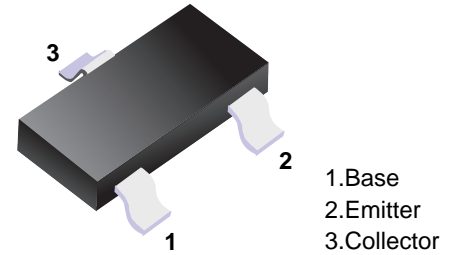


# MMBT2907A

■ PNP Transistors



■ Simplified outline(SOT-23)

■ Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available(MMBT2222A)

■ Marking

Marking	2F
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■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V <sub>CB0</sub>	-60	V
Collector - Emitter Voltage	V <sub>CE0</sub>	-60	
Emitter - Base Voltage	V <sub>EB0</sub>	-5	
Collector Current - Continuous	I <sub>c</sub>	600	mA
Power Dissipation	P <sub>d</sub>	250	mW
Thermal resistance from junction to ambient	R <sub>θJA</sub>	500	°C/W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to 150	

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -100 μA, I <sub>E</sub> = 0	-60		V
Collector-Emitter Breakdown Voltage*	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -10 mA, I <sub>B</sub> = 0	-60		V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -100 μA, I <sub>C</sub> = 0	-5		V
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = -50 V, I <sub>E</sub> = 0		-20	nA
Collector Cutoff Current	I <sub>CEX</sub>	V <sub>CE</sub> = -30 V, V <sub>EB(off)</sub> = 0.5V		-50	nA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -0.1mA	75		
		V <sub>CE</sub> = -10V, I <sub>C</sub> = -1mA	100		
		V <sub>CE</sub> = -10V, I <sub>C</sub> = -10mA	100		
		V <sub>CE</sub> = -10V, I <sub>C</sub> = -150mA	100	300	
		V <sub>CE</sub> = -10V, I <sub>C</sub> = -500mA	50		
Collector-Emitter Saturation Voltage *	V <sub>CE(sat)</sub>	I <sub>C</sub> = -150 mA, I <sub>B</sub> = -15 mA		-0.4	V
		I <sub>C</sub> = -500 mA, I <sub>B</sub> = -50 mA		-1.6	V
Base-Emitter Saturation Voltage *	V <sub>BE(sat)</sub>	I <sub>C</sub> = -150 mA, I <sub>B</sub> = -15 mA		-1.3	V
		I <sub>C</sub> = -500 mA, I <sub>B</sub> = -50 mA		-2.6	V
Current Gain - Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -20V, I <sub>C</sub> = -50mA, f = 100MHz	200		MHz
Delay Time	t <sub>d</sub>	V <sub>CC</sub> = -30 V, I <sub>C</sub> = -150 mA, I <sub>B1</sub> = -15 mA		10	ns
Rise Time	t <sub>r</sub>			40	ns
Storage Time	t <sub>s</sub>	V <sub>CC</sub> = -6.0 V, I <sub>C</sub> = -150 mA, I <sub>B1</sub> = I <sub>B2</sub> = -15 mA		80	ns
Fall Time	t <sub>f</sub>			30	ns

