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

Silicon PNP epitaxial planer transistor

For digital circuits

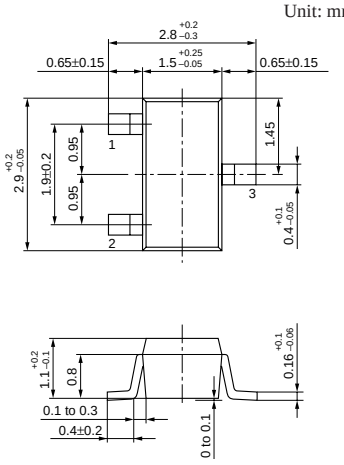
Features

- 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

Unit: mm



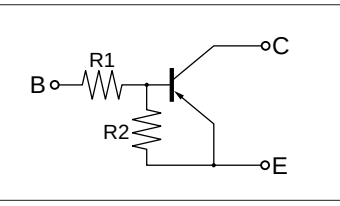
1:Base
2:Emitter
3:Collector

EIAJ:SC-59
Mini Type Package

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

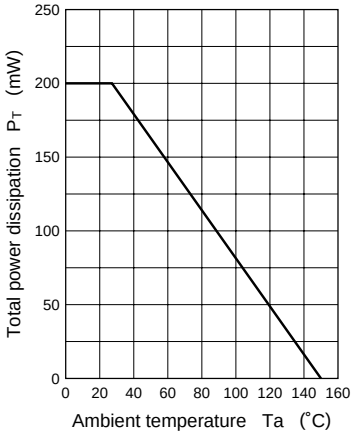


Electrical Characteristics (Ta=25˚C)

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, IC = 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	
	UN2124				0.22		
	UN212X				0.054		
	UN212Y				0.67		

