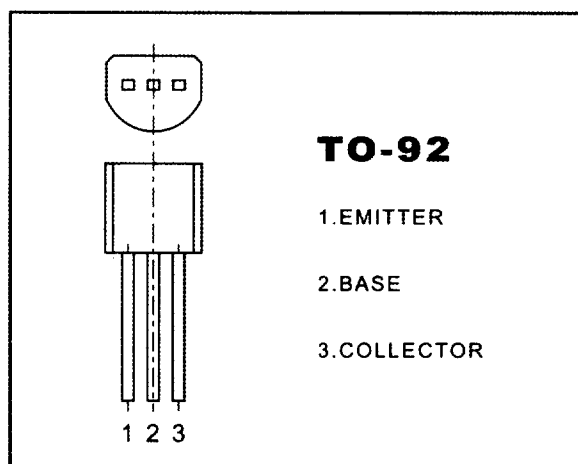


## TO-92 Plastic-Encapsulate Transistors

## 2N3904 TRANSISTOR(NPN)

**FEATURES****Power dissipation** $P_{CM}$ : 0.625W ( $T_{amb}=25^{\circ}C$ )**Collector current** $I_{CM}$ : 0.2 A**Collector-base voltage** $V_{(BR)CBO}$ : 60 V**Operating and storage junction temperature range** $T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$ **ELECTRICAL CHARACTERISTICS****( $T_{amb}=25^{\circ}C$  unless otherwise specified)**

Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1 mA, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60 V, I_E=0$		0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=40 V, I_B=0$		0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5 V, I_C=0$		0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=1 V, I_C=10 mA$	100	300	
	$h_{FE(2)}$	$V_{CE}=1 V, I_C=50 mA$	60		
Collector-emitter saturation voltage	$V_{CEsat}$	$I_C=50 mA, I_B=5 mA$		0.4	V
Base-emitter saturation voltage	$V_{BEsat}$	$I_C=50 mA, I_B=5 mA$		0.95	V
Transition frequency	$f_T$	$V_{CE}=20 V, I_C=10 mA$ $f=100MHz$	250		MHz

**CLASSIFICATION OF  $h_{FE}$** 

Rank	O	Y	G
Range	100-200	200-300	300-400

Typical Characteristics

2N3904

