

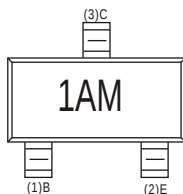


TRANSISTOR(NPN)

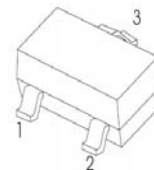
FEATURES

- Complementary Type The PNP Transistor MMBT3906 is Recommended
- Epitaxial Planar Die Construction

MARKING: 1AM



SOT-23



- BASE
- EMITTER
- COLLECTOR

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

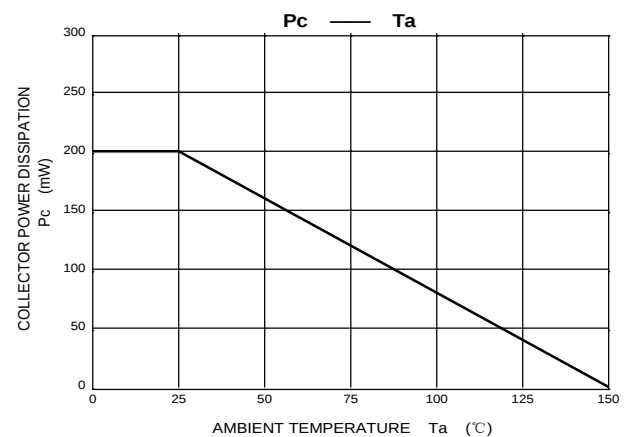
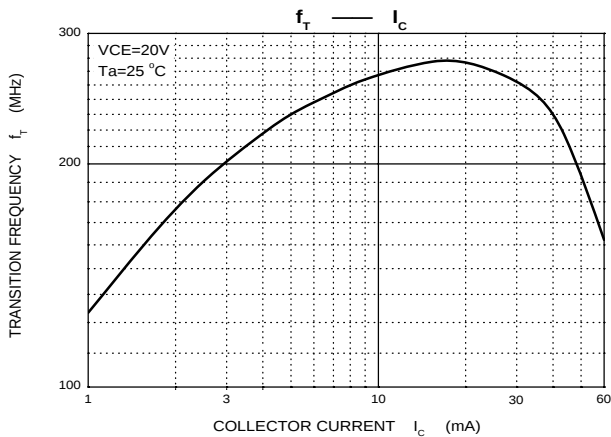
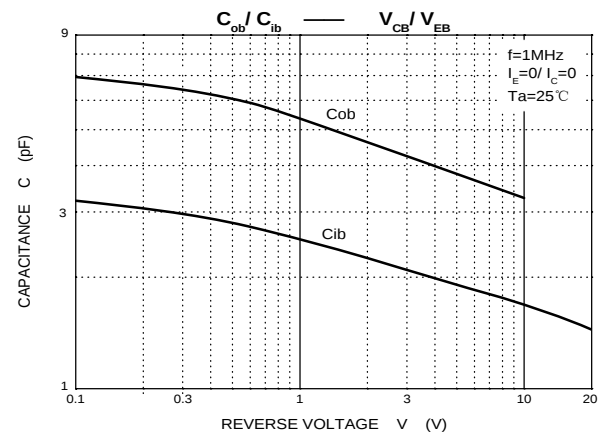
