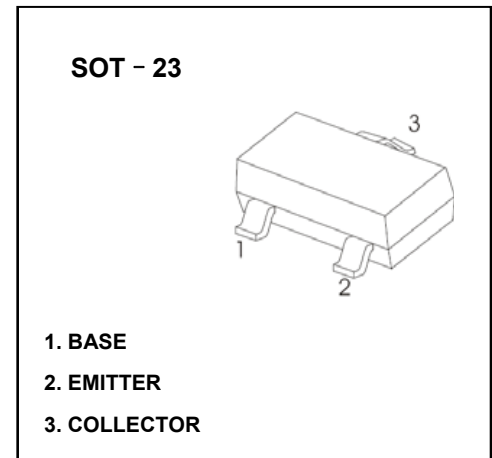


## ■ Features

- Complementary to MMBT3906
- Power Dissipation of 200mW
- High Stability and High Reliability
- Transistor(NPN)

## ■ Mechanical Data

- package:SOT-23
- Flammability rating of epoxy resin: UL 94V-0
- Mounting Position: Any



## ■ Ordering Information

Part Number	Package	Marking	Packing	Quantity per reel	Reel Size
MMBT3904	SOT-23	1AM	Tape & Reel	3,000 PCS	7 inches

## ■ Maximum Ratings & Thermal Characteristics(Ratings at 25 °C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	V
Emitter -Base Voltage	V <sub>EBO</sub>	6	V
Collector Current-Continuous	I <sub>c</sub>	200	mA
Collector Power Dissipation	P <sub>c</sub>	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55-+150	°C
Thermal resistance From junction to ambient	R <sub>θJA</sub>	625	°C/W

