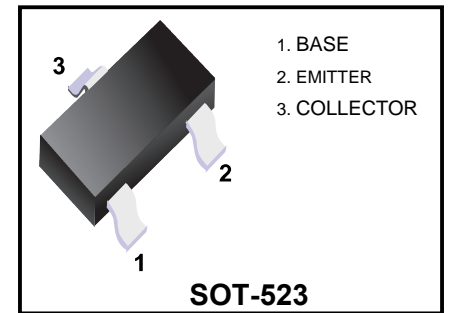


**Plastic-Encapsulate Transistors**

**TRANSISTOR (PNP)**

**FEATURES**

- ◆ Epitaxial planar die construction
- ◆ Complementary PNP Type available(MMBT2222AT)



**Marking Code**

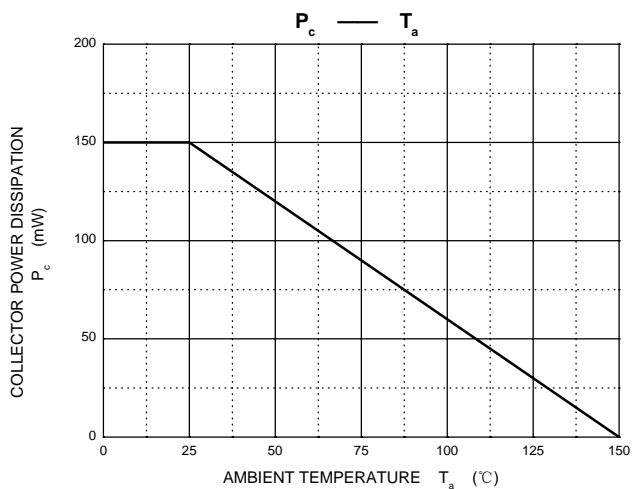