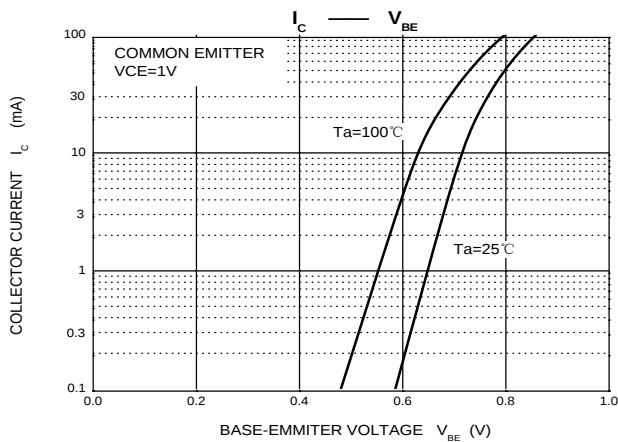
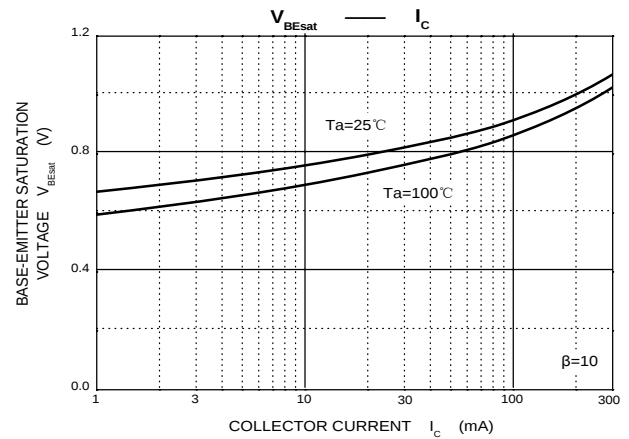
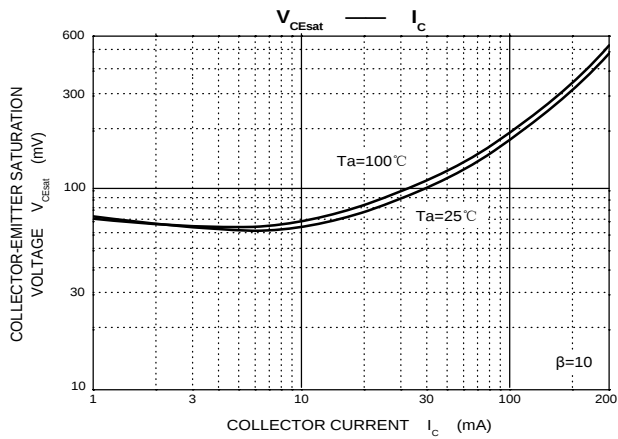
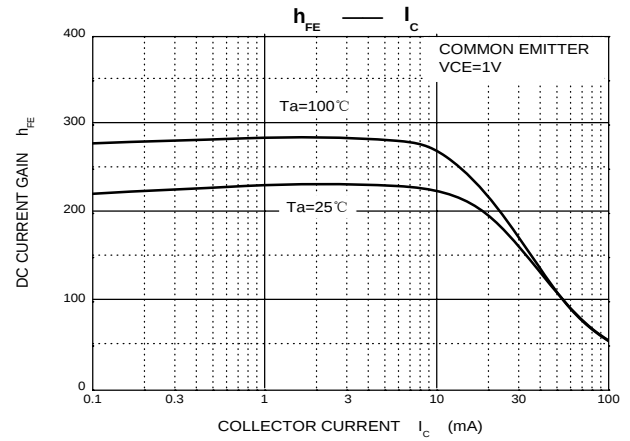
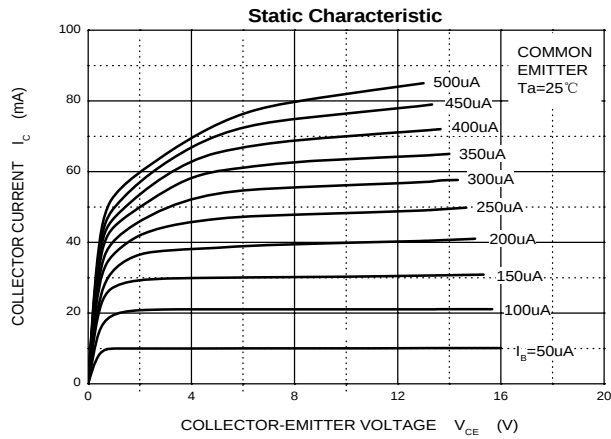
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	200	mA
P_C	Total Device Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction to Ambient	625	$^\circ\text{C}/\text{W}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55 ~ +150	$^\circ\text{C}$

