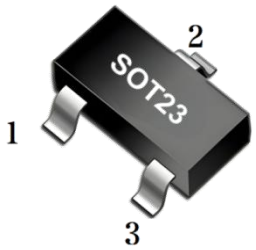
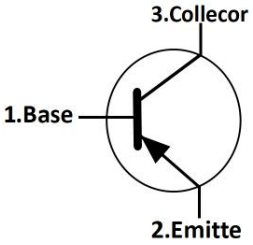
MMBT3906

PNP SILICON TRANSISTOR

FEATURES

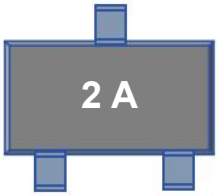
* As complementary type, the NPN transistor MMBT3904 is Recommended
* Epitaxial planar die construction





MARKING

Type Code: Marking: 2 A



ABSOLUTE MAXIMUM RATINGS (Tc=25°C, unless otherwise specified)

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	-0.2	A
P_C	Collector Power Dissipation	0.2	W
T_j	Junction Temperature	150	°C
Tstg	Storage Temperature	-60~150	°C
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	°C/W

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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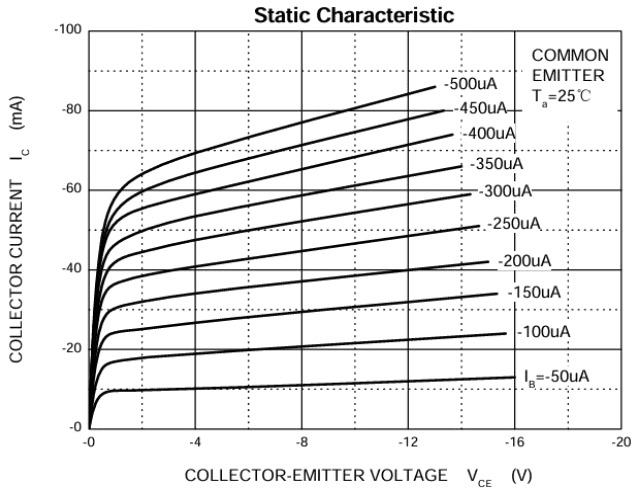
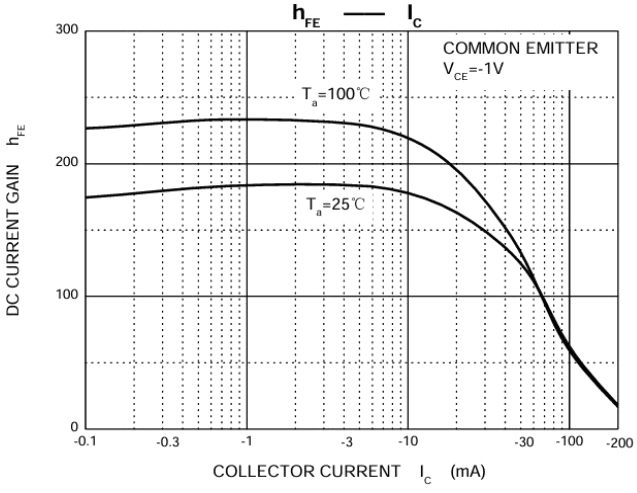
■ ELECTRICAL CHARACTERISTICS (Tc=25°C, unless otherwise specified)

PARAMETER	SYMBOL		TEST CONDITIONS	MIN	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 cutoff current	I_{CBO}		V_{CB}=-40V,I_E=0		-0.1	μA
Collector cut-off current	I_{CEX}		V_{CE}=-30V,$V_{BE(off)}$=-3V		-0.05	μA
Emitter cut-off current	I_{EBO}		V_{EB}=-5V,I_C=0		-0.1	μA
DC Current Gain （CLASSIFICATION OF h_{FE1}）	h_{FE1}	A	V_{CE}=-1V,I_C=-10mA	100	200	
		B		200	300	
	h_{FE2}		V_{CE}=-1V,I_C=-50mA	60		
	h_{FE3}		V_{CE}=-2V,I_C=-100mA	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$		I_C=-50mA,I_B=-5mA		-0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		I_C=-50mA,I_B=-5mA		-0.95	V
Transition frequency	f_T		VCE=-20V, IC=-10mA, f=100MHz	300		MHz
Delay Time	td		VCC=-3V,VBE=-0.5V IC=-10mA, IB1=IB2=-1mA		35	nS
Rise Time	tr				35	nS
Storage Time	ts		VCC=-3V,IC=-10mA IB1=IB2=-1mA		225	nS
Fall Time	tf				75	nS

