

2N3704
2N3705
2N3706

**SILICON
NPN TRANSISTORS**



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N3704, 2N3705, and 2N3706 are silicon NPN planar transistors designed for general purpose amplifier and switching applications.



TO-92 CASE

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Collector-Base Voltage	V_{CB0}	50	50	40	V
Collector-Emitter Voltage	V_{CEO}	30	30	20	V
Emitter-Base Voltage	V_{EBO}	5.0	5.0	5.0	V
Continuous Collector Current	I_C	800	800	800	mA
Power Dissipation	P_D	625	625	625	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	-65 to +150	-65 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JA}	200	200	200	$^\circ\text{C/W}$

SYMBOL	<u>2N3704</u>	<u>2N3705</u>	<u>2N3706</u>	UNITS
V_{CB0}	50	50	40	V
V_{CEO}	30	30	20	V
V_{EBO}	5.0	5.0	5.0	V
I_C	800	800	800	mA
P_D	625	625	625	mW
T_J, T_{stg}	-65 to +150	-65 to +150	-65 to +150	$^\circ\text{C}$
Θ_{JA}	200	200	200	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

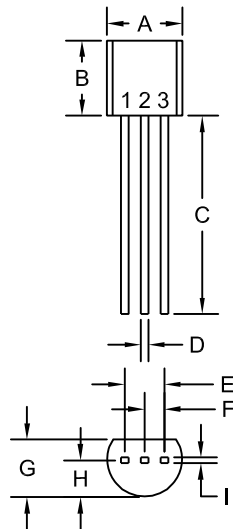
SYMBOL	TEST CONDITIONS	<u>2N3704</u>		<u>2N3705</u>		<u>2N3706</u>		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=20\text{V}$	-	100	-	100	-	100	nA
I_{EBO}	$V_{EB}=3.0\text{V}$	-	100	-	100	-	100	nA
BV_{CB0}	$I_C=100\mu\text{A}$	50	-	50	-	40	-	V
BV_{CEO}	$I_C=10\text{mA}$	30	-	30	-	20	-	V
BV_{EBO}	$I_E=100\mu\text{A}$	5.0	-	5.0	-	5.0	-	V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$	-	0.6	-	0.8	-	1.0	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=100\text{mA}$	0.5	1.0	0.5	1.0	0.5	1.0	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=50\text{mA}$	100	300	50	150	30	600	
f_T	$V_{CE}=2.0\text{V}, I_C=50\text{mA}$	100	-	100	-	100	-	MHz
C_{ob}	$V_{CB}=10\text{V}, f=1.0\text{MHz}$	-	12	-	12	-	12	pF

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TO-92 CASE - MECHANICAL OUTLINE



R1

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Collector
- 3) Base

MARKING:
 FULL PART NUMBER

R2 (24-February 2017)



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2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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