

## 2N3906-G

PNP  
RoHS Device

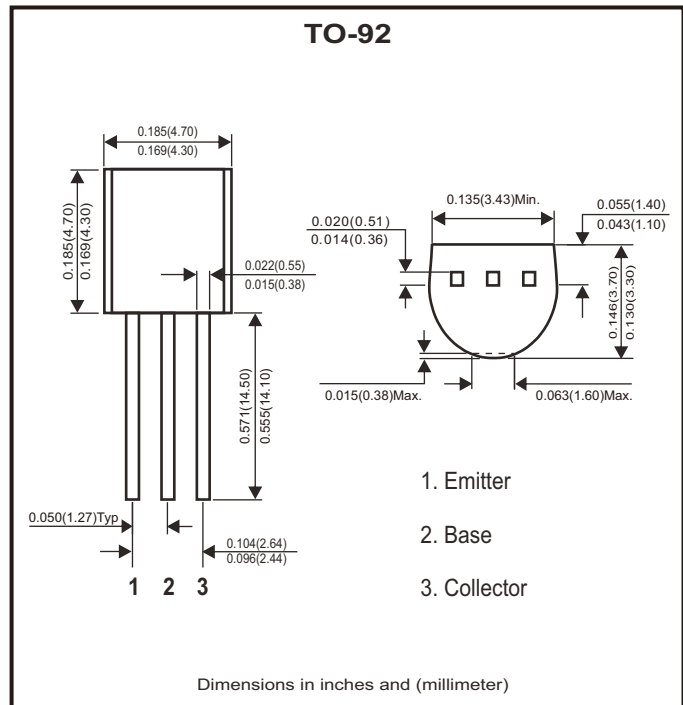
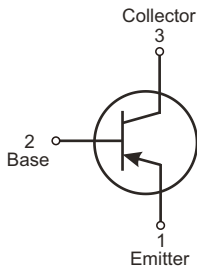
### Features

- PNP silicon epitaxial planar transistor for switching and amplifier application.

### Mechanical Data

- Case: Molded plastic, TO-92.

### Circuit Diagram



### Maximum Ratings (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Min	Max	Unit
Collector-base voltage	V <sub>CBO</sub>		-40	V
Collector-emitter voltage	V <sub>CEO</sub>		-40	V
Emitter-base voltage	V <sub>EB0</sub>		-5	V
Collector current-continuous	I <sub>c</sub>		-0.2	A
Collector dissipation	P <sub>c</sub>		0.625	W
Storage temperature and junction temperature	T <sub>STG</sub> , T <sub>J</sub>	-55	+150	°C

## Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Max	Unit
Collector-base breakdown voltage	$I_C = -10\mu A$ , $I_E = 0$	$V_{(BR)CBO}$	-40		V
Collector-emitter breakdown voltage	$I_C = -1mA$ , $I_B = 0$	$V_{(BR)CEO}$	-40		V
Emitter-base breakdown voltage	$I_E = -10\mu A$ , $I_C = 0$	$V_{(BR)EBO}$	-5		V
Collector cut-off current	$V_{CB} = -40V$ , $I_E = 0$	$I_{CBO}$		-0.1	$\mu A$
Collector cut-off current	$V_{CE} = -30V$ , $V_{BE(off)} = -3V$	$I_{CEX}$		-50	$\mu A$
Emitter cut-off current	$V_{EB} = -5V$ , $I_C = 0$	$I_{EBO}$		-0.1	$\mu A$
DC current gain	$V_{CE} = -1V$ , $I_C = -10mA$	$h_{FE(1)}$	100	400	
	$V_{CE} = -1V$ , $I_C = -50mA$	$h_{FE(2)}$	60		
	$V_{CE} = -2V$ , $I_C = -100mA$	$h_{FE(3)}$	30		
Collector-emitter saturation voltage	$I_C = -50mA$ , $I_B = -5mA$	$V_{CE(sat)}$		-0.4	V
Base-emitter saturation voltage	$I_C = -50mA$ , $I_B = -5mA$	$V_{BE(sat)}$		-0.95	V
Transition frequency	$V_{CE} = -20V$ , $I_C = -10mA$ $f = 100MHz$	$f_T$	250		MHz
Delay time	$V_{CC} = -3V$ , $V_{BE} = -0.5V$	$t_d$		35	nS
Rise time	$I_C = -10mA$ , $I_{B1} = -1mA$	$t_r$		35	nS
Storage time	$V_{CC} = -3V$ , $I_C = -10mA$	$t_s$		225	nS
Fall time	$I_{B1} = I_{B2} = -1mA$	$t_f$		75	nS

