

UN2121/2122/2123/2124/212X/212Y

Silicon PNP epitaxial planer transistor

For digital circuits

Features

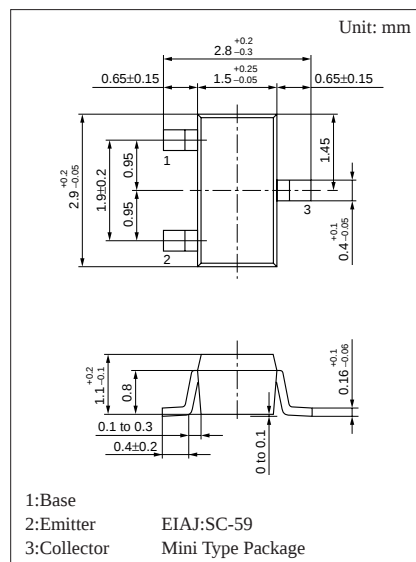
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- Mini type package, allowing downsizing of the equipment and automatic insertion through tape packing and magazine packing.

Resistance by Part Number

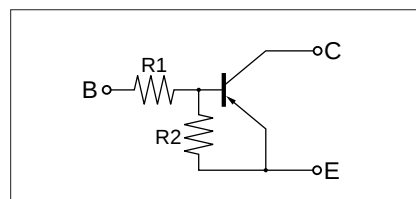
	Marking Symbol	(R ₁)	(R ₂)
• UN2121	7A	2.2kΩ	2.2kΩ
• UN2122	7B	4.7kΩ	4.7kΩ
• UN2123	7C	10kΩ	10kΩ
• UN2124	7D	2.2kΩ	10kΩ
• UN212X	7I	0.27kΩ	5kΩ
• UN212Y	7Y	3.1kΩ	4.6kΩ

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	-50	V
Collector to emitter voltage	V _{CEO}	-50	V
Collector current	I _C	-500	mA
Total power dissipation	P _T	200	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C



