



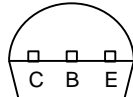
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**2N3906**

## Features

- Through Hole Package
- Capable of 600mWatts of Power Dissipation

Pin Configuration  
 Bottom View



## PNP General Purpose Amplifier

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
<b>OFF CHARACTERISTICS</b>				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ( $I_C=1.0mA$ , $I_B=0$ )	40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=10\mu A$ , $I_E=0$ )	40		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=10\mu A$ , $I_C=0$ )	5.0		Vdc
$I_{BL}$	Base Cutoff Current ( $V_{CE}=30Vdc$ , $V_{BE}=3.0Vdc$ )		50	nAdc
$I_{CEX}$	Collector Cutoff Current ( $V_{CE}=30Vdc$ , $V_{BE}=3.0Vdc$ )		50	nAdc

### ON CHARACTERISTICS

$h_{FE}$	DC Current Gain* ( $I_C=0.1mA$ , $V_{CE}=1.0Vdc$ ) ( $I_C=1.0mA$ , $V_{CE}=1.0Vdc$ ) ( $I_C=10mA$ , $V_{CE}=1.0Vdc$ ) ( $I_C=50mA$ , $V_{CE}=1.0Vdc$ ) ( $I_C=100mA$ , $V_{CE}=1.0Vdc$ )	60 80 100 60 30	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=10mA$ , $I_B=1.0mA$ ) ( $I_C=50mA$ , $I_B=5.0mA$ )		0.25 0.4	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=10mA$ , $I_B=1.0mA$ ) ( $I_C=50mA$ , $I_B=5.0mA$ )	0.65	0.85 0.95	Vdc

### SMALL-SIGNAL CHARACTERISTICS

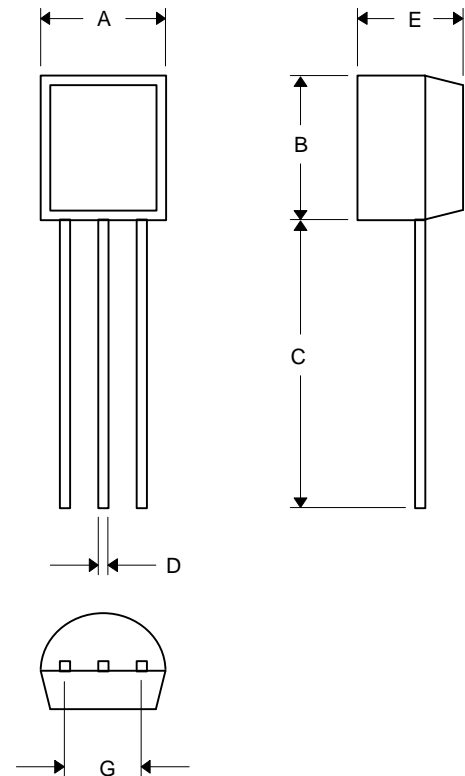
$f_T$	Current Gain-Bandwidth Product ( $I_C=10mA$ , $V_{CE}=20Vdc$ , $f=100MHz$ )	250		MHz
$C_{obo}$	Output Capacitance ( $V_{CB}=5.0Vdc$ , $I_E=0$ , $f=100MHz$ )		4.5	pF
$C_{ibo}$	Input Capacitance ( $V_{BE}=0.5Vdc$ , $I_C=0$ , $f=100kHz$ )		10.0	pF
NF	Noise Figure ( $I_C=100\mu A$ , $V_{CE}=5.0Vdc$ , $R_S=1.0k\Omega$ , $f=10Hz$ to $15.7kHz$ )		4.0	dB

