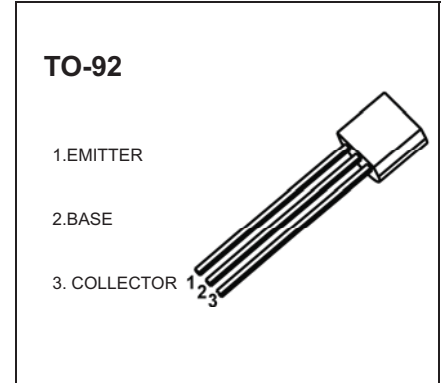


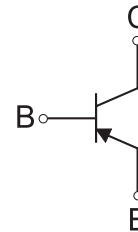
2N3906 TRANSISTOR (PNP)

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



Equivalent Circuit



ORDERING INFORMATION

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

MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

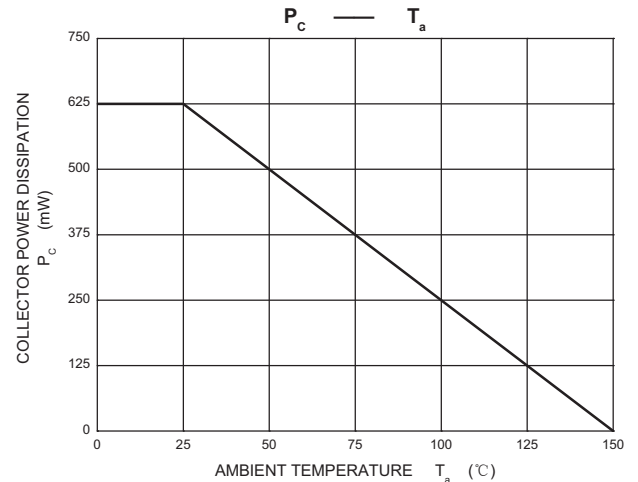
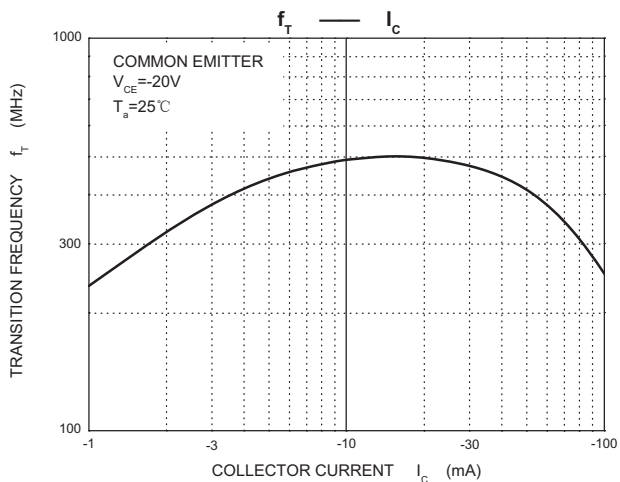
