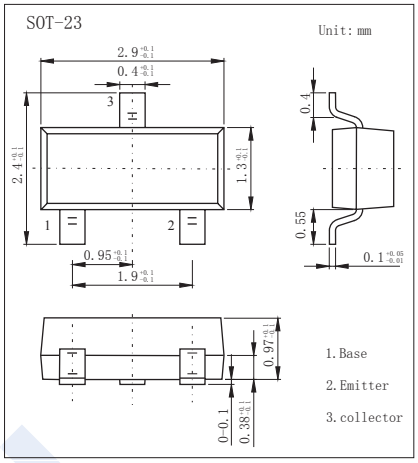
PNP Transistors

2SA1411



■ Features

- Very high DC current gain:h_{FE}=500 to 1600.
- High V_{EBO} Voltage:V_{EBO}=-10V

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-25	V
Collector-emitter voltage	V_{CEO}	-25	V
Emitter-base voltage	V_{EBO}	-10	V
Collector current	I_C	-150	mA
Total power dissipation at 25℃ ambient temperature	P_T	200	mW
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= -100 μA， I_E=0	-25			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= -1 mA， I_B=0	-25			
Emitter - base breakdown voltage	V_{EBO}	I_E= -100 μ A， I_C=0	-10			
Collector-base cut-off current	I_{CBO}	V_{CB}= -25 V , I_E=0			-0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= -7V , I_C=0			-0.1	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C=-50mA, I_B=- 5mA		-0.15	-0.3	V
Base - emitter saturation voltage *	$V_{BE(sat)}$	I_C=-50mA, I_B=- 5mA		-0.8	-1.2	
Base - emitter saturation voltage *	V_{BE}	V_{CE}= -5V, I_C= -1mA		-580		mV
DC current gain *	h_{FE}	V_{CE}= -5V, I_C= -1mA	500	1000	1600	
		V_{CE}= -5V, I_C= -100mA	200	400		
Turn-on time	t_{on}	I_C=-50mA,$V_{BE(off)}$=2.7V V_{CC}=-10V,I_{B1}=I_{B2}=-1mA		0.12		ns
Storage time	t_s			0.58		
Turn-off time	t_{off}			0.75		
Output capacitance	C_{ob}	V_{CB}= -5V, I_E= 0,f-1MHz		4.6		pF
Transition frequency	f_T	V_{CE}= -5V, I_E= -10mA		200		MHz

* PW≤350us,duty cycle≤2%

■ Classification of hfe

Marking	M15	M16
hFE	500～1000	800～1600