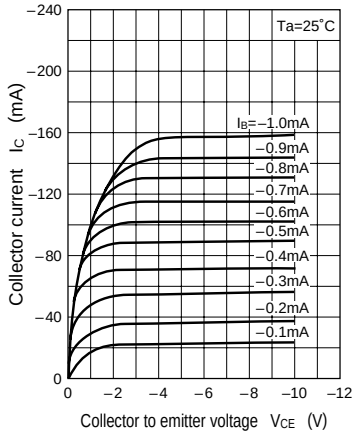
Common characteristics chart

P_T — Ta

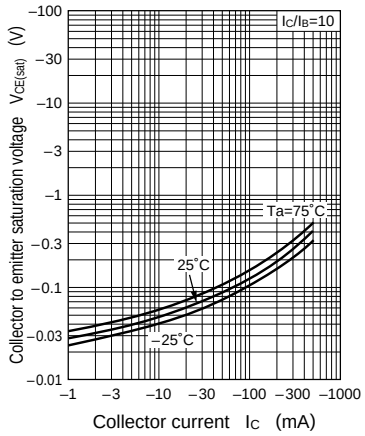


Characteristics charts of UN2121

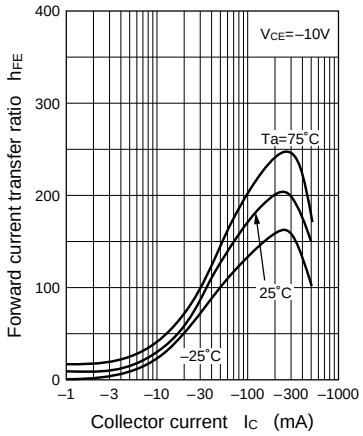
I_C — V_{CE}



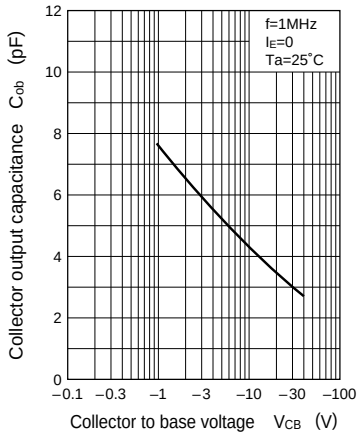
$V_{CE(sat)}$ — I_C



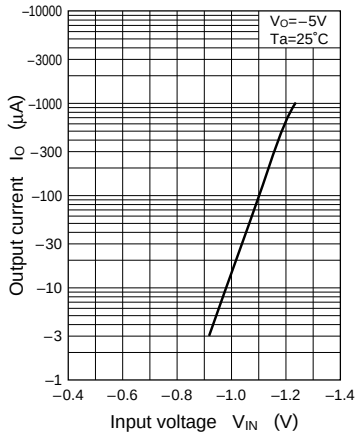
h_{FE} — I_C



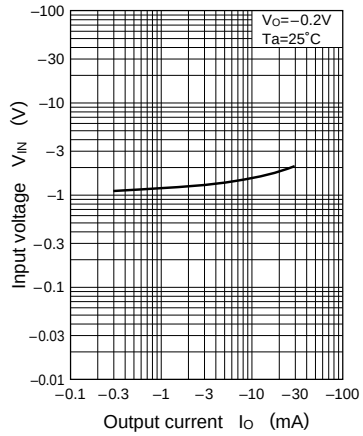
C_{ob} — V_{CB}



I_O — V_{IN}

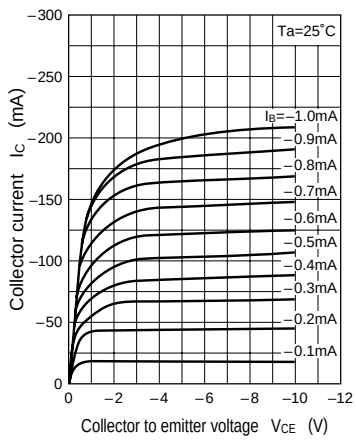


V_{IN} — I_O

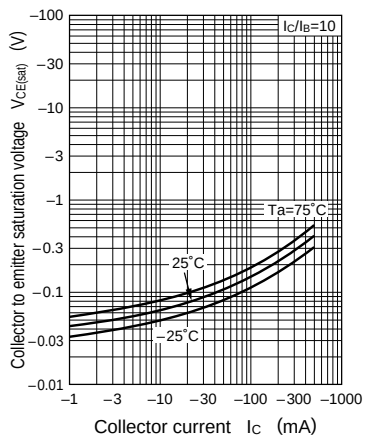


Characteristics charts of UN2122