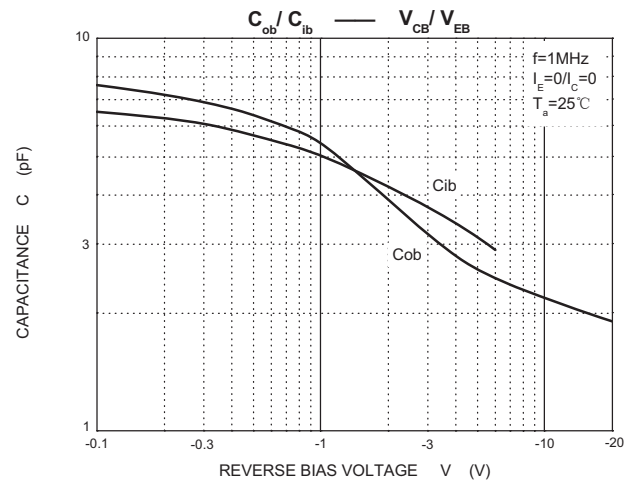
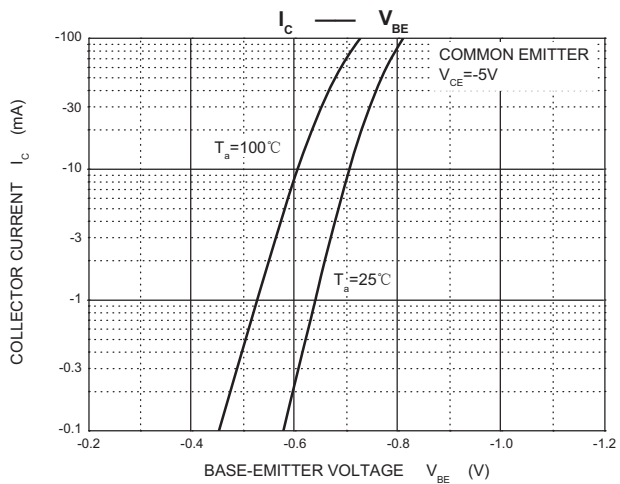
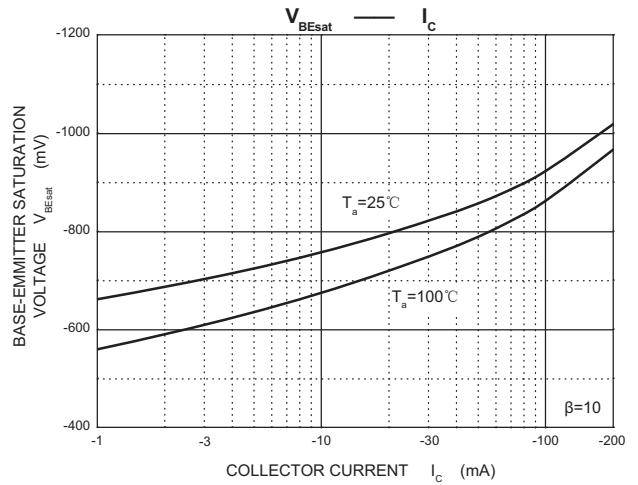
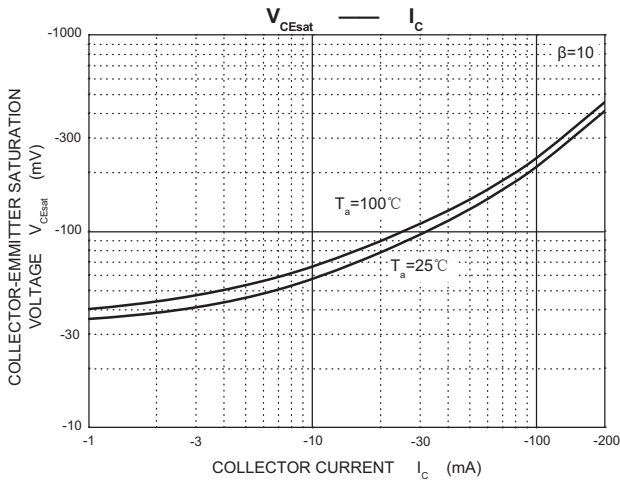
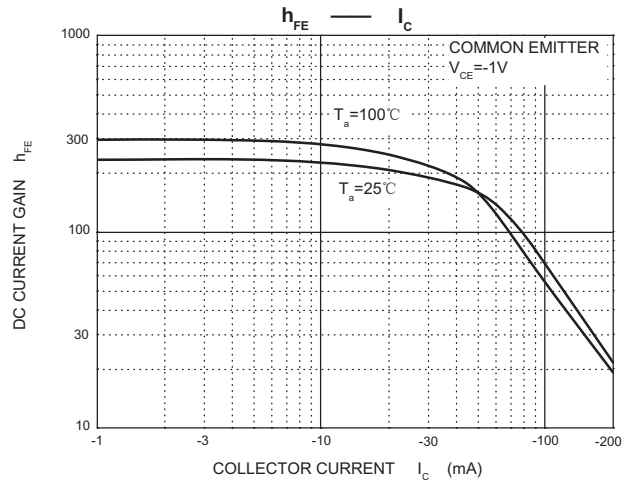
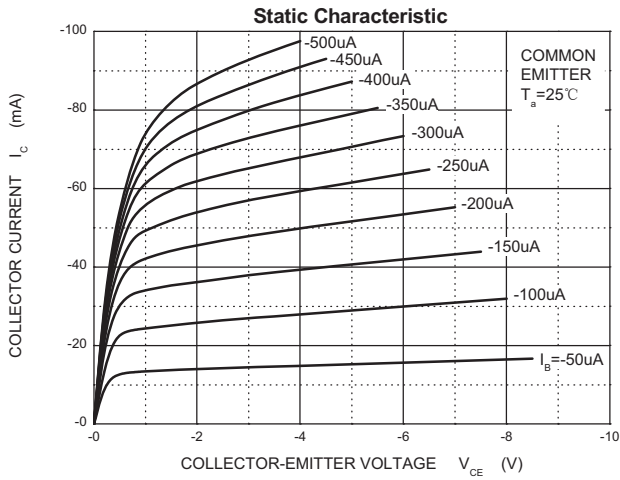
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-0.2	A
P_C	Collector Power Dissipation	0.625	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~150	$^{\circ}\text{C}$

