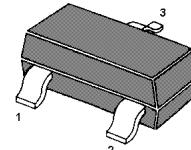


## **SOT-23 Plastic-Encapsulate Transistors**

**MMBT2907A** TRANSISTOR (PNP)

### **FEATURES**

- Epitaxial planar die construction
- Complementary NPN Type available(MMBT2222A)



**Marking: 2F**

1. Base 2.Emitter 3.Collector  
SOT-23 Plastic Package

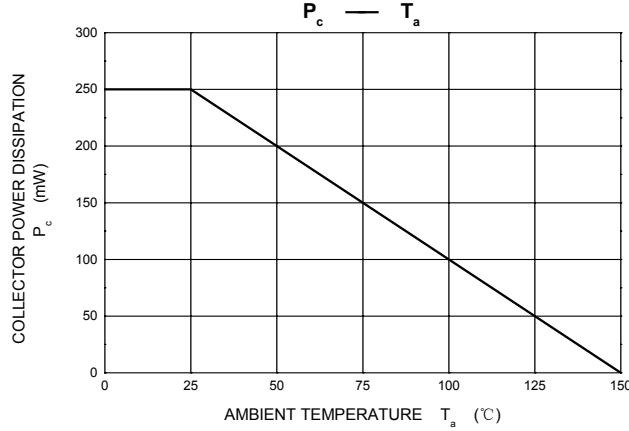
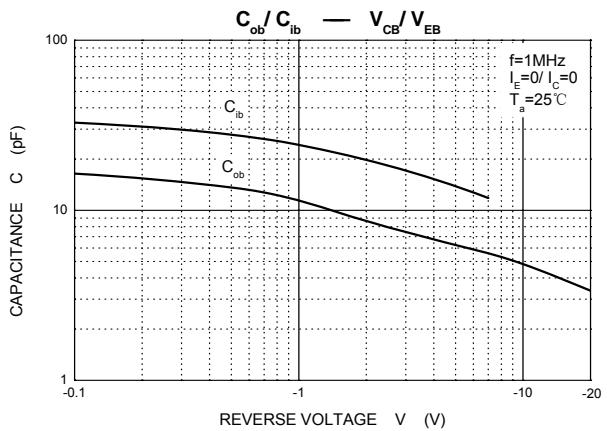
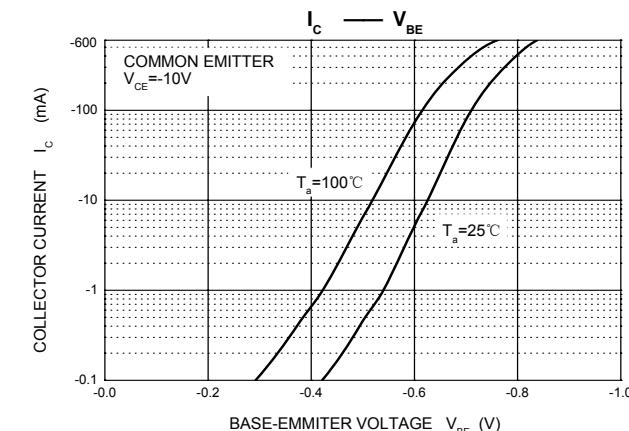
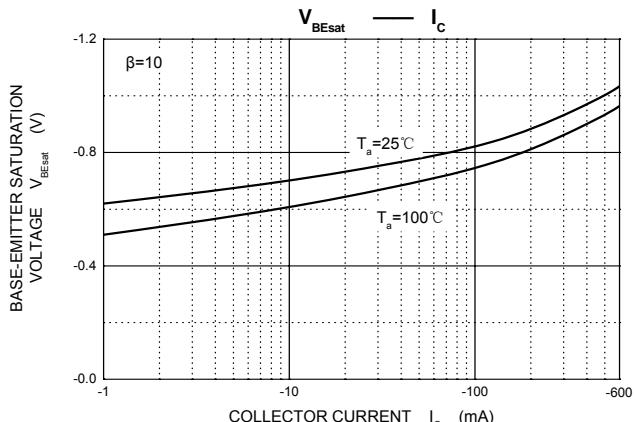
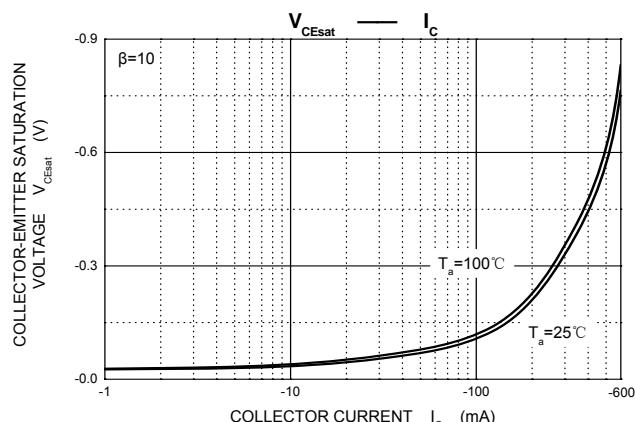
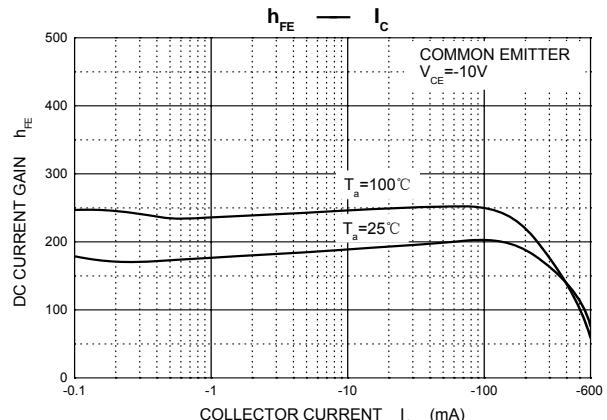
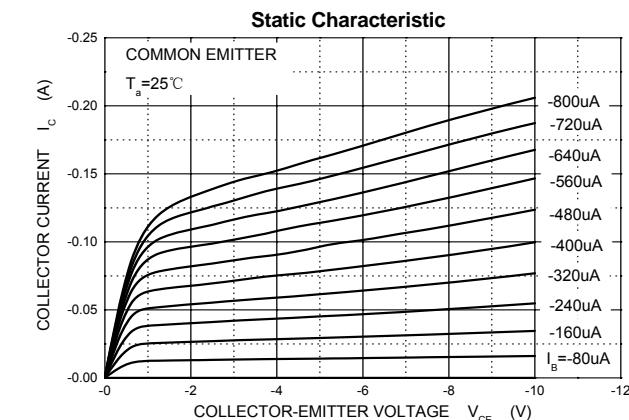
### **MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)**