## Classification of hFE(1)

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

## Rating and Characteristic Curves (2N3906-G)

Fig.1 - Static Characteristic

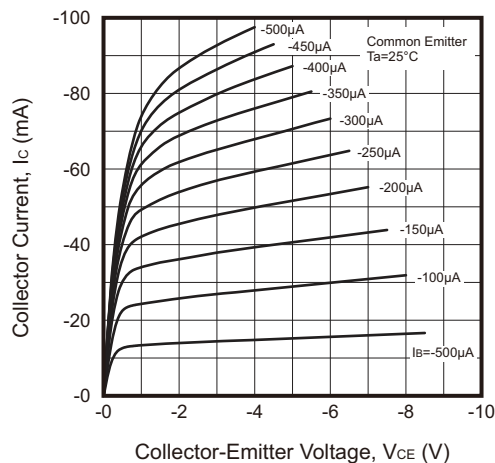
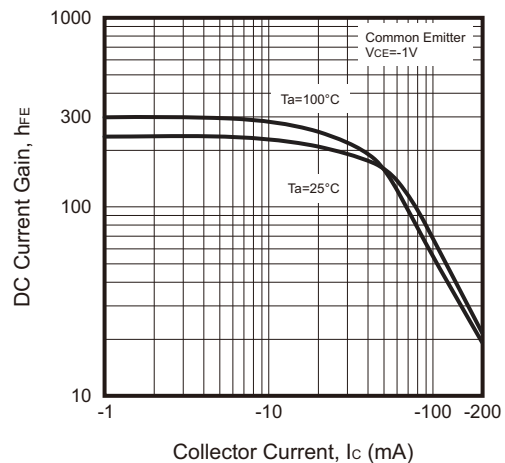