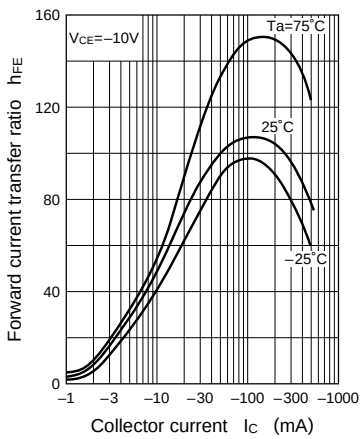
I_C — V_{CE}



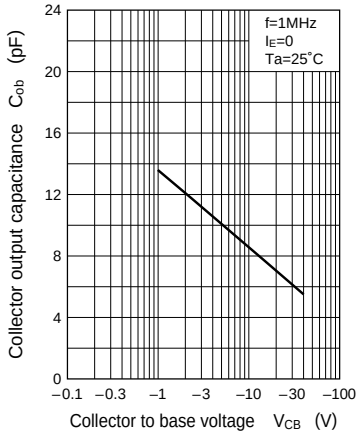
$V_{CE(sat)}$ — I_C



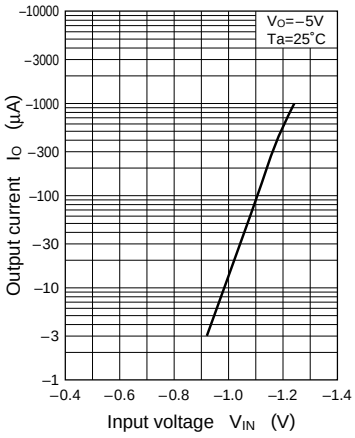
h_{FE} — I_C



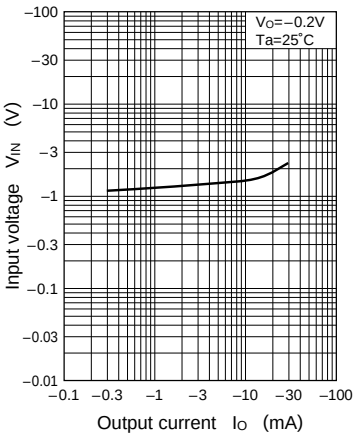
C_{ob} — V_{CB}



I_O — V_{IN}

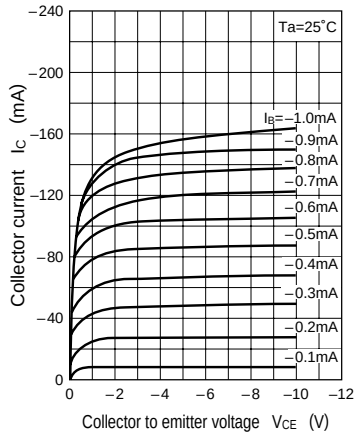


V_{IN} — I_O

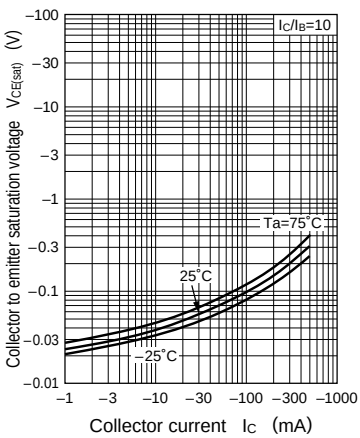


Characteristics charts of UN2123

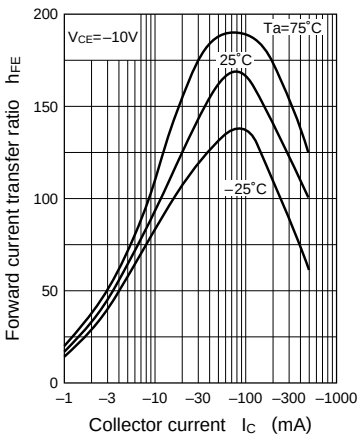
I_C — V_{CE}



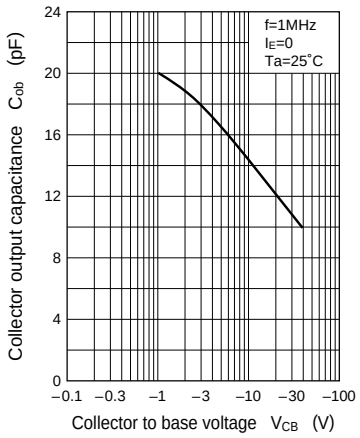
$V_{CE(sat)}$ — I_C



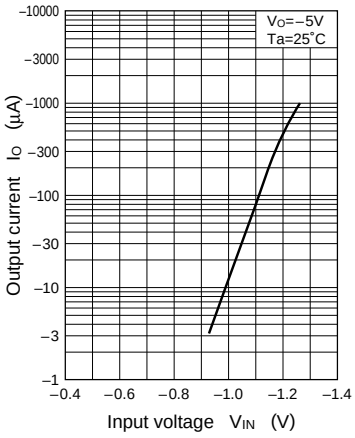
h_{FE} — I_C



