

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	$\Theta_{JA}$	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	$^\circ\text{C}$
$\Theta_{JA}$	200	200	200	$^\circ\text{C/W}$

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

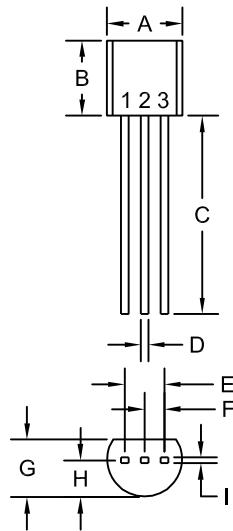
SYMBOL	TEST CONDITIONS	<u>2N3704</u>		<u>2N3705</u>		<u>2N3706</u>		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
$I_{CB0}$	$V_{CB}=20\text{V}$	-	100	-	100	-	100	nA
$I_{EBO}$	$V_{EB}=3.0\text{V}$	-	100	-	100	-	100	nA
$BV_{CB0}$	$I_C=100\mu\text{A}$	50	-	50	-	40	-	V
$BV_{CEO}$	$I_C=10\text{mA}$	30	-	30	-	20	-	V
$BV_{EBO}$	$I_E=100\mu\text{A}$	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)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
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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### CONTACT US

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