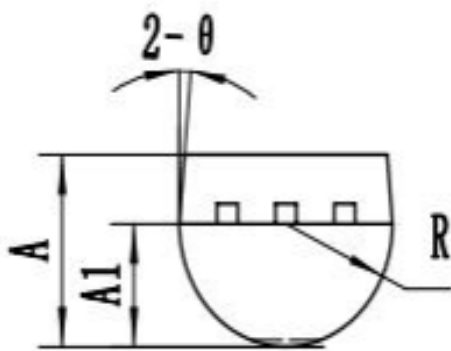
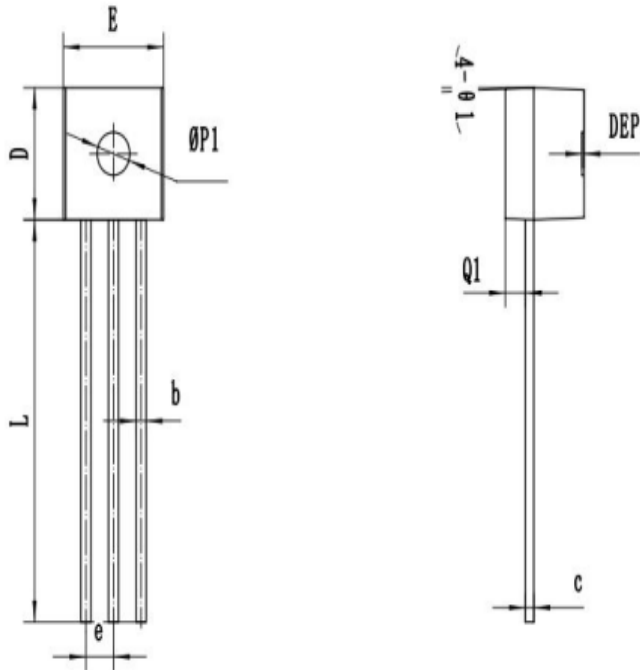
$T_a=25^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E=0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B=0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -40\text{V}, I_E=0$			-0.1	μA
Collector cut-off current	I_{CEX}	$V_{CE} = -30\text{V}, V_{EB(off)} = -3\text{V}$			-50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C=0$			-0.1	μA
DC current gain	h_{FE1}	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	100		400	
	h_{FE2}	$V_{CE} = -1\text{V}, I_C = -50\text{mA}$	60			
	h_{FE3}	$V_{CE} = -2\text{V}, I_C = -100\text{mA}$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-0.95	V
Transition frequency	f_T	$V_{CE} = -20\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	250			MHz
Delay Time	t_d	$V_{CC} = -3\text{V}, V_{BE} = -0.5\text{V},$ $I_C = -10\text{mA}, I_{B1} = -1\text{mA}$			35	ns
Rise Time	t_r				35	ns
Storage Time	t_s	$V_{CC} = -3\text{V}, I_C = -10\text{mA}$			225	ns
Fall Time	t_f	$I_{B1} = I_{B2} = -1\text{mA}$			75	ns

CLASSIFICATION OF h_{FE1}

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





SYMBOL	MM		
	MIN	NOM	MAX
*A	3.00	3.25	3.50
A1	2.20	2.30	2.40
*b	0.40	0.45	0.50
*c	0.25	0.30	0.35
*D	4.50	4.60	4.70
*E	4.50	4.60	4.70
*e	1.22	1.27	1.32
*L	14.00	14.30	14.60
R	2.20	2.30	2.40
Q1	0.85	0.90	0.95
θ	3°	5°	7°
Ø1	1°	3°	5°
ØP1	1.40	1.50	1.60
DEP	0.05	0.10	0.20
带*为检验尺寸			