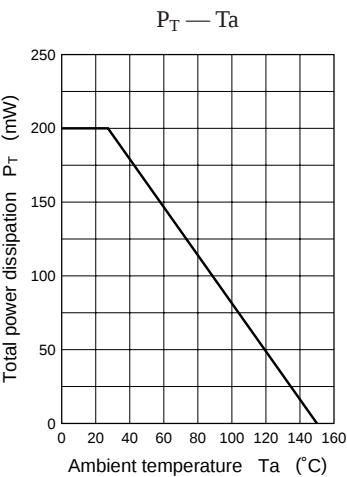
Internal Connection



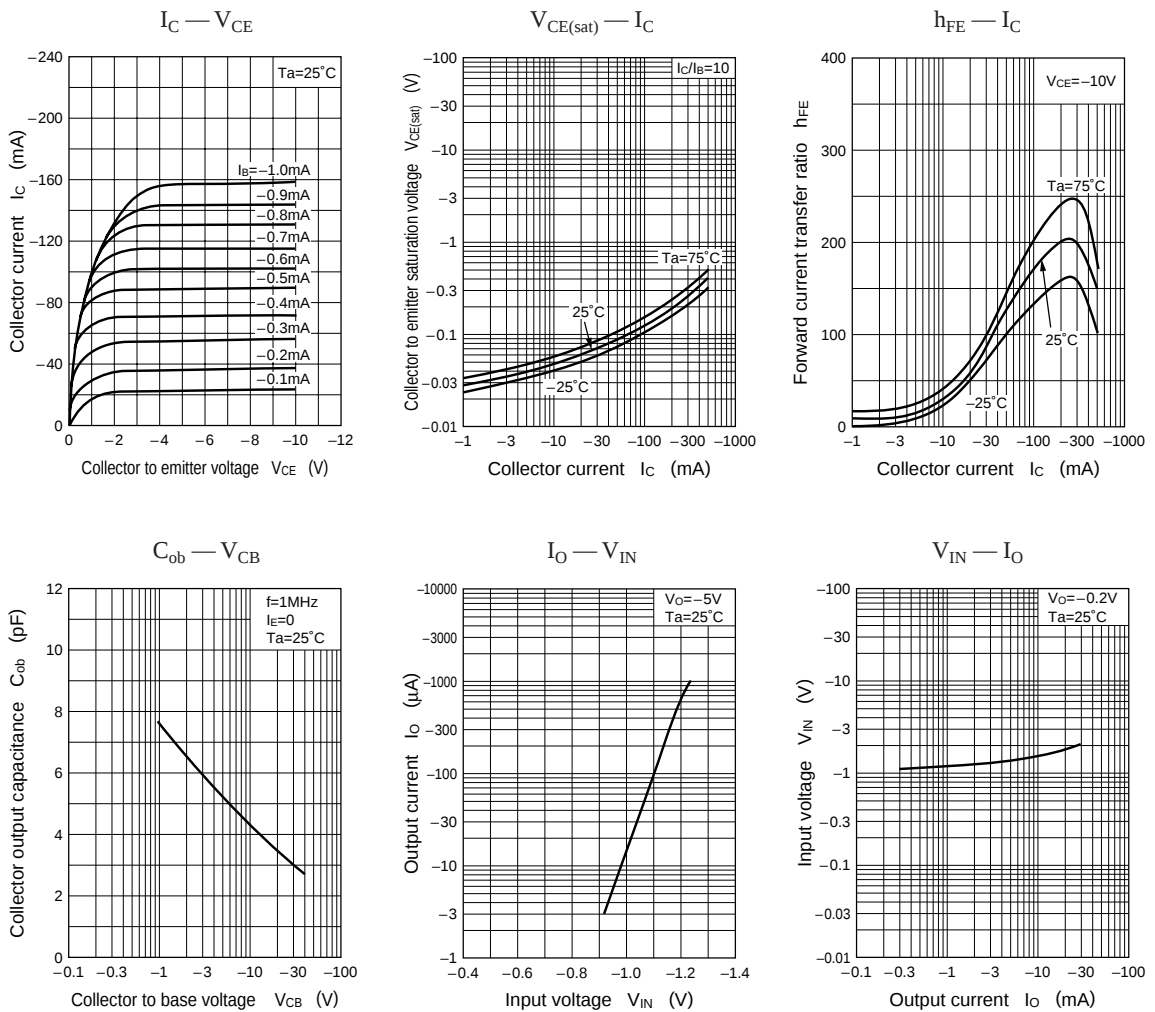
■ Electrical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		I _{CBO}	V _{CB} = −50V, I _E = 0			−1	μA
		UN212X I _{CBO}	V _{CB} = −50V, I _E = 0			−0.1	
Collector cutoff current		I _{CEO}	V _{CE} = −50V, I _B = 0			−1	μA
		UN212X I _{CEO}	V _{CE} = −50V, I _B = 0			−0.5	
Emitter cutoff current	UN2121	I _{EBO}	V _{EB} = −6V, I _C = 0			−5	mA
	UN2122/212X/212Y					−2	
	UN2123/2124					−1	
Collector to base voltage		V _{CBO}	I _C = −10μA, I _E = 0	−50			V
Forward current transfer ratio	UN2121	h _{FE}	V _{CE} = −10V, I _C = −100mA	40			
	UN2122/212Y			50			
	UN2123/2124			60			
	UN212X			20			
Collector to emitter saturation voltage		V _{CE(sat)}	I _C = −100mA, I _B = −5mA			−0.25	V
		UN212X V _{CE(sat)}	I _C = −10mA, I _B = −0.3mA			−0.25	
		UN212Y V _{CE(sat)}	I _C = −50mA, I _B = −5mA			−0.15	
Output voltage high level		V _{OH}	V _{CC} = −5V, V _B = −0.5V, R _L = 500Ω	−4.9			V
Output voltage low level		V _{OL}	V _{CC} = −5V, V _B = −3.5V, R _L = 500Ω			−0.2	V
Transition frequency		f _T	V _{CB} = −10V, I _E = 50mA, f = 200MHz		200		MHz
Input resistance	UN2121	R ₁		(−30%)	2.2	(+30%)	kΩ
	UN2122				4.7		
	UN2123				10		
	UN212X				0.27		
	UN212Y				3.1		
Resistance ratio		R ₁ /R ₂		0.8	1.0	1.2	
					0.22		
					0.054		
					0.67		

