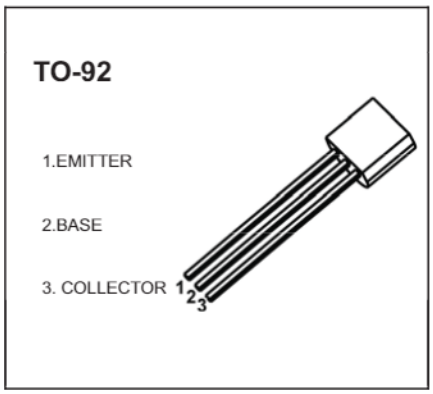
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

JCET

TO-92 Plastic-Encapsulate Transistors

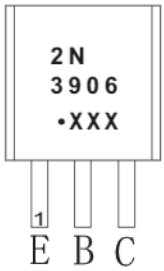
2N3906 TRANSISTOR (PNP)



FEATURE

- PNP silicon epitaxial planar transistor for switching and Amplifier applications
- As complementary type, the NPN transistor 2N3904 is Recommended
- This transistor is also available in the SOT-23 case with the type designation MMBT3906

MARKING

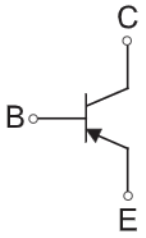


2N3906=Device code

Solid dot=Green molding compound device, if none,the normal device

XXX=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2N3906	TO-92	Bulk	1000pcs/Bag
2N3906-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS(T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-0.2	A
P_C	Collector Power Dissipation	0.625	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃

ELECTRICAL CHARACTERISTICS

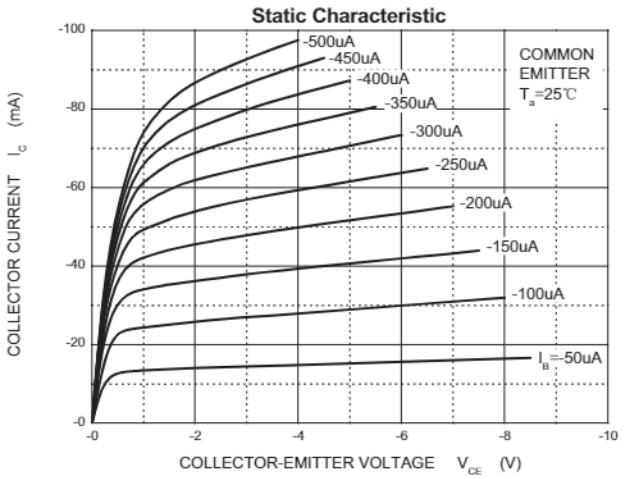
T_a=25℃ unless otherwise specified

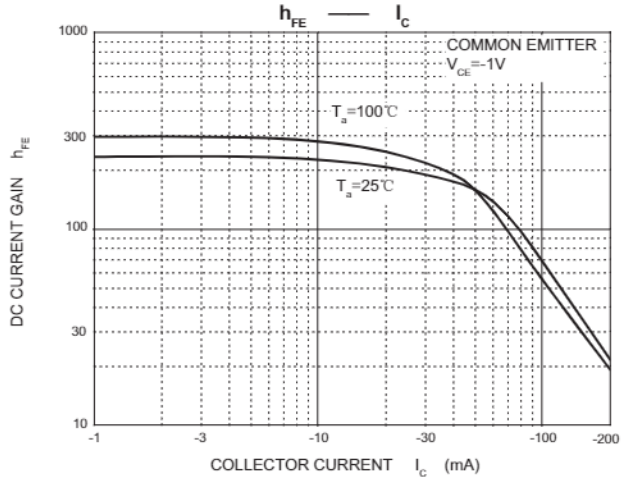
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C = -10μA, I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C =-1mA , I_B=0	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= -10μA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}= -40 V,I_E=0			-0.1	μA
Collector cut-off current	I_{CEX}	V_{CE}= -30 V,$V_{BE(off)}$=-3V			-50	nA
Emitter cut-off current	I_{EBO}	V_{EB}= -5 V , I_C=0			-0.1	μA
DC current gain	h_{FE1}	V_{CE}=-1 V, I_C= -10mA	100		400	
	h_{FE2}	V_{CE}=-1 V, I_C= -50mA	60			
	h_{FE3}	V_{CE}=-1 V, I_C= -100mA	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C= -50mA, I_B= -5mA			-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C= -50mA, I_B= -5mA			-0.95	V
Transition frequency	f_T	V_{CE}=-20V, I_C= -10mA f = 100MHz	250			MHz
Delay Time	td	V_{CC}=-3V,V_{BE}=-0.5V, I_C=-10mA,I_{B1}=-1mA			35	ns
Rise Time	tr				35	ns
Storage Time	ts	V_{CC}=-3V,Ic=-10mA I_{B1}=I_{B2}=-1mA			225	ns
Fall Time	tf				75	ns

