

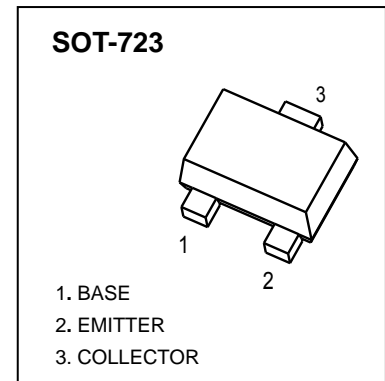
**MMBT3906M** TRANSISTOR (PNP)

**FEATURE**

- Complementary to MMBT3904M
- Small Package

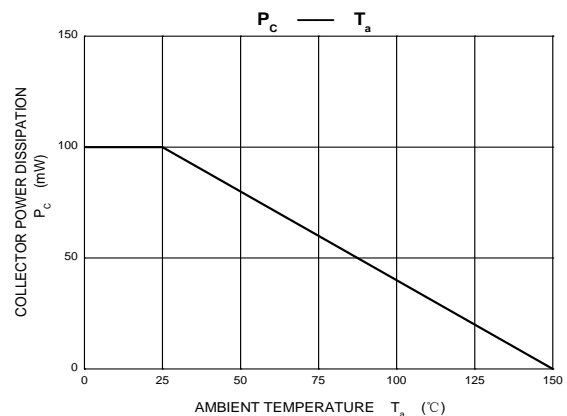
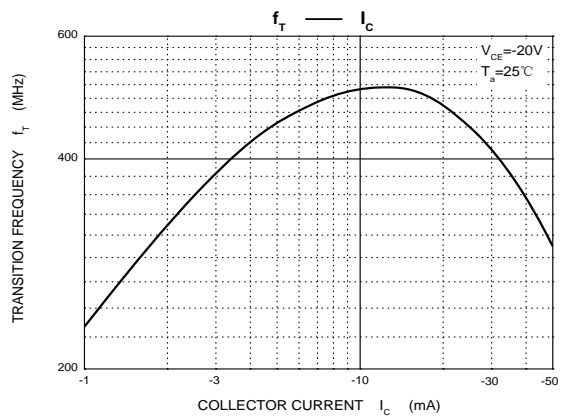
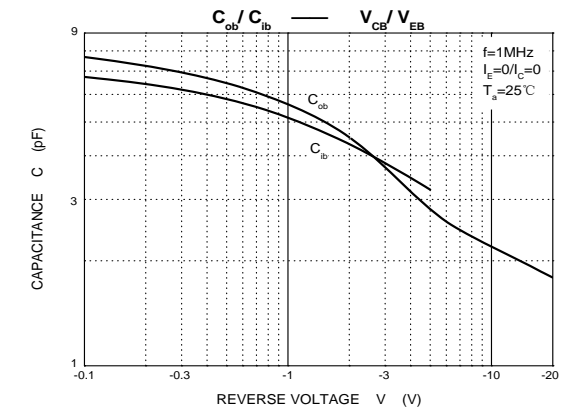
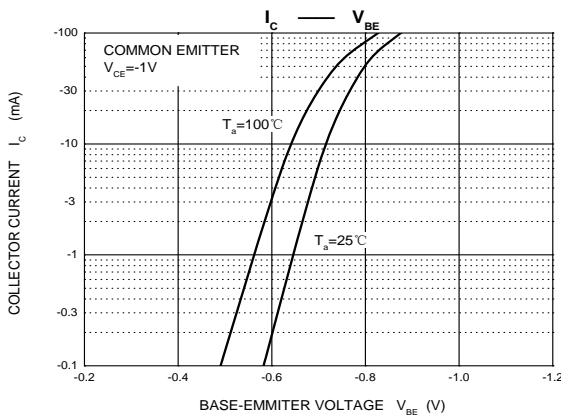
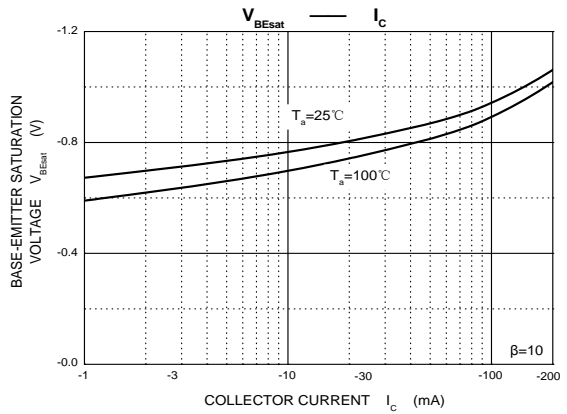
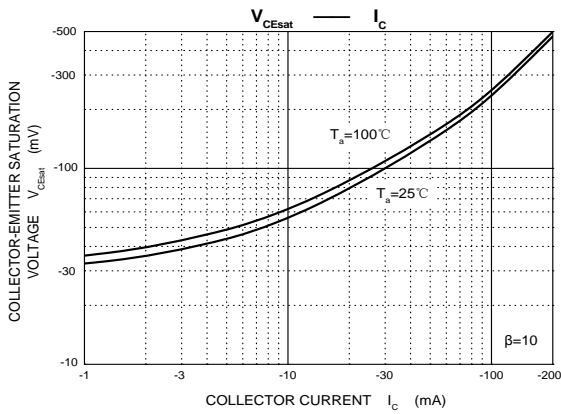
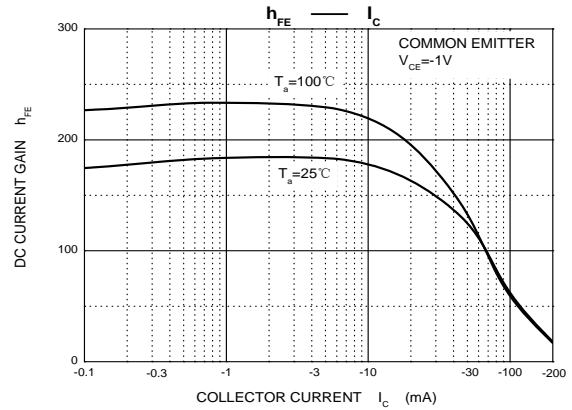
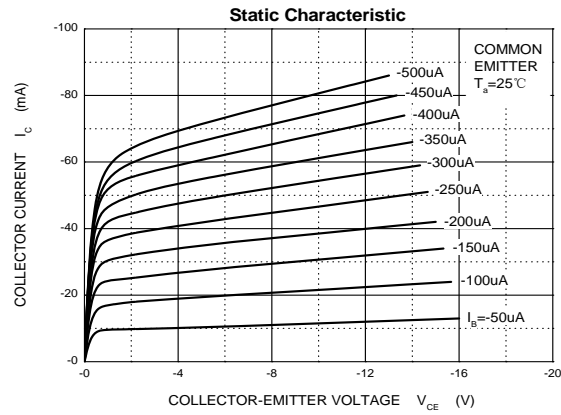
**MARKING: 3N**
**MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	-40	V
V <sub>CE0</sub>	Collector-Emitter Voltage	-40	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>c</sub>	Collector Current -Continuous	-0.2	A
P <sub>c</sub>	Power Dissipation	100	mW
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	1250	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C