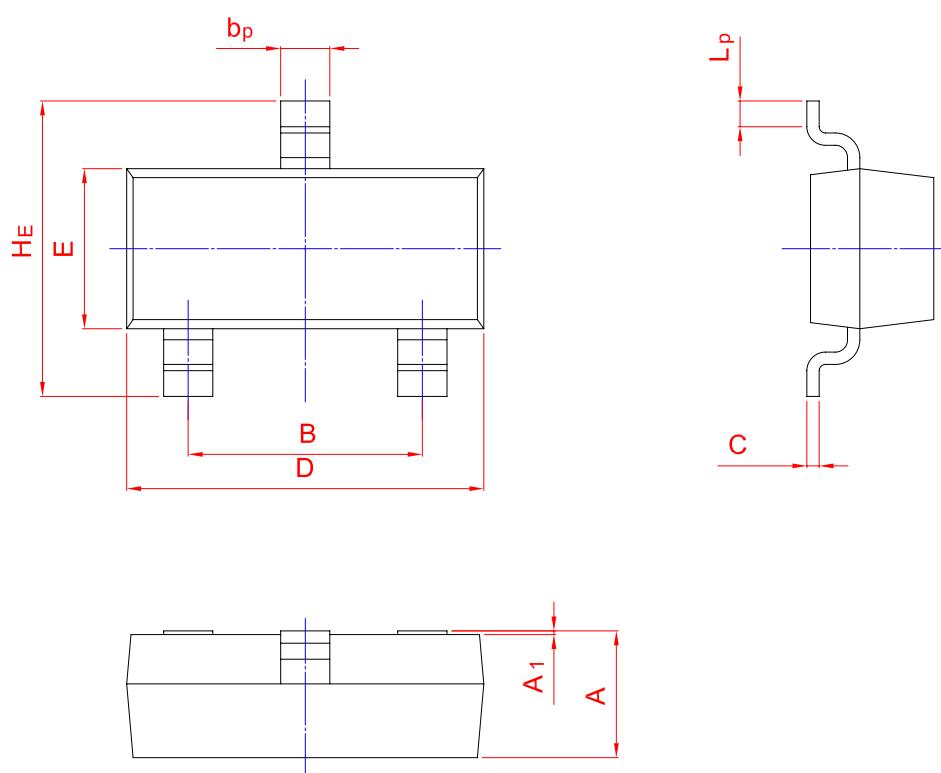
Symbol	Parameter	Value	Unit
$V_{\text{CBO}}$	Collector-Base Voltage	-60	V
$V_{\text{CEO}}$	Collector-Emitter Voltage	-60	V
$V_{\text{EBO}}$	Emitter-Base Voltage	-5	V
$I_c$	Collector Current -Continuous	-600	mA
$P_D$	Total Device Dissipation	250	mW
$R_{\text{JA}}$	Thermal Resistance Junction to Ambient	500	°C/W
$T_J$	Junction Temperature	150	°C
$T_{\text{stg}}$	Storage Temperature	-55 to +150	°C

