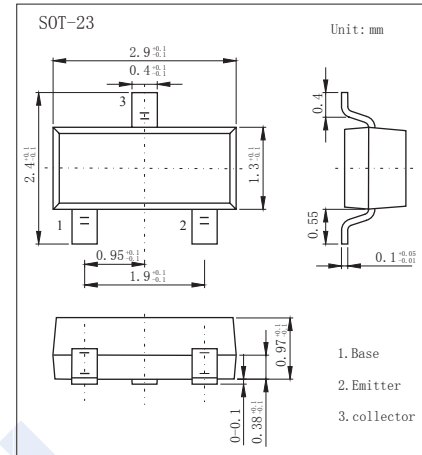


PNP Transistors

2SA1331

■ Features

- Fast switching speed.
- High breakdown voltage.
- Small-sized package permitting the 2SA1331/2SC3361-applied sets to be made small and slim.



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	-60	V
Collector - Emitter Voltage	V _{CEO}	-50	
Emitter - Base Voltage	V _{EB0}	-5	
Collector Current - Continuous	I _C	-150	mA
Collector Power Dissipation	P _C	150	mW
Junction Temperature	T _J	125	°C
Storage Temperature range	T _{stg}	-55 to 125	

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V _{CB0}	I _C = -100 μA, I _E = 0	-60			V
Collector- emitter breakdown voltage	V _{CEO}	I _C = -1 mA, R _{BE} = ∞	-50			
Emitter - base breakdown voltage	V _{EB0}	I _E = -100 μA, I _C = 0	-5			
Collector-base cut-off current	I _{CBO}	V _{CB} = -40 V, I _E = 0			-100	nA
Emitter cut-off current	I _{EBO}	V _{EB} = -4V, I _C = 0			-100	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = -10 mA, I _B = -1mA		-0.1	-0.4	V
Base - emitter saturation voltage	V _{BE(sat)}	I _C = -10 mA, I _B = -1mA		-0.75	-1.1	
DC current gain	h _{FE}	V _{CE} = -6V, I _C = -1mA	90		400	
Delay time	t _d			40	ns	
Rise time	t _r			120		
Storage time	t _s			190		
Fall time	t _f			200		
Common base output capacitance	C _{ob}	V _{CB} = -6V, f = 100MHz		3.5		pF
Transition frequency	f _T	V _{CE} = -6V, I _C = -1mA		100		MHz

■ Classification of h_{FE}

Type	2SA1331-O4	2SA1331-O5	2SA1331-O6
Range	90-180	135-270	200-400
Marking	O4	O5	O6

2SA1331

Typical Characteristics