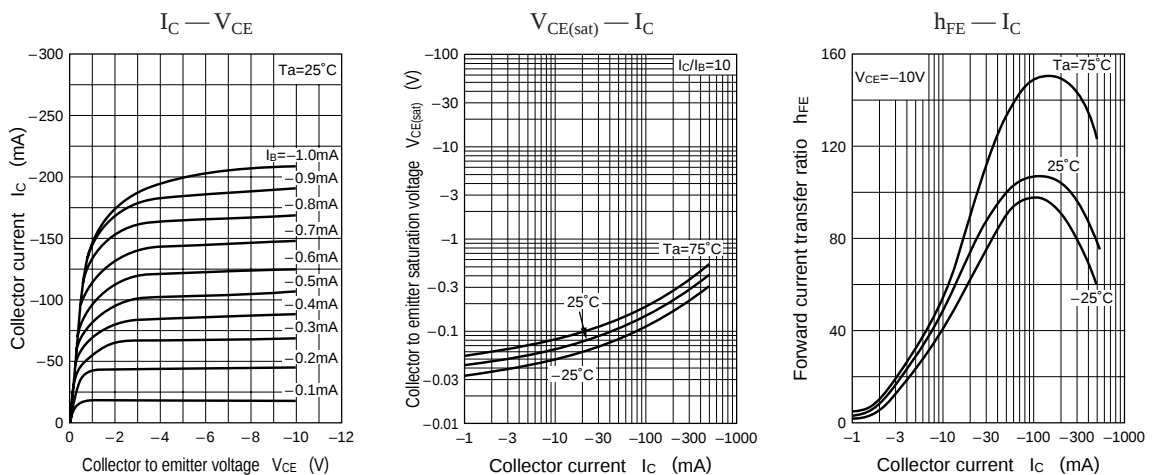
Common characteristics chart

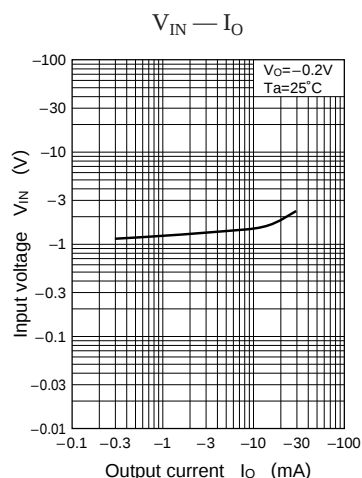
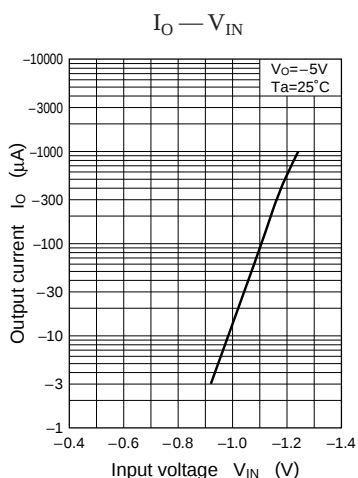
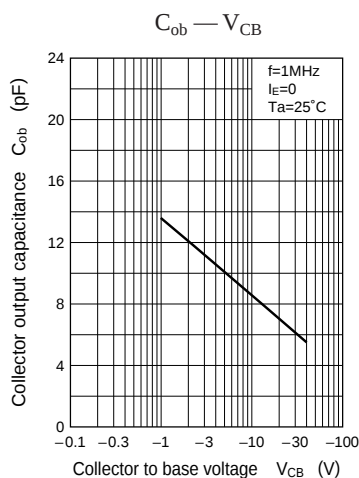