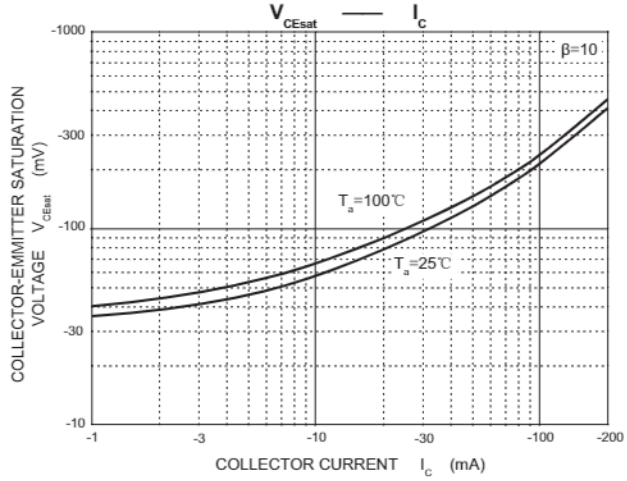
CLASSIFICATION OF h_{FE1}

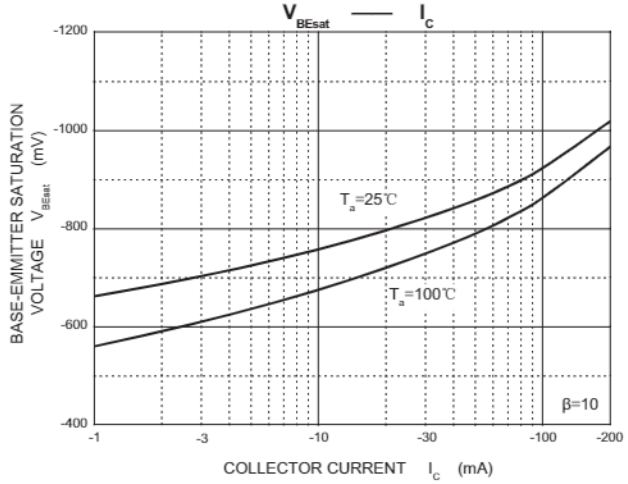
Rank	O	Y	G
Range	100-200	200-300	300-400