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_c=-10\mu\text{A}, I_b=0$	-60			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}^*$	$I_c=-10\text{mA}, I_b=0$	-60			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_e=-10\mu\text{A}, I_c=0$	-5			V
Collector cut-off current	$I_{\text{CBO}}$	$V_{\text{CB}}=-50\text{V}, I_b=0$			-10	nA
DC current gain	$h_{\text{FE}}(1)^*$	$V_{\text{CE}}=-10\text{V}, I_c=-0.1\text{mA}$	75			
	$h_{\text{FE}}(2)^*$	$V_{\text{CE}}=-10\text{V}, I_c=-1\text{mA}$	100			
	$h_{\text{FE}}(3)^*$	$V_{\text{CE}}=-10\text{V}, I_c=-10\text{mA}$	100			
	$h_{\text{FE}}(4)^*$	$V_{\text{CE}}=-10\text{V}, I_c=-150\text{mA}$	100		300	
	$h_{\text{FE}}(5)^*$	$V_{\text{CE}}=-10\text{V}, I_c=-500\text{mA}$	50			
Collector-emitter saturation voltage	$V_{\text{CE}(\text{sat})}^*$	$I_c=-150\text{mA}, I_b=-15\text{mA}$			-0.4	V
	$V_{\text{CE}(\text{sat})}^*$	$I_c=-500\text{mA}, I_b=-50\text{mA}$			-1.60	V
Base-emitter saturation voltage	$V_{\text{BE}(\text{sat})}^*$	$I_c=-150\text{mA}, I_b=-15\text{mA}$			-1	V
	$V_{\text{BE}(\text{sat})}^*$	$I_c=-500\text{mA}, I_b=-50\text{mA}$			-2.6	V
Transition frequency	$f_T$	$V_{\text{CE}}=-20\text{V}, I_c=-50\text{mA}, f=100\text{MHz}$	200			MHz
Delay time	$t_d$	$V_{\text{CE}}=-30\text{V}, I_c=-150\text{mA}, I_b=-15\text{mA}$			10	ns
Rise time	$t_r$				40	ns
Storage time	$t_s$	$V_{\text{CE}}=-6\text{V}, I_c=-150\text{mA}, I_b=-15\text{mA}$			80	ns
Fall time	$t_f$				30	ns

## Typical Characteristics



**PACKAGE OUTLINE**
**Plastic surface mounted package; 3 leads**
**SOT-23**


<b>UNIT</b>	<b>A</b>	<b>B</b>	<b>b<sub>p</sub></b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>H<sub>E</sub></b>	<b>A<sub>1</sub></b>	<b>L<sub>p</sub></b>
<b>mm</b>	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20

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