Characteristics charts of UN2121

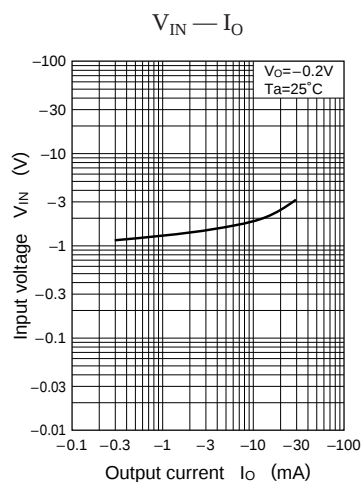
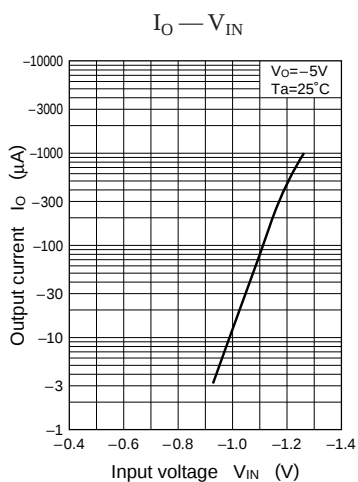
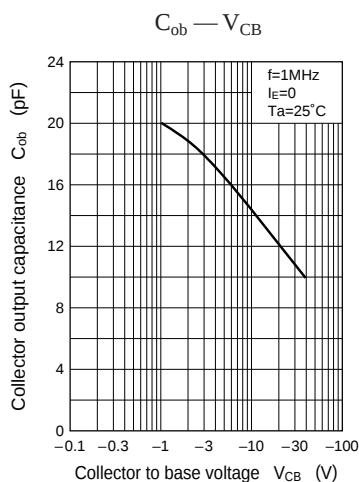
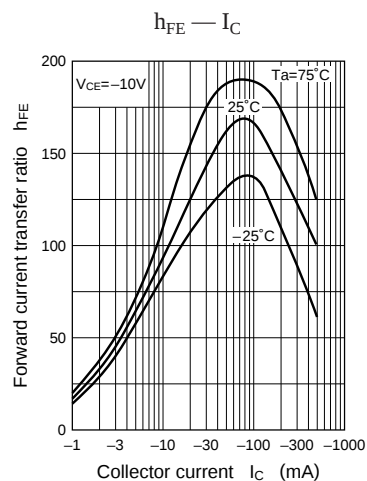
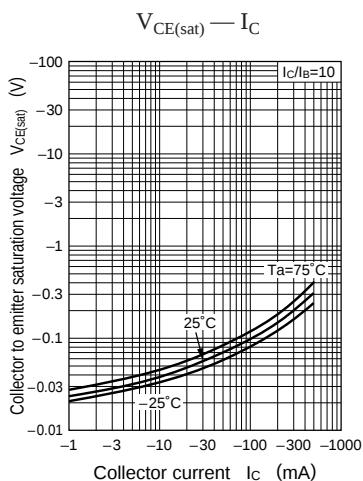
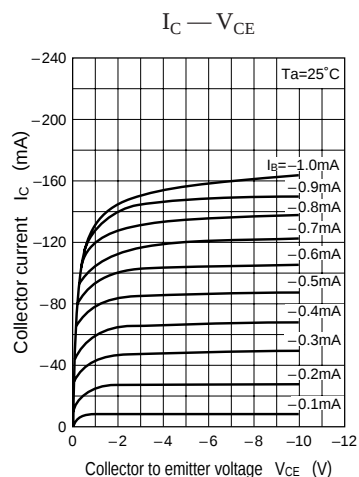


Characteristics charts of UN2122

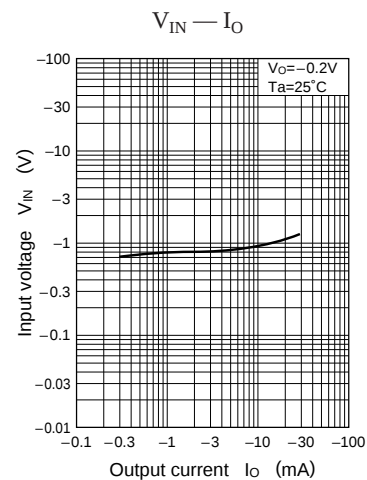
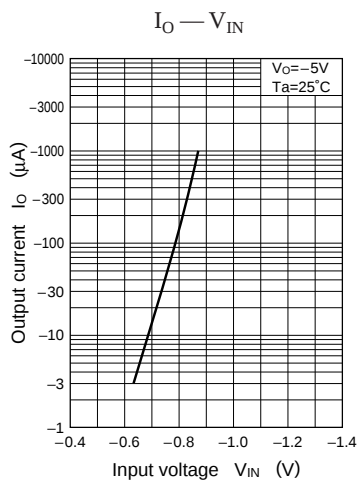
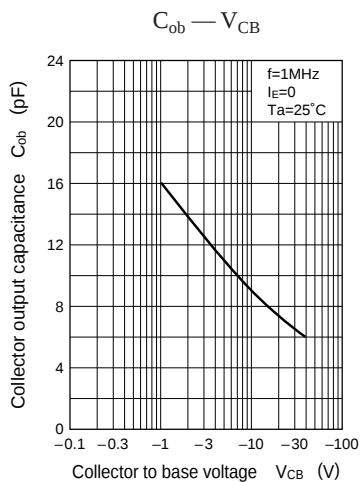
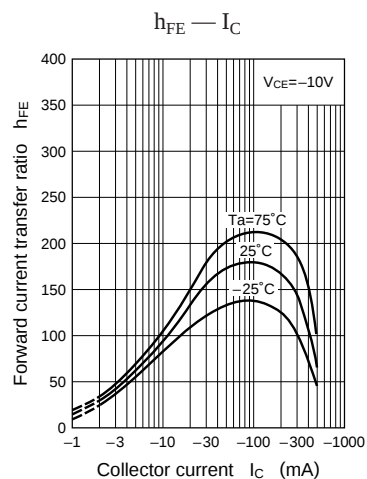
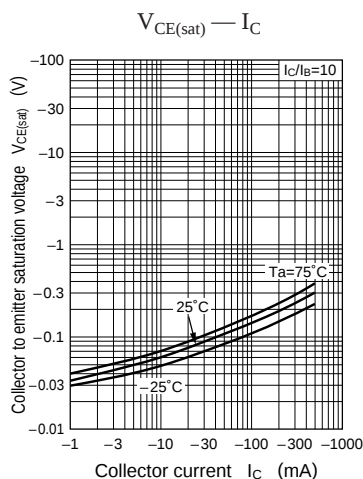
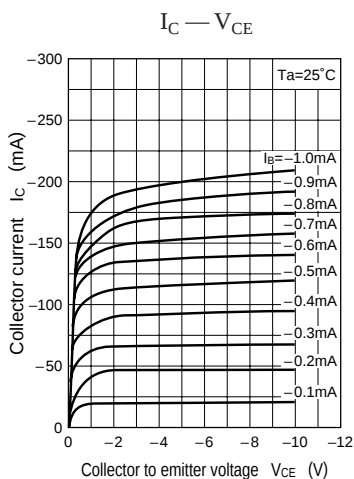




