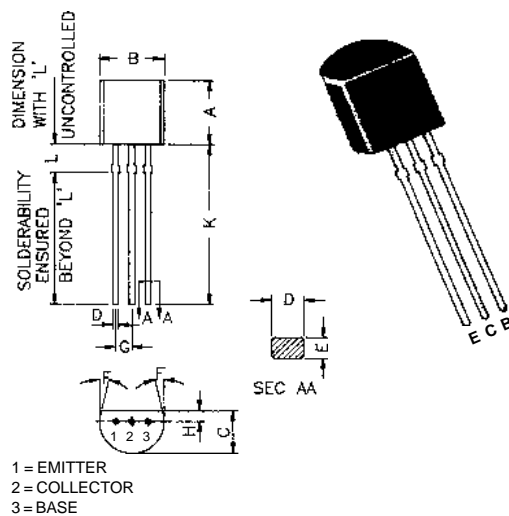


**TO-92 Plastic Package**

**2N3704**  
**2N3705**

***NPN SILICON PLANAR EPITAXIAL TRANSISTORS***



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	—
L	1.982	2.082

ALL DIMENSIONS IN M.M.

***ABSOLUTE MAXIMUM RATINGS***

Rating	Symbol	Value	Unit
Collector Emitter voltage	$V_{CEO}$	30	V
Collector Base voltage	$V_{CBO}$	50	V
Emitter Base voltage	$V_{EBO}$	5	V
Collector Current Continuous	$I_C$	600	mA
Total Power Dissipation $T_a = 25^\circ\text{C}$	$P_D$	625	mW
Derate Above $25^\circ\text{C}$		5	mW/ $^\circ\text{C}$
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

***THERMAL RESISTANCE***

Junction to Ambient	$R_{th(j-a)}$	200	$^\circ\text{C}/\text{W}$
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**2N3704**  
**2N3705**

**ELECTRICAL CHARACTERISTICS** ( $T_a=25\text{ }^{\circ}\text{C}$  unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector Emitter Voltage $I_C=10\text{mA}$ , $I_B=0$	$BV_{CEO}^*$	30		-	V
Collector Base Voltage $I_C=100\mu\text{A}$ , $I_E=0$	$BV_{CBO}$	50		-	V
Emitter To Base Voltage $I_E=100\mu\text{A}$ , $I_C=0$	$V_{EBO}$	5		-	V
D.C. Current Gain $I_C=50\text{mA}$ , $V_{CE}=2\text{V}$	$h_{FE}^*$	100		300	
		50		150	
Collector Leakage Current $V_{CB}=20\text{V}$ , $I_E=0$	$I_{CBO}$	-		0.1	$\mu\text{A}$
Emitter Leakage Current $V_{EB}=3\text{V}$ , $I_C=0$	$I_{EBO}$	-		0.1	$\mu\text{A}$
Collector Emitter Saturation Voltage $I_C=100\text{mA}$ , $I_B=5\text{mA}$	$V_{CE(sat)}^*$	-		0.6	V
		-		0.8	V
Base Emitter on Voltage $I_C=100\text{mA}$ , $V_{CE}=2\text{V}$	$V_{BE(on)}^*$	0.5		1.0	V
<b>SMALL SIGNAL CHARACTERISTICS</b>					
Output Capacitance $I_E=0$ , $V_{CB}=10\text{V}$ , $f=1\text{MHz}$	$C_{ob}$	-		12	pF
Transition Frequency $I_C=50\text{mA}$ , $V_{CE}=2\text{V}$ , $f=20\text{MHz}$	$f_T$	100		-	MHz

Pulse Test: Pulse width  $\leq 300\mu\text{s}$ , Duty cycle  $\leq 2.0\%$ .

## Notes

### Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/ CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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