■ TYPICAL CHARACTERISTICS





MMBT3906

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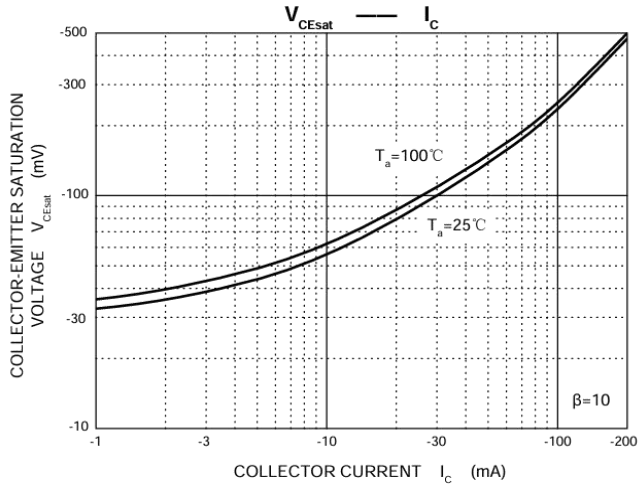
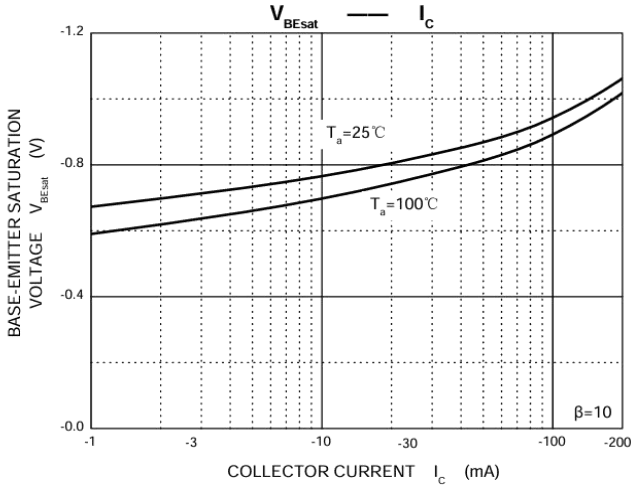
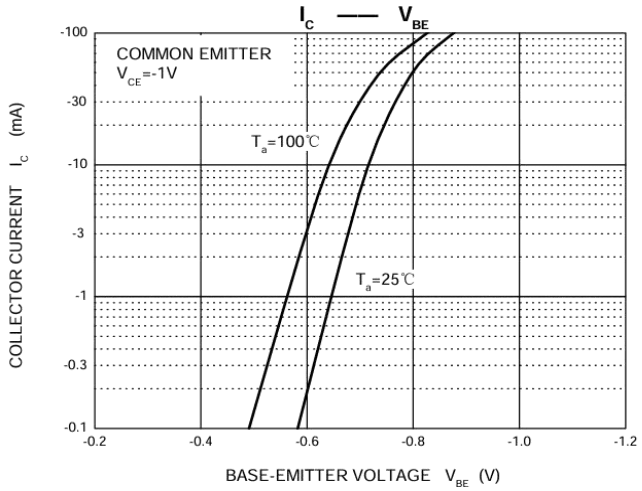
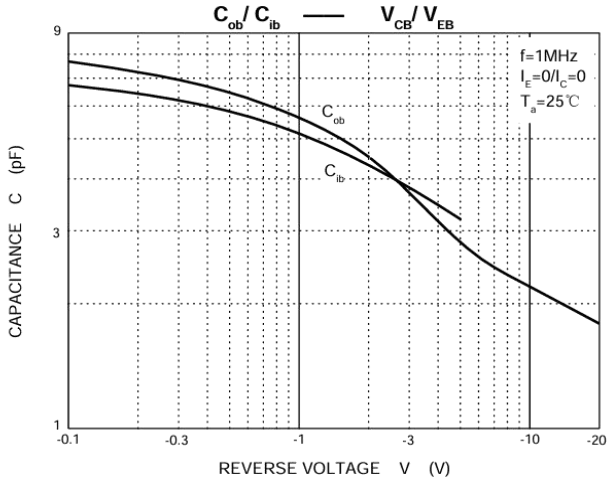
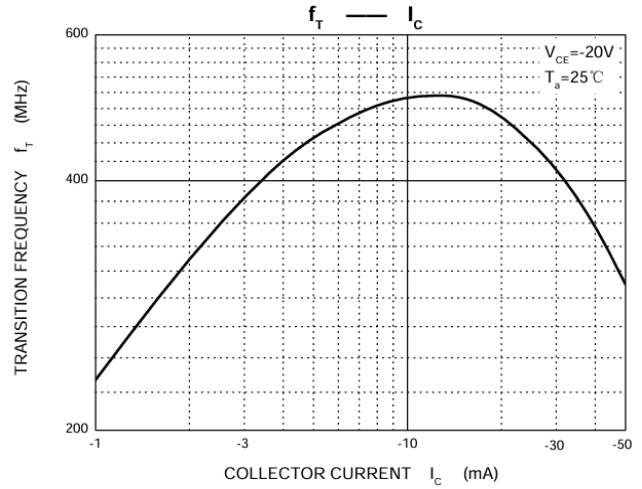
■ TYPICAL CHARACTERISTICS(Con.t)