**Electrical Characteristics**(Ratings at 25°C ambient temperature unless otherwise specified)

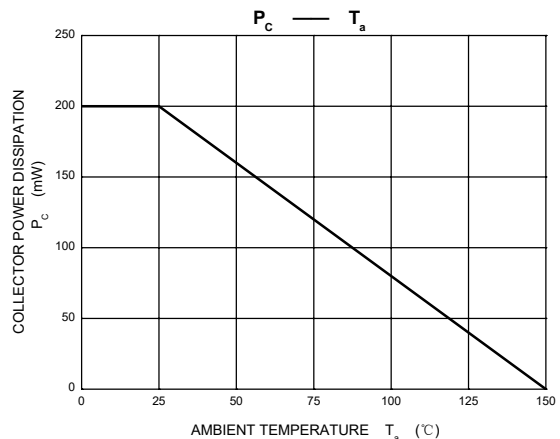
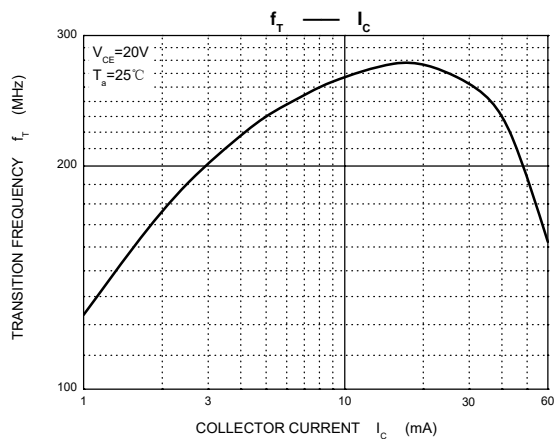
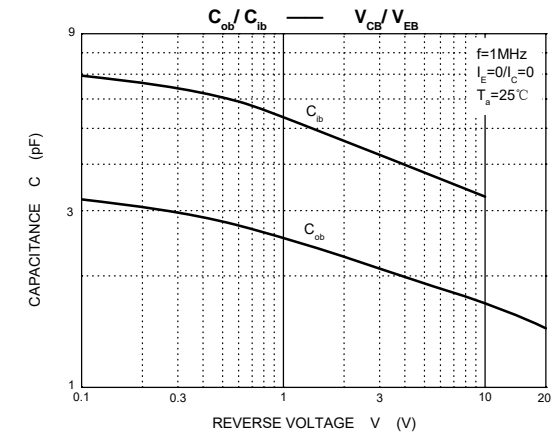
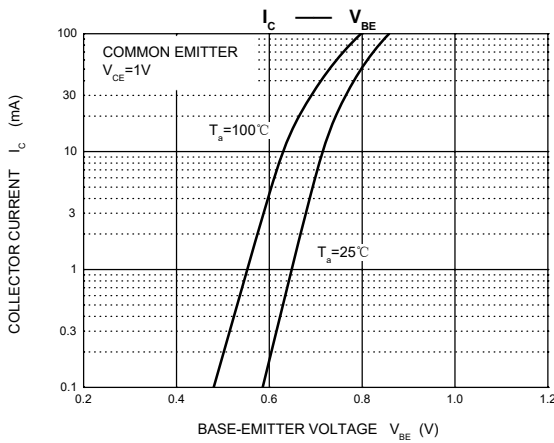
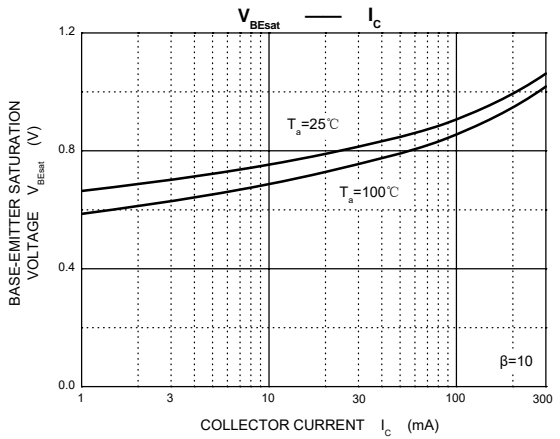
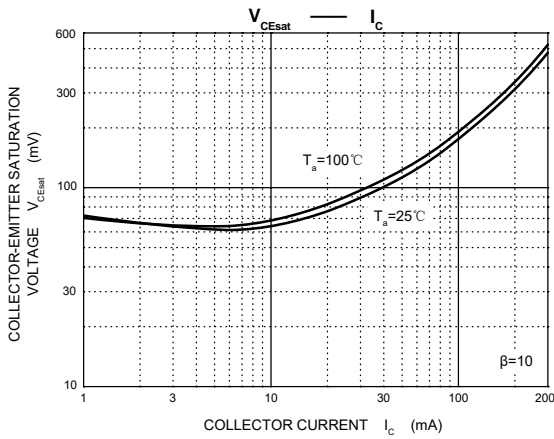
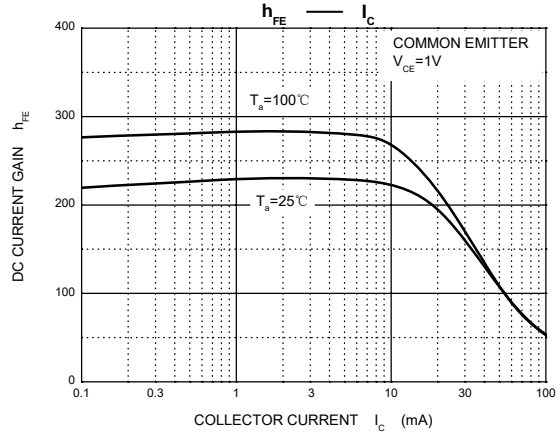
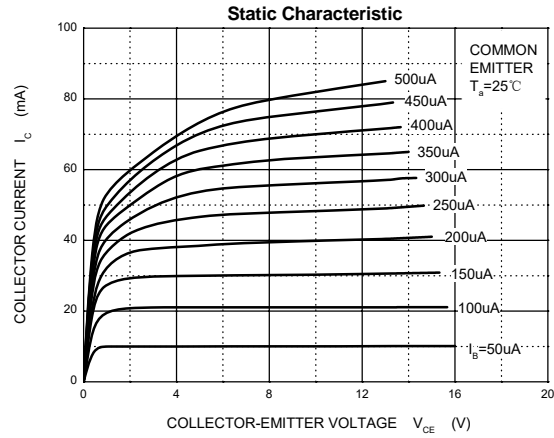
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	<b>V(BR)CBO</b>	IC=10uA, IE=0	60		V
Collector-emitter breakdown voltage	<b>V(BR)CEO</b>	IC=1mA, IB=0	40		V
Emitter-base breakdown voltage	<b>V(BR)EBO</b>	IE=10uA, IC=0	6		V
Collector cut-off current	<b>ICEX</b>	VCE=30V, VEB(off)=3V		50	nA
Collector cut-off current	<b>ICBO</b>	VCB=60V, IE=0		100	nA
Emitter cut-off current	<b>IEBO</b>	VEB=5V, IC=0		100	nA
DC current gain	hFE(1)	VCE=1V, IC=10mA	100	300	
	hFE(2)	VCE=1V, IC=50mA	60		
	hFE(3)	VCE=1V, IC=100mA	30		
Collector-emitter saturation voltage	<b>VCE(sat)</b>	IC=50mA, IB=5mA		0.30	V
Base-emitter saturation voltage	<b>VBE(sat)</b>	IC=50mA, IB=5mA		0.95	V
Transition frequency	<b>fT</b>	VCE=20V, IC=10mA, f=100MHz	300		MHz
Delay time	td	VCC=3V, VBE(off)=-0.5V, IC=10mA, IB1=1mA		35	nS
Rise time	tr	VCC=3V, VBE(off)=-0.5V, IC=10mA, IB1=1mA		35	nS
Storage time	ts	VCC=3V, IC=10mA, IB1=IB2=1mA		200	nS
Fall time	tf	VCC=3V, IC=10mA, IB1=IB2=1mA		50	nS

**Classification Of hFE(1)**

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

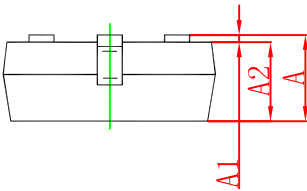
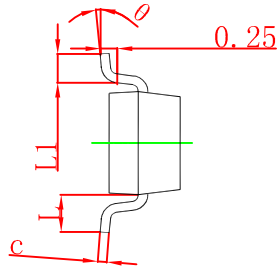
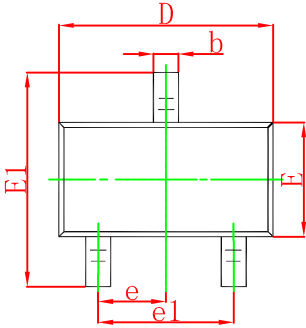


■ Typical Characteristics





■ SOT-23 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°

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