



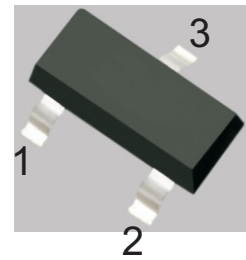
MMBT3906

PNP TRANSISTOR

FEATURES

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

SOT-23



1.BASE  
2.EMITTER  
3.COLLECTOR

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	-40	V
Collector-Emitter Voltage	$V_{CEO}$	-40	V
Emitter-Base Voltage	$V_{EB0}$	-5	V
Collector Current — Continuous	$I_C$	-0.2	A
Collector Dissipation	$P_C$	0.2	W
Thermal Resistance From Junction To Ambient	$R_{thJA}$	625	°C/W
Operation Junction and Storage Temperature Range	$T_J, T_{stg}$	-55~+150	°C

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

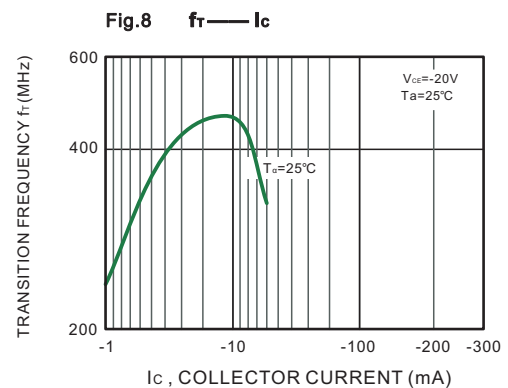
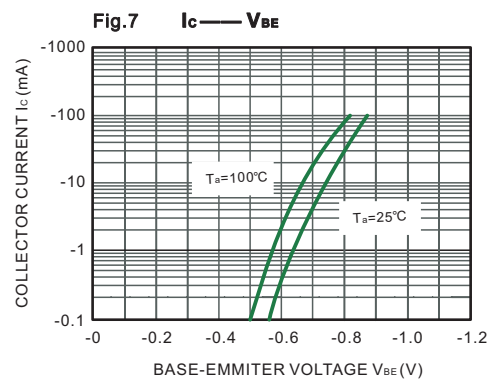
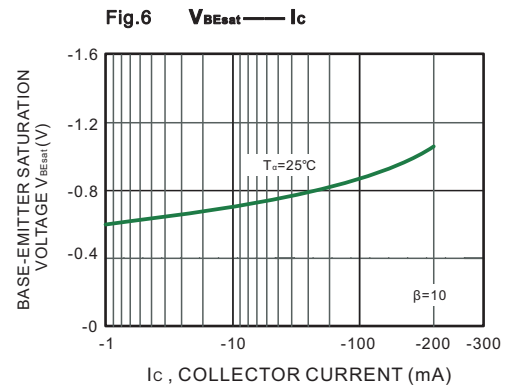
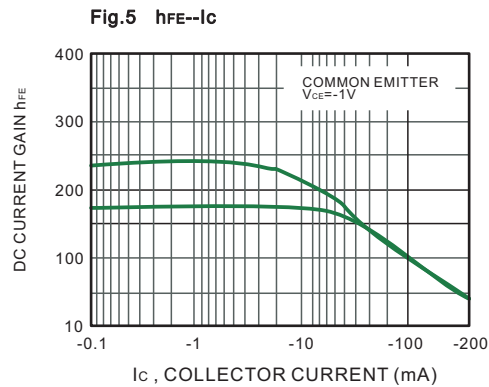
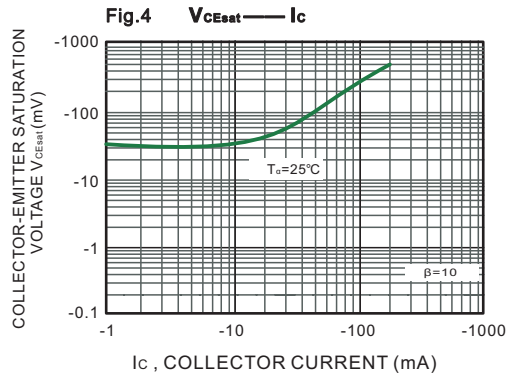
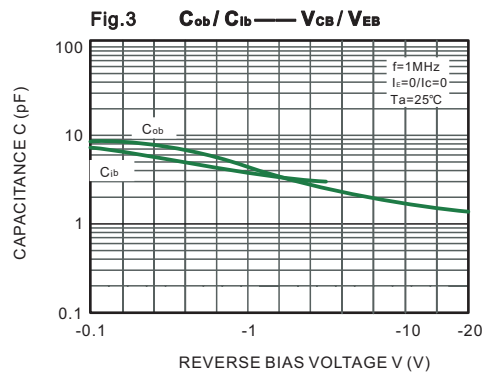
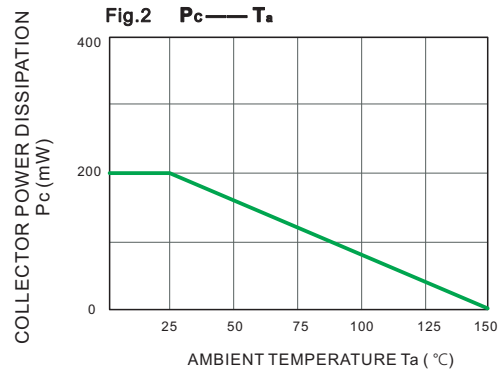
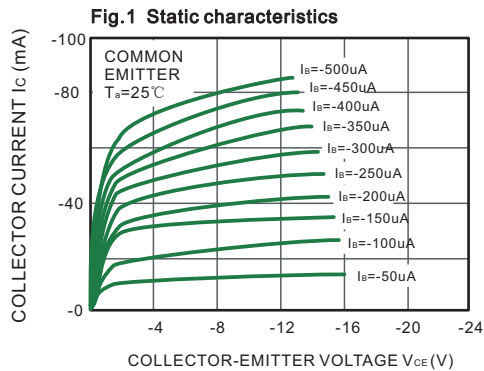
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{ mA}, I_B = 0$	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -40V, I_E = 0$		-100	nA
Collector cut-off current	$I_{CEX}$	$V_{CE} = -30V, V_{CE} = -3V$		-50	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$		-100	nA
DC current gain	$h_{FE1}$	$V_{CE} = -1V, I_C = -10\text{mA}$	100	300	
	$h_{FE2}$	$V_{CE} = -1V, I_C = -50\text{mA}$	60		
	$h_{FE3}$	$V_{CE} = -2V, I_C = -100\text{mA}$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$		-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$		-0.95	V
Transition frequency	$f_T$	$V_{CE} = -20V, I_C = -10\text{mA}, f = 100\text{MHz}$	300		MHZ
Delay time	$t_d$	$V_{CC} = -3V, V_{BE} = -0.5V$ $I_C = -10\text{mA}, I_{B1} = I_{B2} = -1\text{mA}$		35	ns
Rise time	$t_r$			35	ns
Storage time	$t_s$	$V_{CC} = -3V, I_C = -10\text{mA}$ $I_{B1} = I_{B2} = -1\text{mA}$		225	ns
Fall time	$t_f$			75	ns