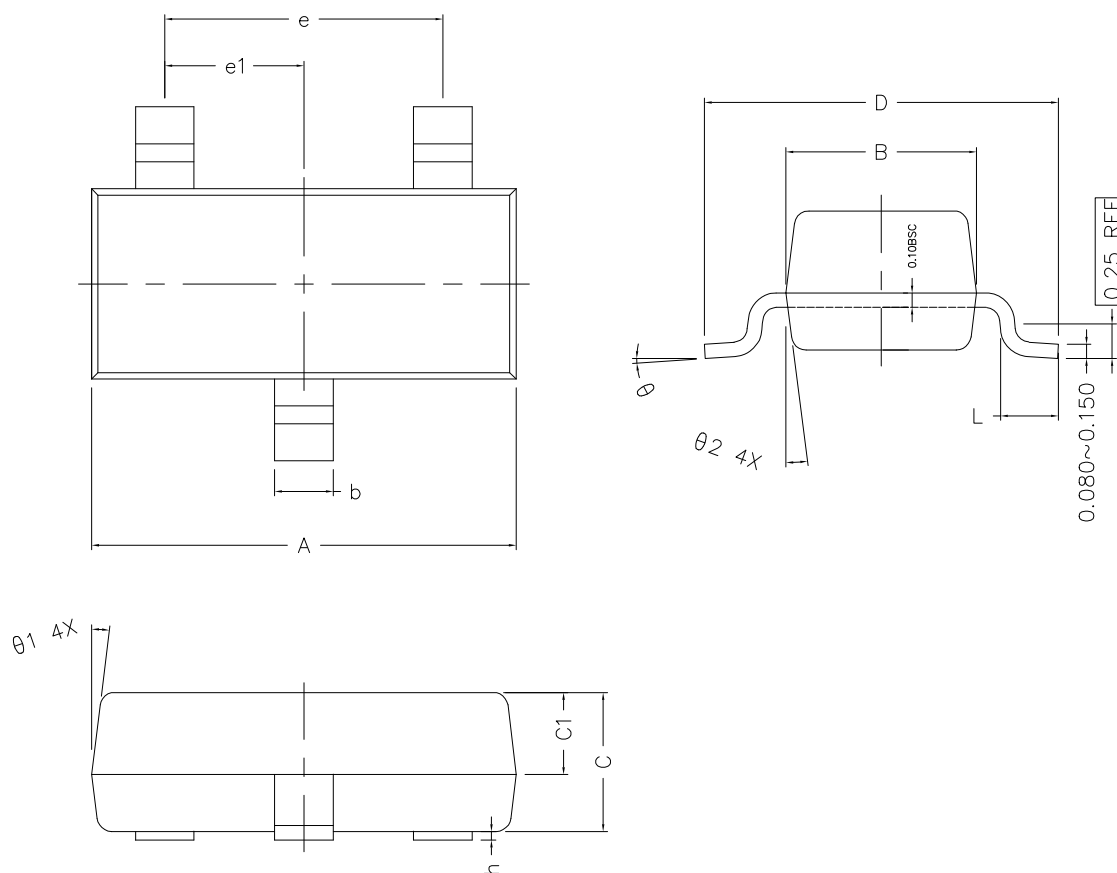
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$		0.1	μA
Collector cut-off current	I_{CEX}	$V_{CE} = 30\text{V}, V_{BE(off)} = 3\text{V}$		50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	100	300	
	$h_{FE(2)}$	$V_{CE} = 1\text{V}, I_C = 50\text{mA}$	60		
	$h_{FE(3)}$	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$		0.3	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	$V_{CE} = 20\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$	300		MHz
Delay Time	t_d	$V_{CC} = 3\text{V}, V_{BE} = -0.5\text{V}$		35	nS
Rise Time	t_r	$I_C = 10\text{mA}, I_{B1} = -I_{B2} = 1.0\text{mA}$		35	nS
Storage Time	t_s	$V_{CC} = 3\text{V}, I_C = 10\text{mA}$		200	nS
Fall Time	t_f	$I_{B1} = -I_{B2} = 1\text{mA}$		50	nS