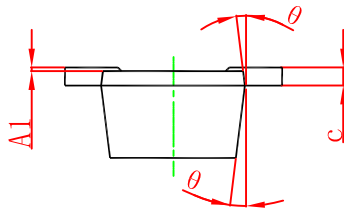
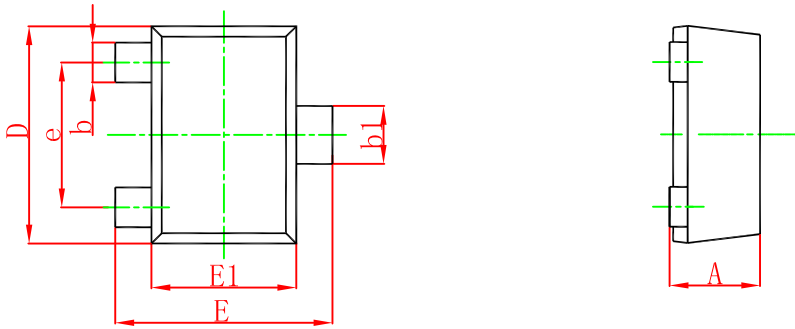

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>c</sub> =-10μA, I <sub>E</sub> =0	-40			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>c</sub> =-1mA, I <sub>B</sub> =0	-40			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-10μA, I <sub>c</sub> =0	-5			V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> =-40V, I <sub>E</sub> =0			-100	nA
Collector cut-off current	I <sub>CEx</sub>	V <sub>CE</sub> =-30V, V <sub>BE(off)</sub> =-3V			-50	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>c</sub> =0			-100	nA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-1V, I <sub>c</sub> =-10mA	100		300	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-1V, I <sub>c</sub> =-50mA	60			
	h <sub>FE(3)</sub>	V <sub>CE</sub> =-2V, I <sub>c</sub> =-100mA	30			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =-50mA, I <sub>B</sub> =-5mA			-0.3	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =-50mA, I <sub>B</sub> =-5mA			-0.95	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-20V, I <sub>c</sub> =-10mA, f=100MHz	300			MHz
Delay time	t <sub>d</sub>	V <sub>CC</sub> =-3V, V <sub>BE(off)</sub> =-0.5V, I <sub>c</sub> =-10mA, I <sub>B1</sub> =I <sub>B2</sub> =-1mA			35	ns
Rise time	t <sub>r</sub>				35	ns
Storage time	t <sub>s</sub>	V <sub>CC</sub> =-3V, I <sub>c</sub> =-10mA, I <sub>B1</sub> =I <sub>B2</sub> =-1mA			225	ns
Fall time	t <sub>f</sub>				75	ns

Typical Characteristics

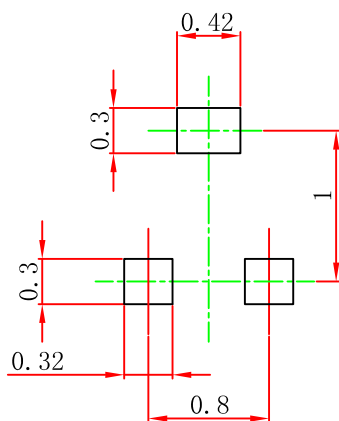


SOT-723 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

SOT-723 Suggested Pad Layout



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance: ± 0.05mm.  
 3. The pad layout is for reference purposes only.