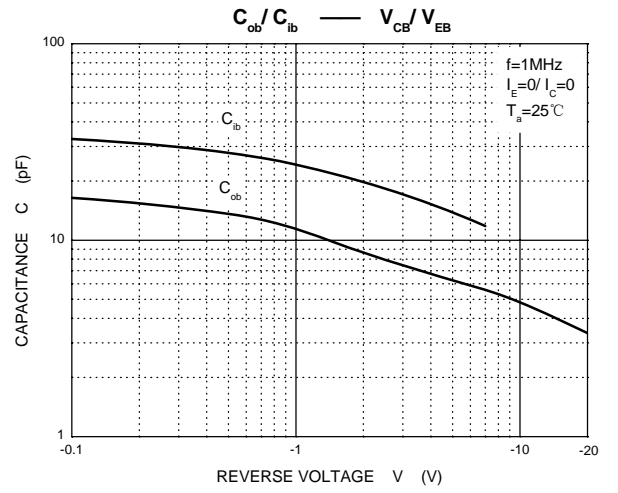
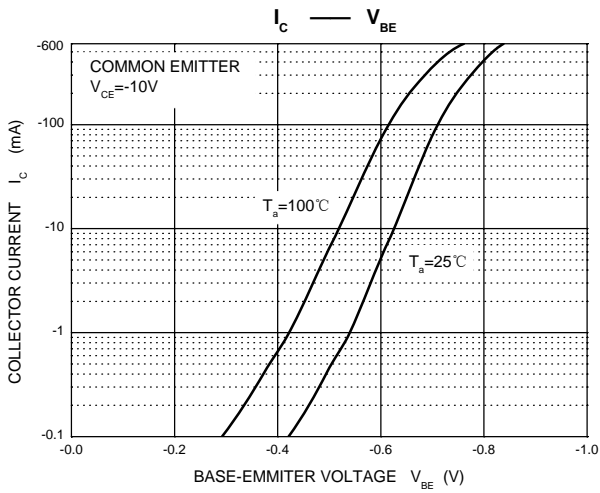
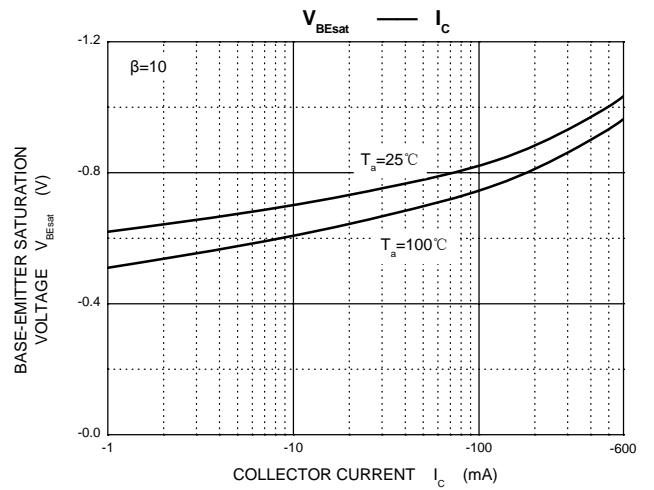
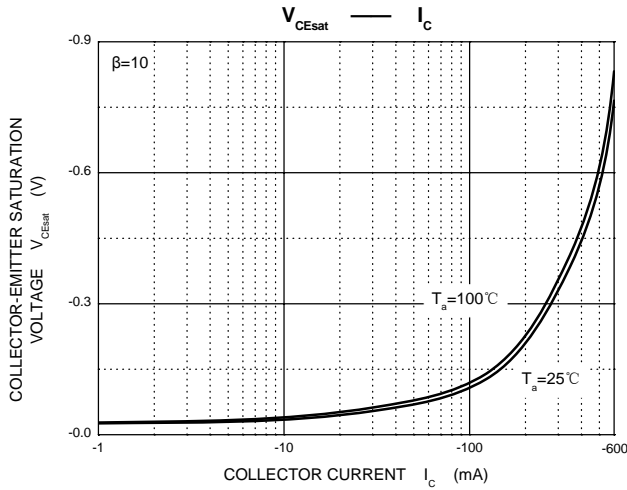
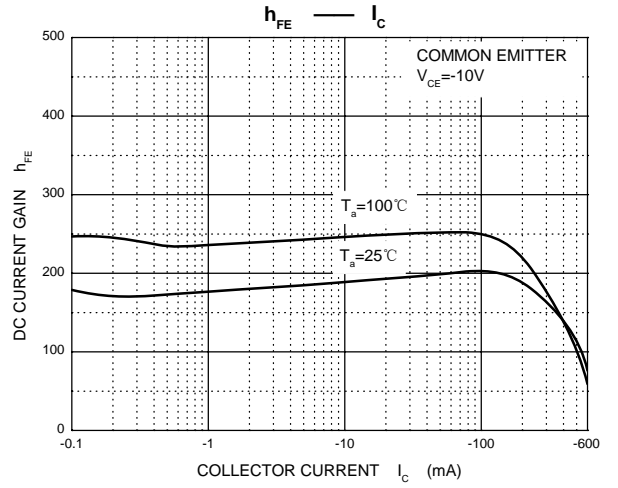
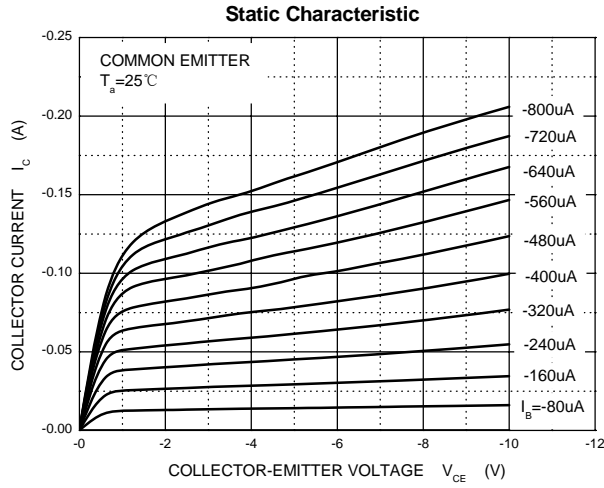
<b>Marking Code</b>	
MMBT2907AT	2F

