD, SUITE 1503, SHANGHAI, 200052, CHINA

Tel: +86-21-5424-9942

Fax: +86-21-5424-9931