CLASSIFICATION OF  $h_{FE}(1)$

HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

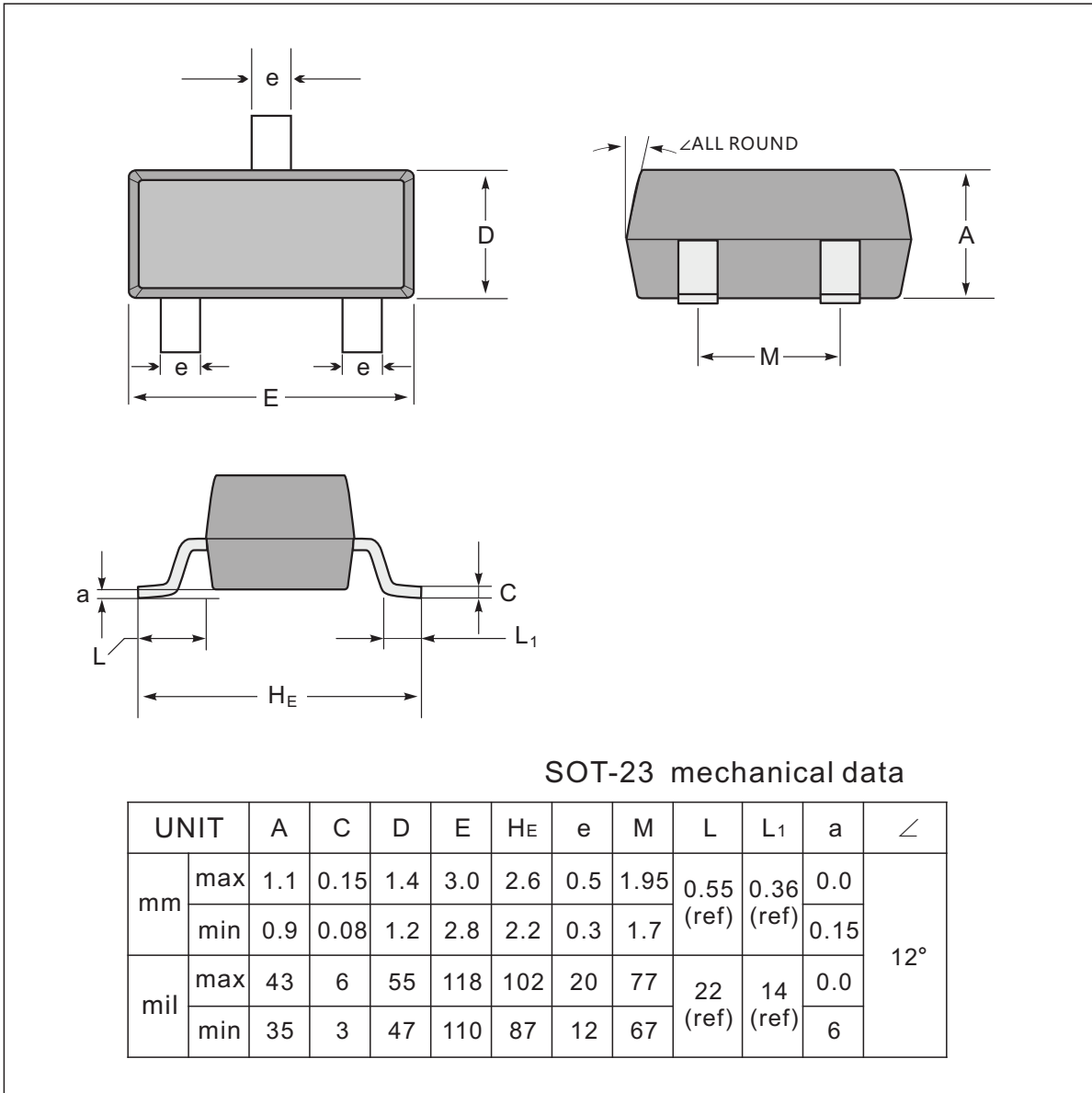


### TYPICAL CHARACTERISTICS

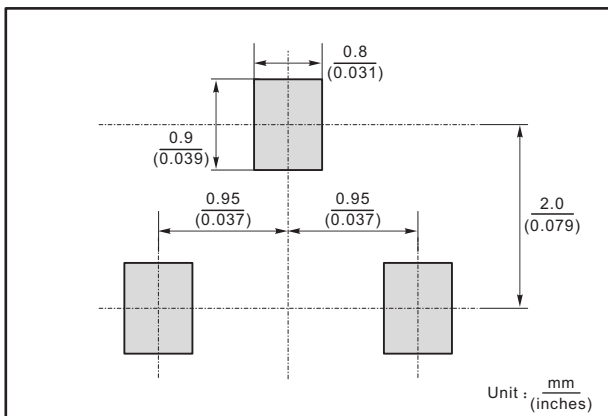




### SOT-23 Package Outline Dimensions



#### The recommended mounting pad size



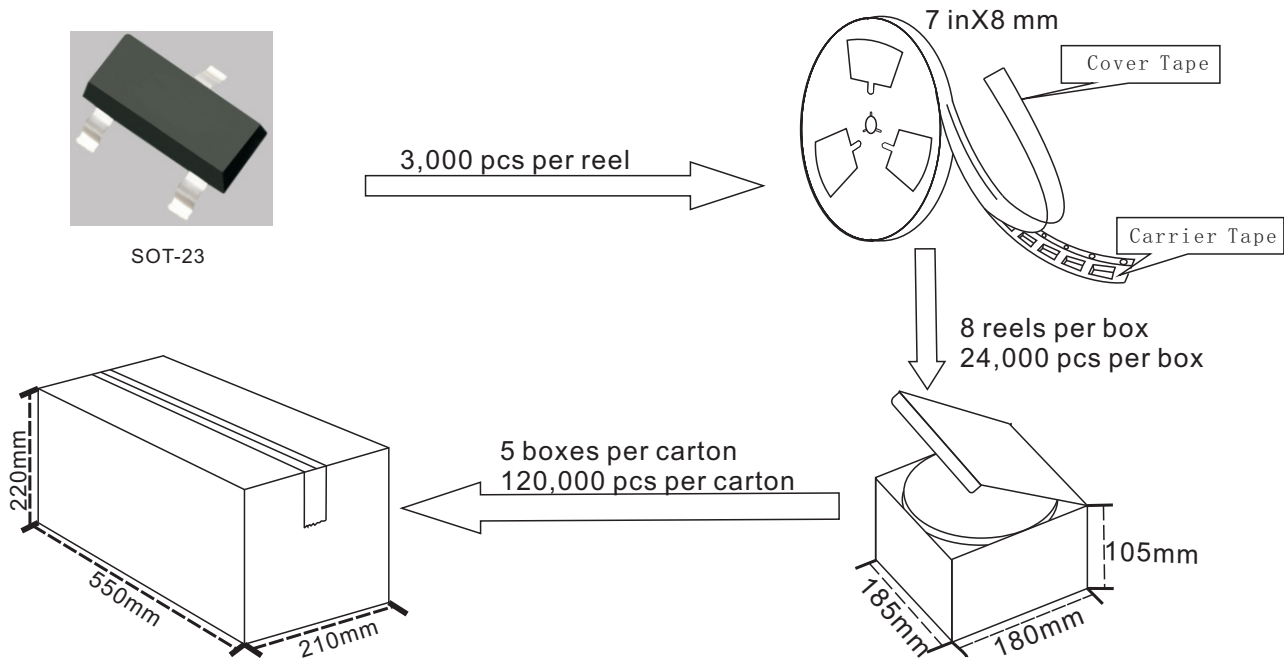