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

Symbol	Parameter	Value	Unit
<b>V<sub>CBO</sub></b>	Collector-Base Voltage	-60	V
<b>V<sub>CEO</sub></b>	Collector-Emitter Voltage	-60	V
<b>V<sub>EBO</sub></b>	Emitter-Base Voltage	-5	V
<b>I<sub>C</sub></b>	Collector Current -Continuous	-0.6	A
<b>P<sub>C</sub></b>	Collector Dissipation	0.2	W
<b>T<sub>J</sub></b>	Junction Temperature	150	°C
<b>T<sub>stg</sub></b>	Storage Temperature	-55 to +150	°C

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
<b>Collector-base breakdown voltage</b>	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-60			V
<b>Collector-emitter breakdown voltage</b>	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	-60			V
<b>Emitter-base breakdown voltage</b>	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-10μA, I <sub>C</sub> =0	-5			V
<b>Collector cut-off current</b>	I <sub>CBO</sub>	V <sub>CB</sub> =-50V, I <sub>E</sub> =0			-100	nA
<b>Collector cut-off current</b>	I <sub>CES</sub>	V <sub>CB</sub> =-30V, I <sub>B</sub> =0			-100	nA
<b>Emitter cut-off current</b>	I <sub>EBO</sub>	V <sub>EB</sub> =-3V, I <sub>C</sub> =0			-100	nA
<b>DC current gain</b>	h <sub>FE(1)</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-0.1mA	75			
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-1mA	100			
	h <sub>FE(3)</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-10mA	100			
	h <sub>FE(4)</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-150mA	100		300	
	h <sub>FE(5)</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-500mA	50			
<b>Collector-emitter saturation voltage</b>	V <sub>CE(sat)</sub>	I <sub>C</sub> =-150mA, I <sub>B</sub> =-15mA			-0.4	V
	V <sub>CE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA			-1.6	V
<b>Base-emitter saturation voltage</b>	V <sub>BE(sat)</sub>	I <sub>C</sub> =-150mA, I <sub>B</sub> =-15mA	-0.6		-1.3	V
	V <sub>BE(sat)</sub>	I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA			-2.6	V
<b>Transition frequency</b>	f <sub>T</sub>	V <sub>CE</sub> =-20V, I <sub>C</sub> =-50mA, f=100MHz	200			MHz
<b>Output capacitance</b>	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=0.1MHz			8	pF
<b>Input capacitance</b>	C <sub>ib</sub>	V <sub>EB</sub> =-2V, I <sub>C</sub> =0, f=0.1MHz			30	pF
<b>Delay time</b>	t <sub>d</sub>	V <sub>CC</sub> =-30V, V <sub>BE(off)</sub> =-1.5V, I <sub>C</sub> =-150mA			10	ns
<b>Rise time</b>	t <sub>r</sub>	I <sub>B1</sub> =-15mA			40	ns
<b>Storage time</b>	t <sub>s</sub>	V <sub>CC</sub> =-30V, I <sub>C</sub> =-150mA, I <sub>B1</sub> =-I <sub>B2</sub> =-15mA			80	ns
<b>Fall time</b>	t <sub>f</sub>				30	ns



**Ordering information**

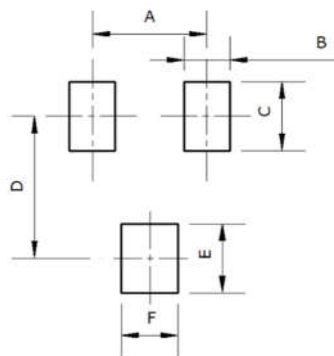
Package	Packing Description	Base Quantity	Packing Quantity
SOT-523	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

**Package Dimensions**

**SOT-523**

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	1.50	1.70	59	67
B	0.75	0.85	30	33
C	1.45	1.75	57	69
D	0.50TYP		0.020TYP	
E	0.90	1.10	35	43
G	0.00	0.10	0	4
H	0.60	0.80	24	31
J	0.10	0.20	4	8
K	0.15	0.35	6	14
L	0.26	0.46	10	18

**The recommended mounting pad size**



Millimeter (mm)	
Dim.	TYP
A	1.00
B	0.40
C	0.60
D	1.24
E	0.60
F	0.50

## Disclaimer

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