Fig.2 - hFE — Ic



## Rating and Characteristic Curves (2N3906-G)

Fig.3 -  $V_{CEsat} - I_c$

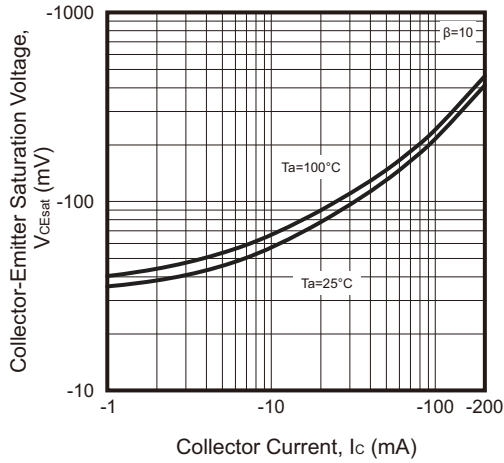


Fig.4 -  $V_{BEsat} - I_c$

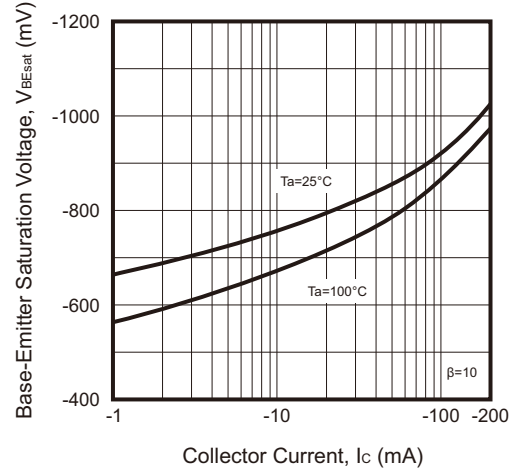


Fig.5 -  $I_c - V_{BE}$

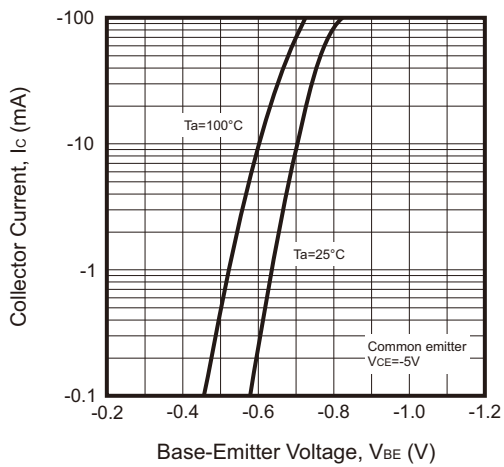


Fig.6 -  $C_{ob}/C_{ib} - V_{CB}/V_{EB}$

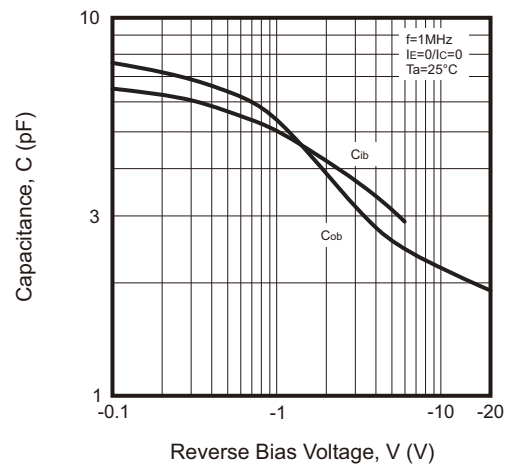


Fig.7 -  $f_T - I_c$

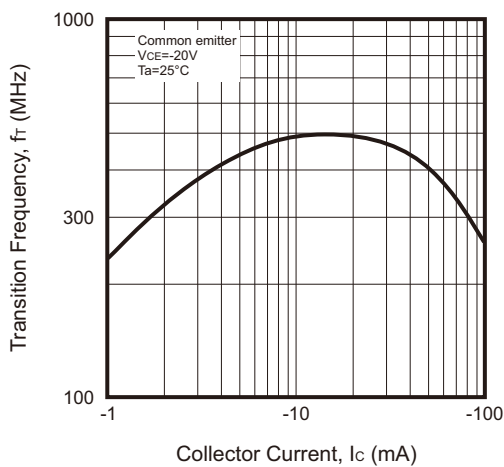
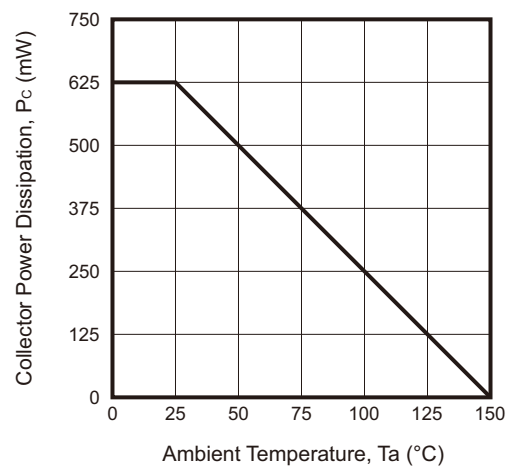
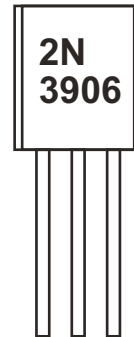


Fig.8 -  $P_c - T_a$



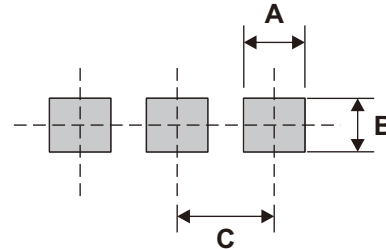
## Marking Code

Part Number	Marking Code
2N3906-G	2N3906



## Suggested PAD Layout

SIZE	TO-92	
	(mm)	(inch)
A	0.80	0.031
B	0.70	0.028
C	1.27	0.050



Notes: 1. The pad layout is for reference purposes only.

## Standard Packaging

Case Type	BULK PACK
	BAG ( pcs )
TO-92	1,000