CLASSIFICATION OF $h_{FE(1)}$

Rank	O	Y	
Range	100-200	200-300	

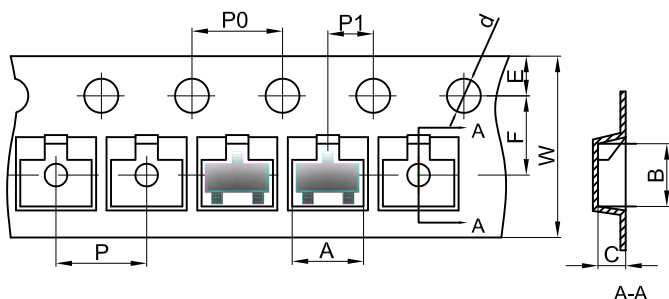


SOT-23 Package Outline Dimensions (Units: mm)


COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A	2.800	2.900	3.000
B	1.200	1.300	1.400
C	0.900	1.000	1.100
C1	0.500	0.550	0.600
D	2.250	2.400	2.550
L	0.300	0.400	0.500
h	0.010	0.050	0.100
b	0.300	0.400	0.500
e	1.90 TYPE		
e1	0.95 TYPE		
$\theta 1$	7° TYPE		
$\theta 2$	7° TYPE		
θ	0° ~ 7°		

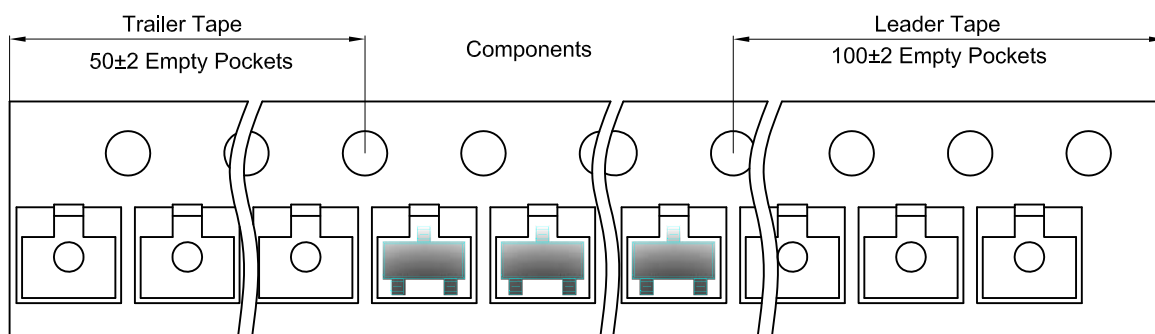
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

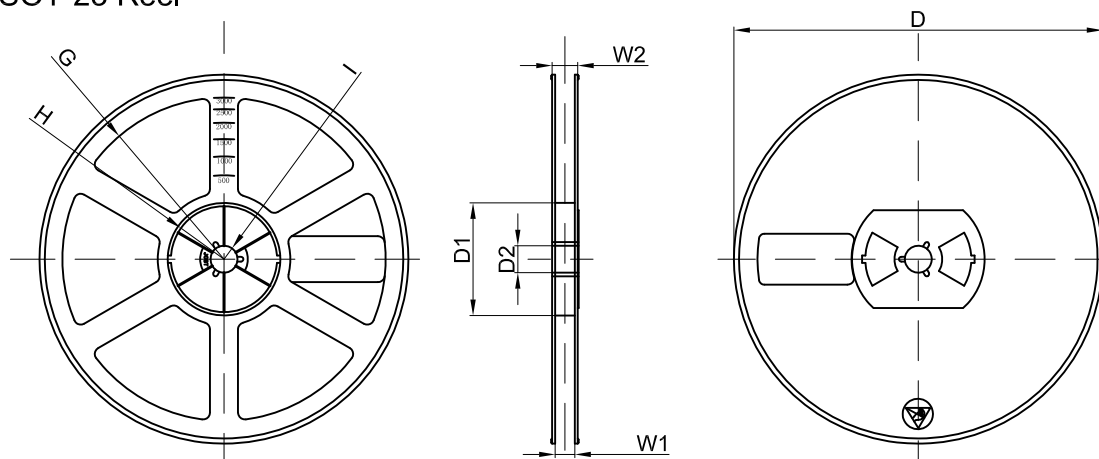


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	192x182x182	180,000 pcs	400x385x205	