\* Pulse test: Pulse width ≤ 300 μs, duty cycle ≤ 2.0%

■ Typical Characteristics

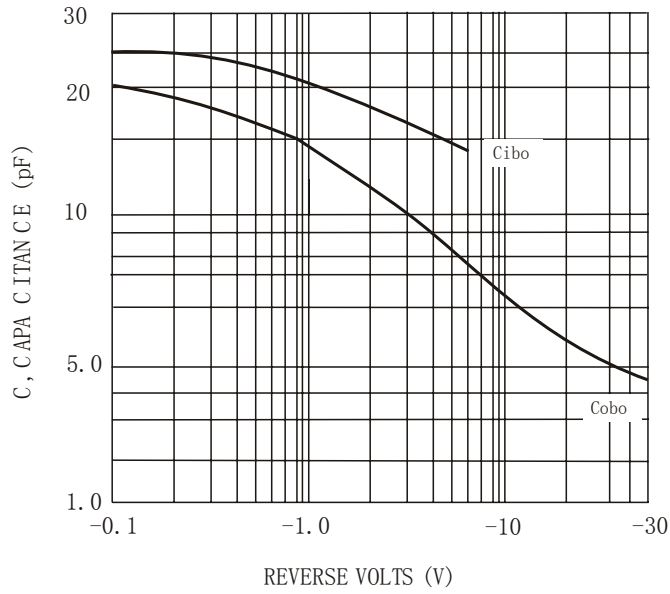


Fig. 1 Typical Capacitance

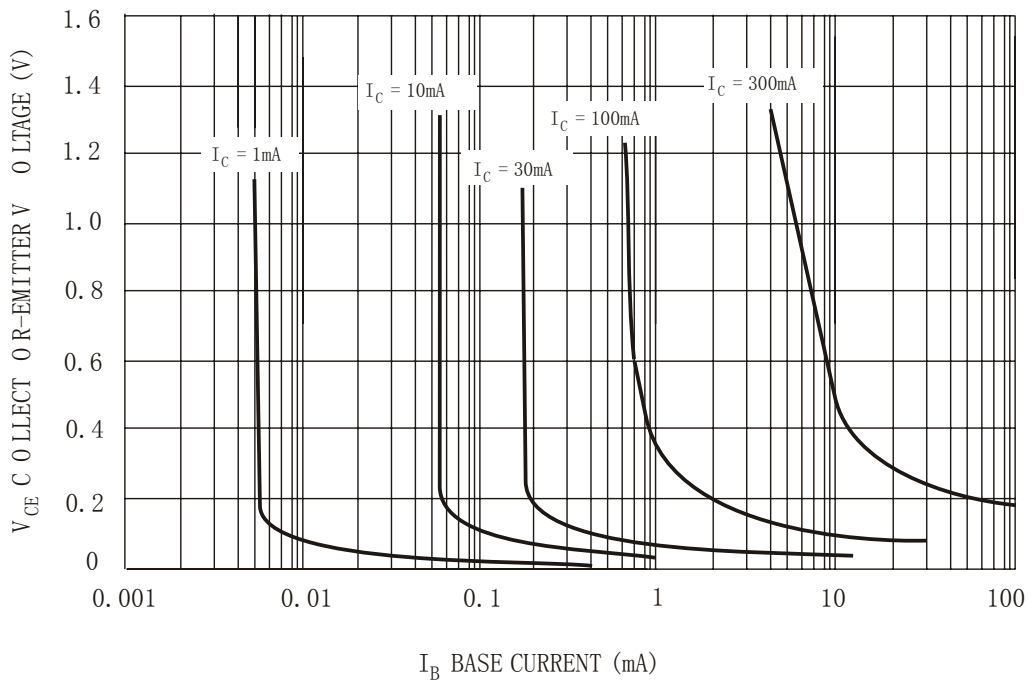
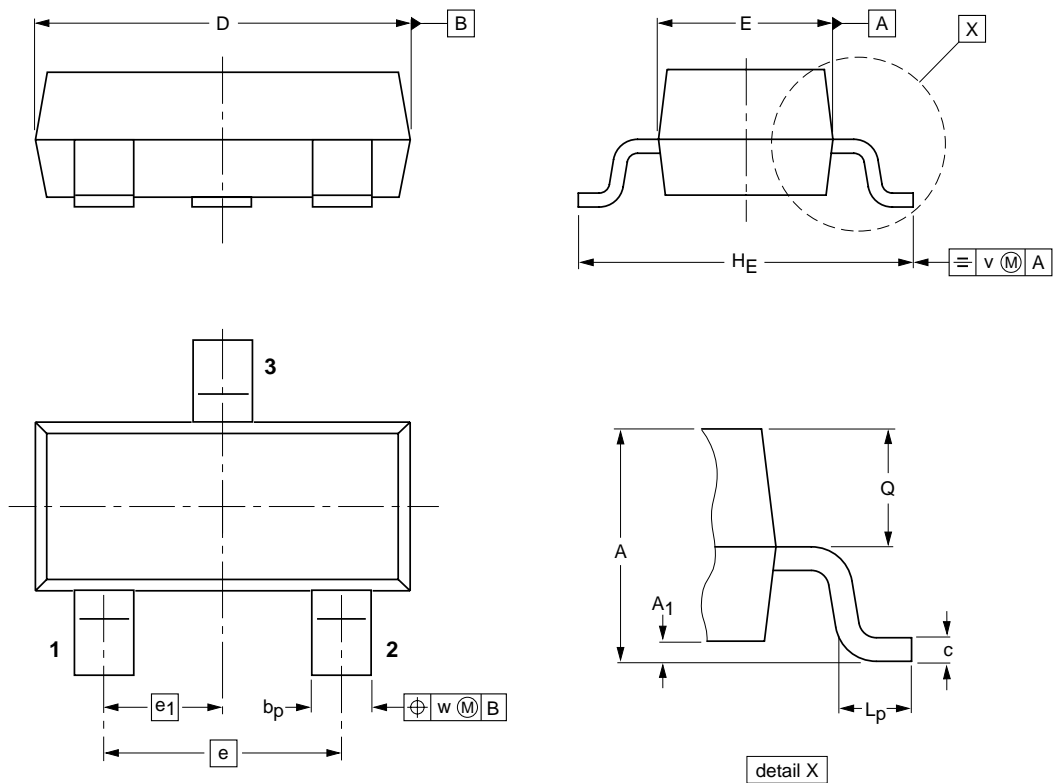


Fig. 2 Typical Collector Saturation Region

■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1