### SWITCHING CHARACTERISTICS

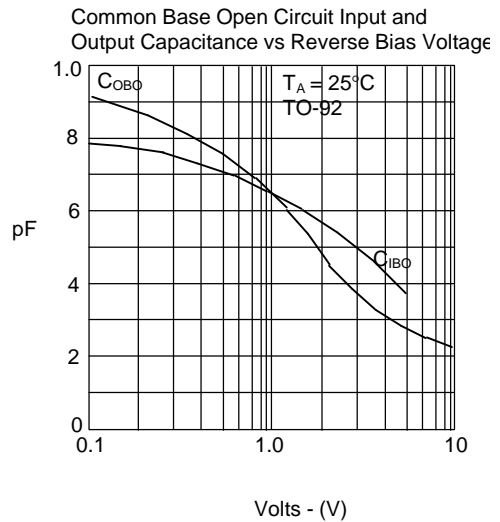
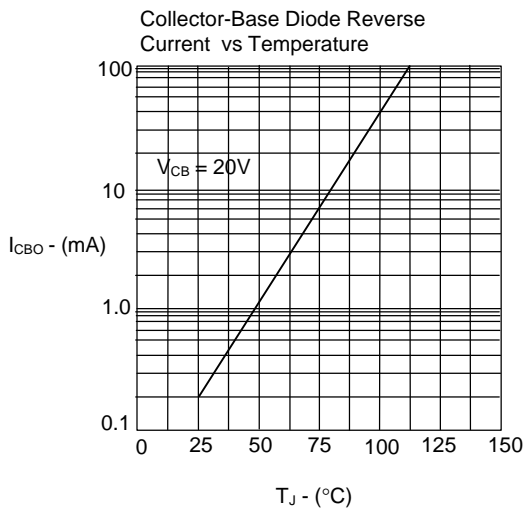
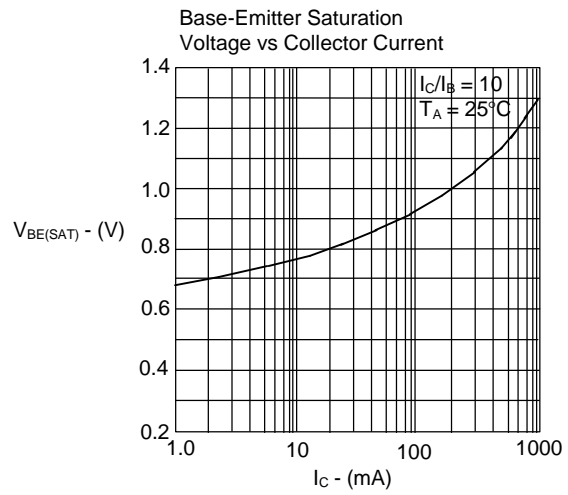
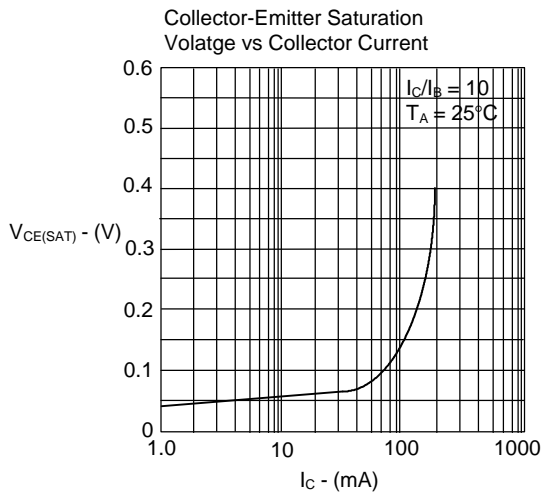
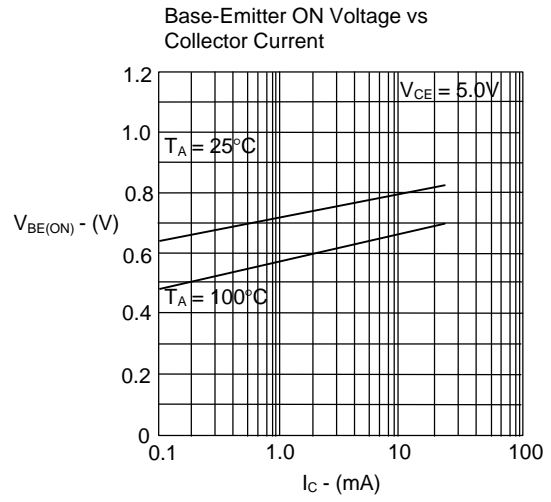
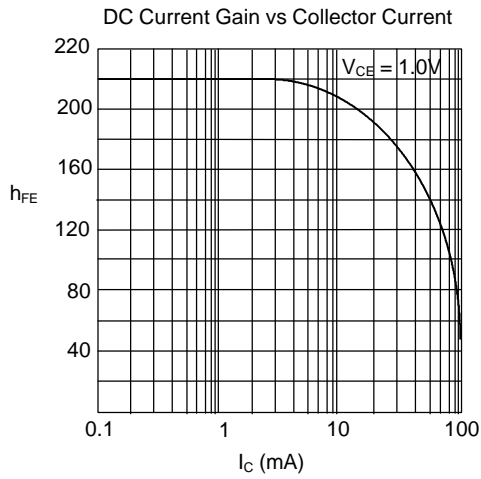
$t_d$	Delay Time	( $V_{CC}=3.0Vdc$ , $V_{BE}=0.5Vdc$ )	35	ns
$t_r$	Rise Time	( $I_C=10mA$ , $I_{B1}=1.0mA$ )	35	ns
$t_s$	Storage Time	( $V_{CC}=3.0Vdc$ , $I_C=10mA$ )	225	ns
$t_f$	Fall Time	( $I_{B1}=I_{B2}=1.0mA$ )	75	ns

\*Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$

### TO-92



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.175	.185	4.45	4.70	
B	.175	.185	4.46	4.70	
C	.500	---	12.7	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	



# 2N3906