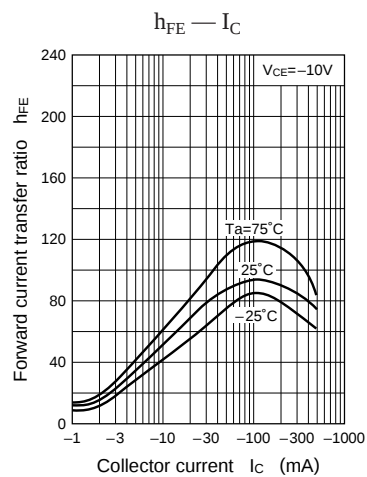
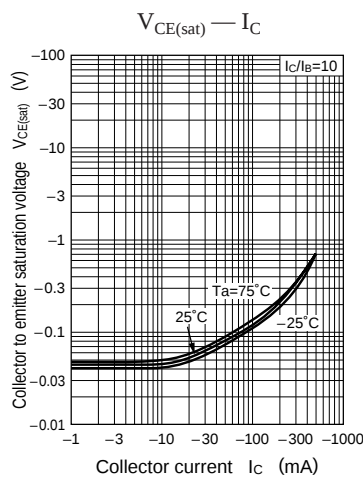
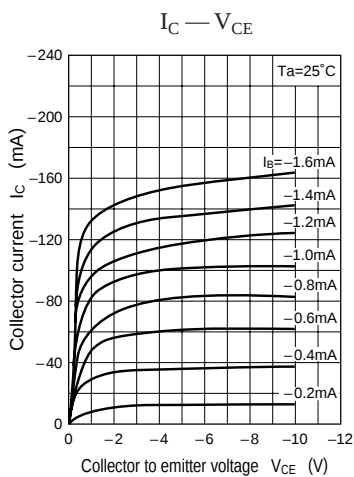
Characteristics charts of UN2123

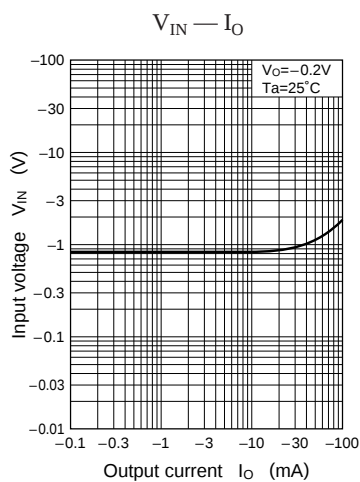
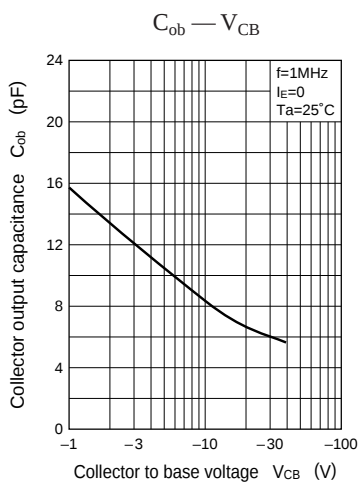


Characteristics charts of UN2124



Characteristics charts of UN212X





Characteristics charts of UN212Y