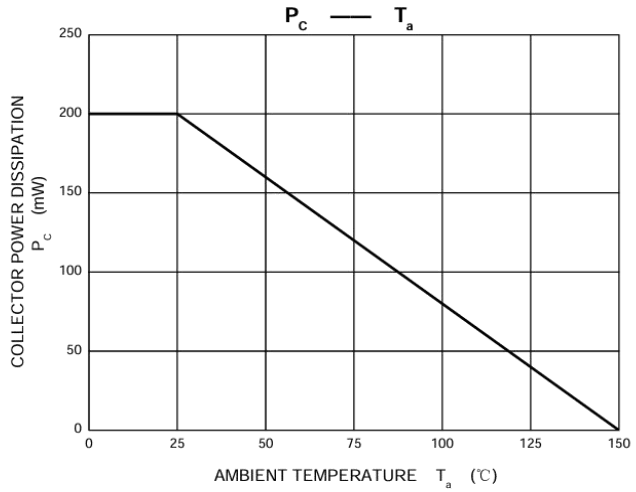












MMBT3906

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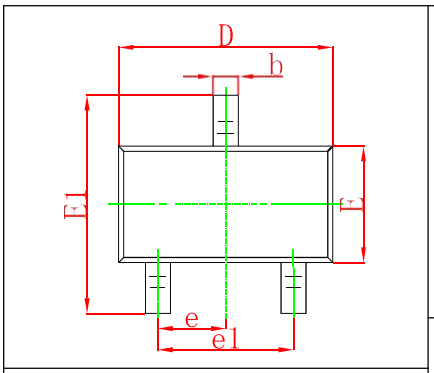
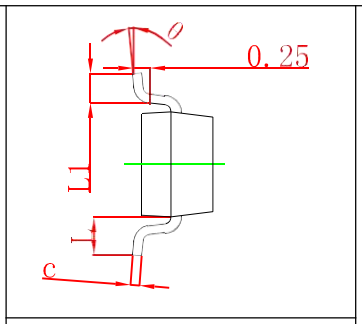
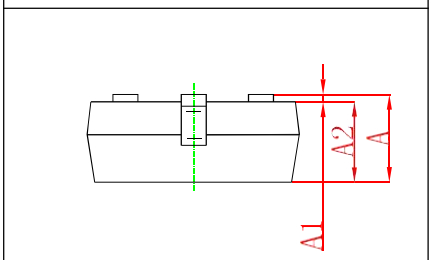
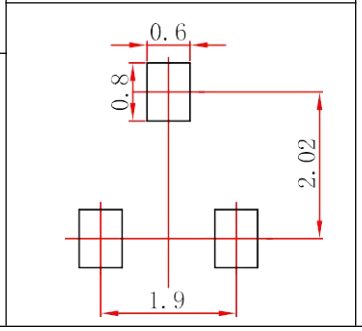
■ SOT23 PACKAGE OUTLINE DIMENSIONS









Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

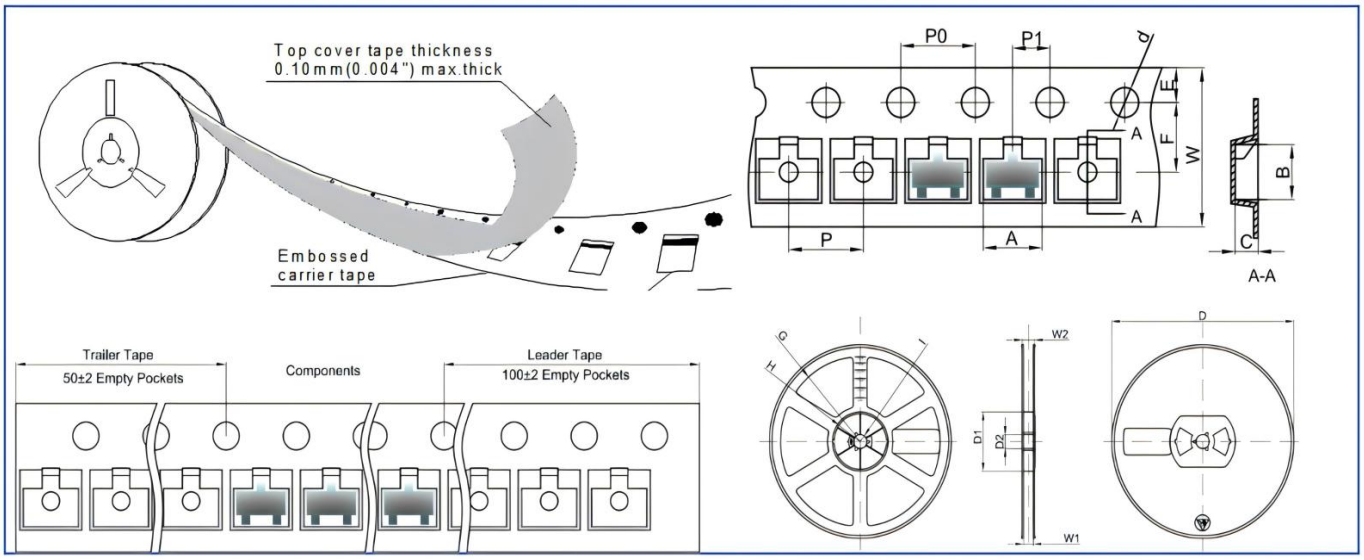
Note:

1.Controlling dimension:in millimeters.

2.General tolerance:±0.05mm.

3.The pad layout is for reference purposes only.

■ REEL PACKING



Dimensions are in millimeter										
PKG TYPE	A	B	C	d	E	F	Po	P	P1	W
SOT-23	3.15	2.77	1.22	Φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
Reel Optiom	D	D1	D2	G	H	I	W1	W2	Q.TY PER REEL	
7" Dia	Φ178.0	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30	3000PCS	
13"Dia	φ330.0	/	13.00	/	/	R6.50	9.50	12.30	10000PCS	