#### Marking

Type number	Marking code
MMBT3906	2A

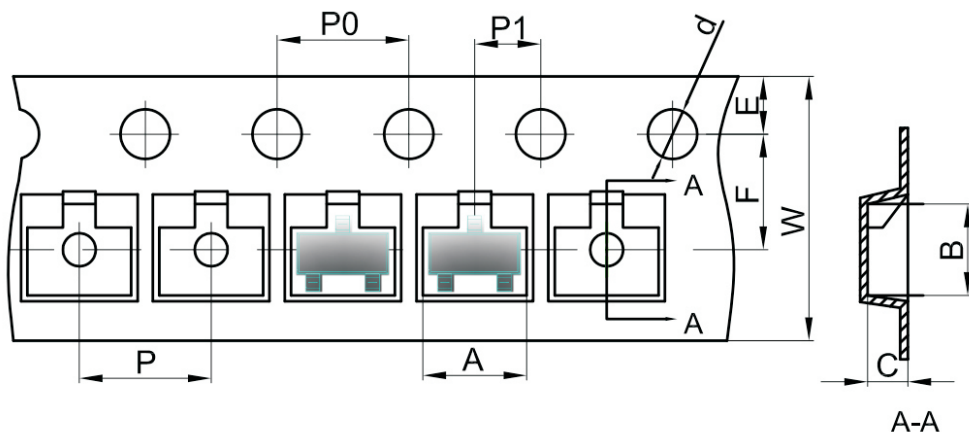


## SOT-23 Packing

1. The method of packaging and dimension are shown as below figure. (Dimension in mm)



### SOT-23 Embossed Carrier Tape



Dimensions are in millimeter

Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

### SOT-23 Tape Leader and Trailer