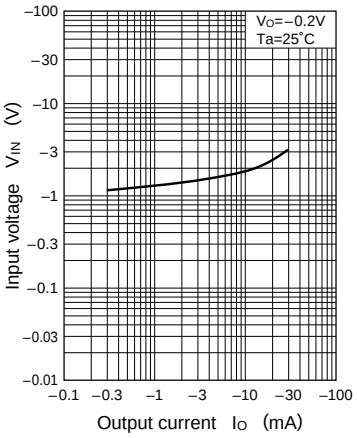
C_{ob} — V_{CB}



I_O — V_{IN}

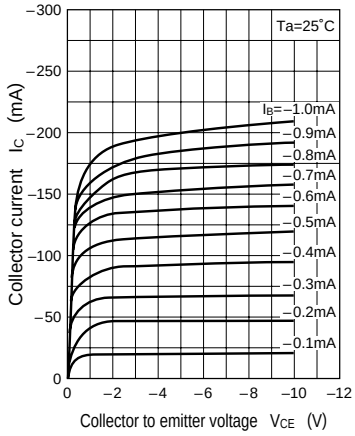


V_{IN} — I_O

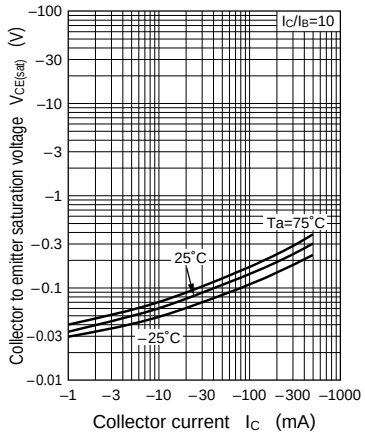


Characteristics charts of UN2124

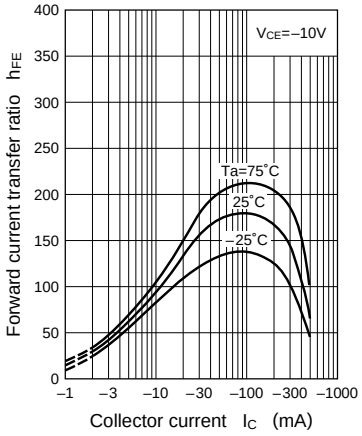
I_C — V_{CE}



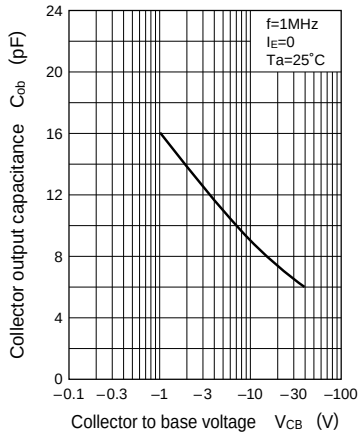
$V_{CE(sat)}$ — I_C



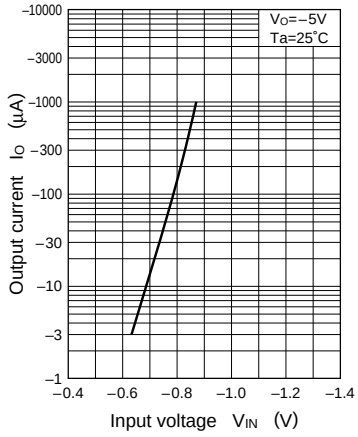
h_{FE} — I_C



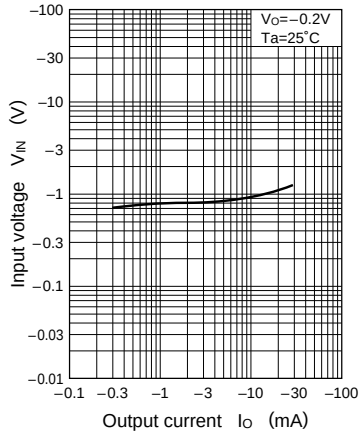
C_{ob} — V_{CB}



I_O — V_{IN}

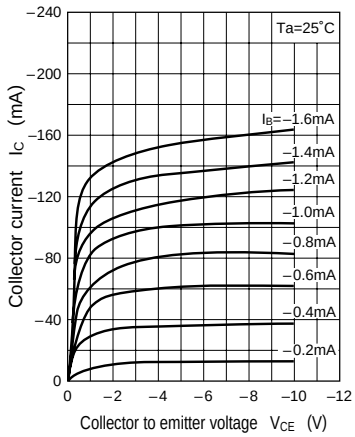


V_{IN} — I_O

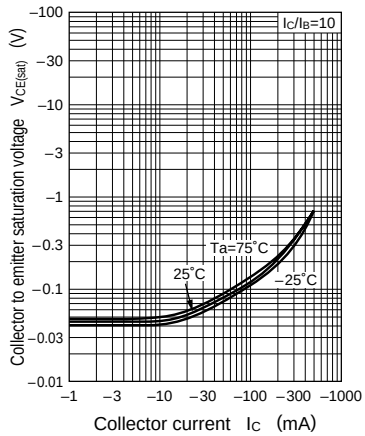