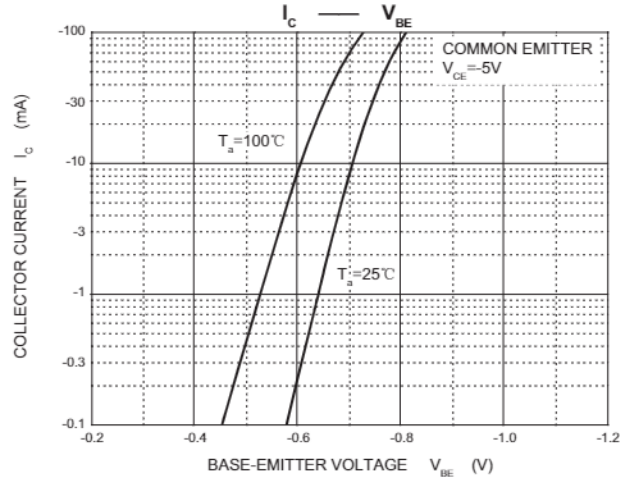
Typical Characteristics

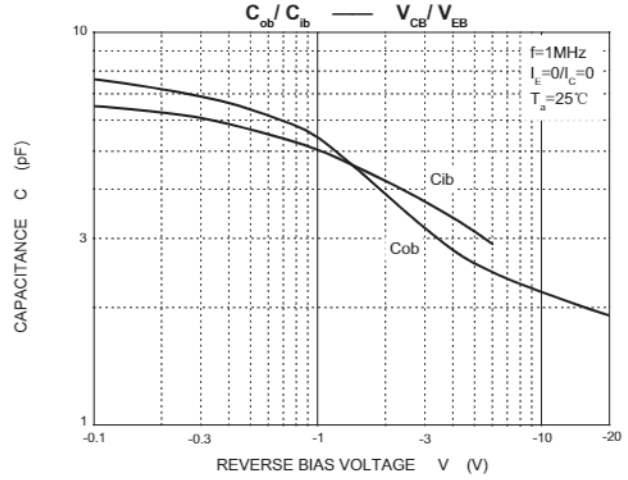


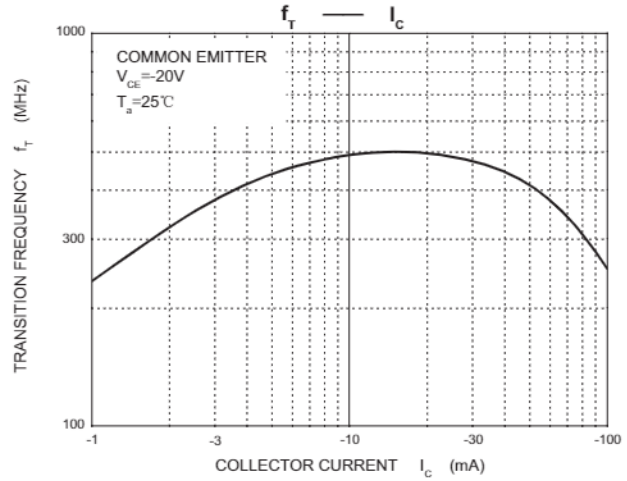


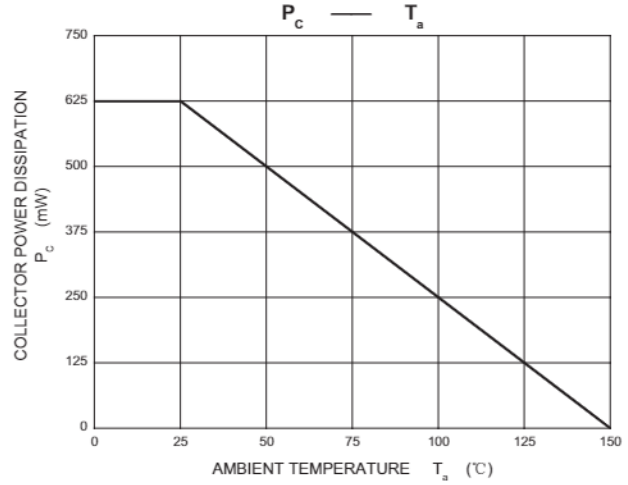




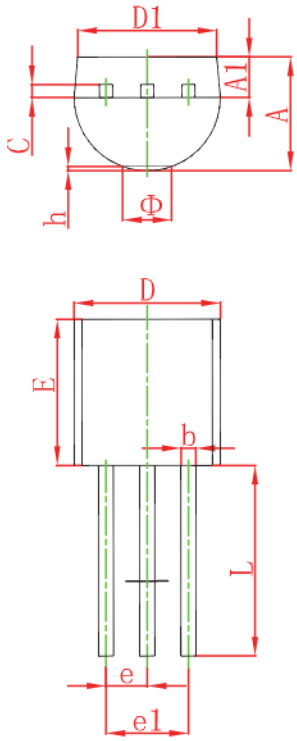






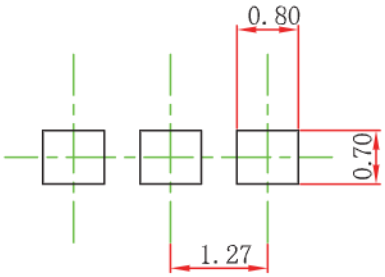


TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout

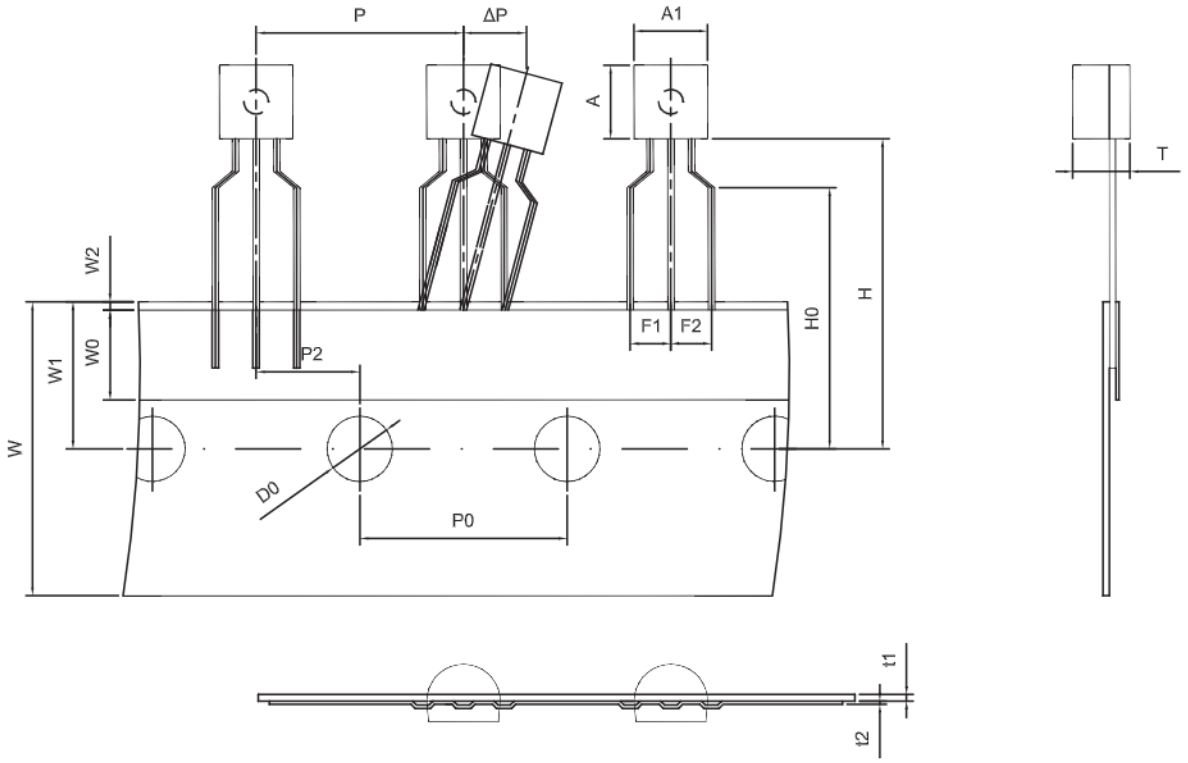