Characteristics charts of UN212X

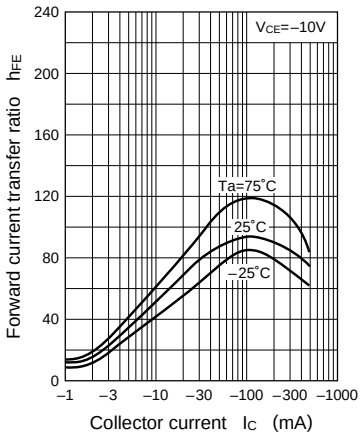
I_C — V_{CE}



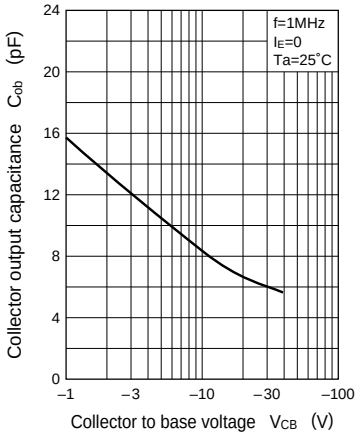
$V_{CE(sat)}$ — I_C



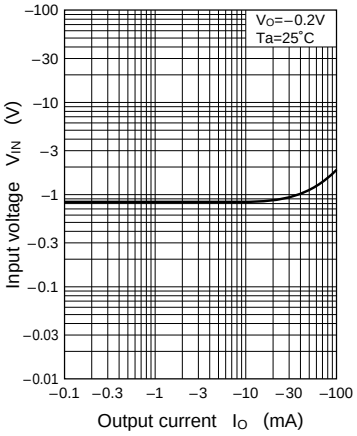
h_{FE} — I_C



C_{ob} — V_{CB}

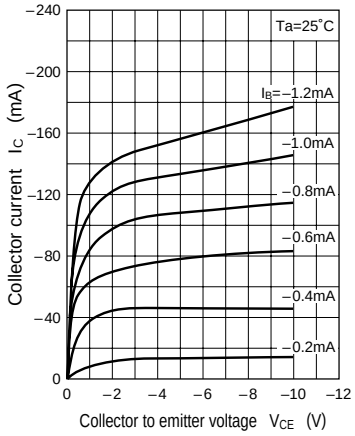


V_{IN} — I_O

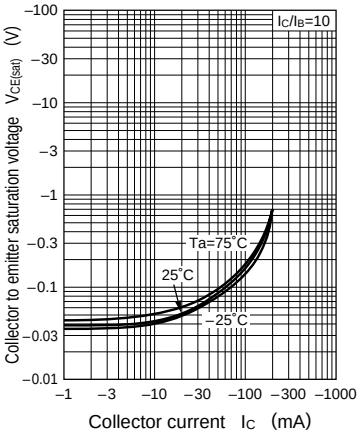


Characteristics charts of UN212Y

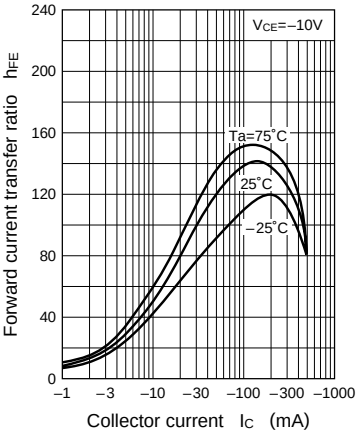
I_C — V_{CE}



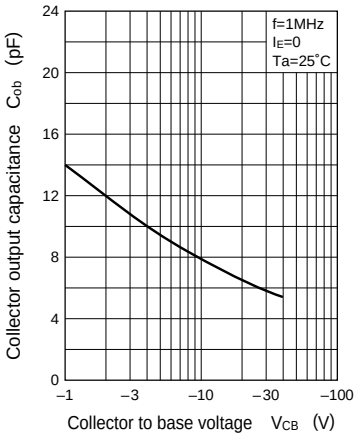
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



C_{ob} — V_{CB}



V_{IN} — I_O