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

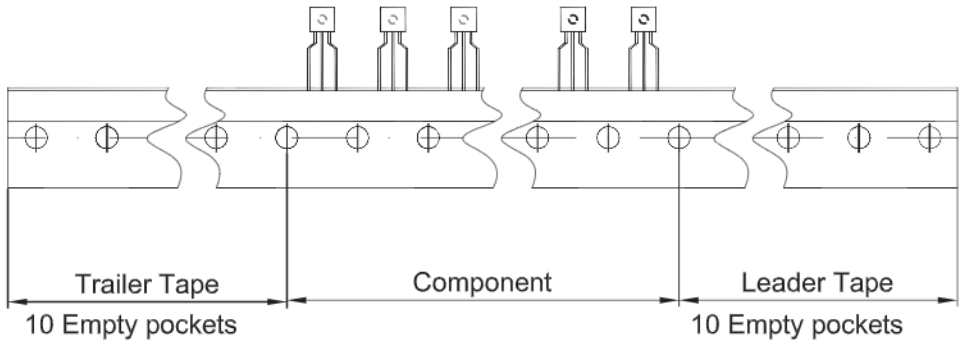
NOTICE

JCET reserve the right to make modifications,enhancements, improvements, corrections or other changes without further notice to any product herein.JCET does not assume any liability arising out of the application or use of any product described herein.

TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250