

UNR2121/2122/2123/2124/212X/212Y

(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)
•	UNR2121 (UN2121)	7A	2.2 kΩ	2.2 kΩ
•	UNR2122 (UN2122)	7B	4.7 kΩ	4.7 kΩ
•	UNR2123 (UN2123)	7C	10 kΩ	10 kΩ
•	UNR2124 (UN2124)	7D	2.2 kΩ	10 kΩ
•	UNR212X (UN212X)	7I	0.27 kΩ	5 kΩ
•	UNR212Y (UN212Y)	7Y	3.1 kΩ	4.6 kΩ

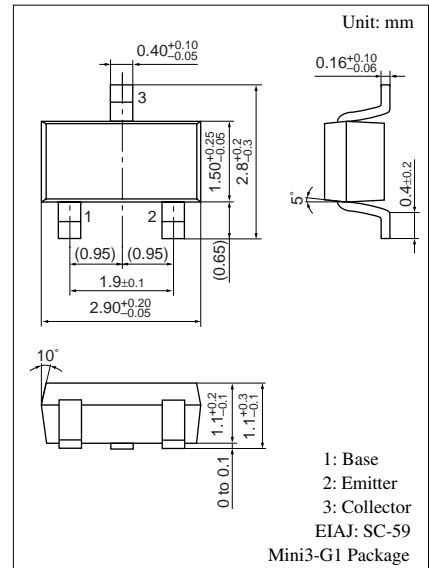
■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	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

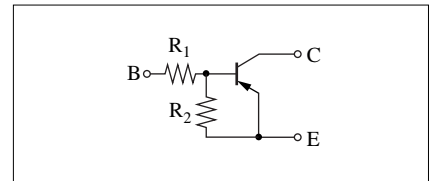
■ Electrical Characteristics T_a = 25°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I _{CBO}	V _{CB} = -50 V, I _E = 0			-1	μA
UNR212X					-0.1	
Collector cutoff current	I _{CEO}	V _{CE} = -50 V, I _B = 0			-1	μA
UNR212X					-0.5	
Emitter cutoff current	UNR2121	V _{EB} = -6 V, I _C = 0			-5	mA
	UNR2122/212X/212Y				-2	
	UNR2123/2124				-1	
Collector to base voltage	V _{CBO}	I _C = -10 μA, I _E = 0	-50			V
Forward current transfer ratio	UNR2121	V _{CE} = -10 V, I _C = -100 mA	40			
	UNR2122/212Y		50			
	UNR2123/2124		60			
	UNR212X		20			

Note) The part numbers in the parenthesis show conventional part number.



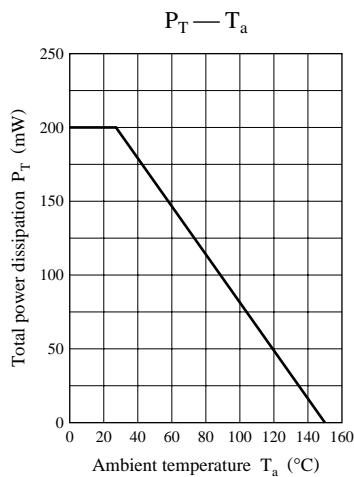
Internal Connection



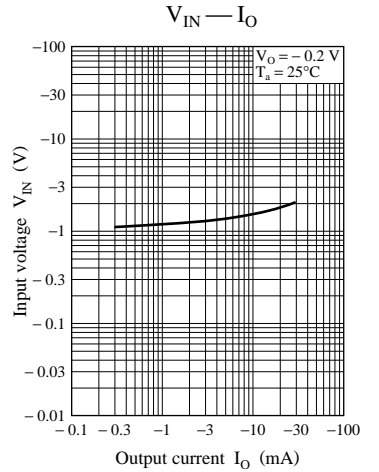
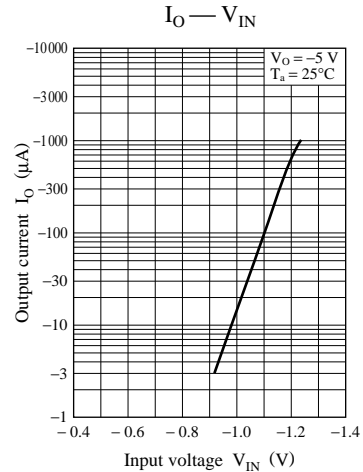
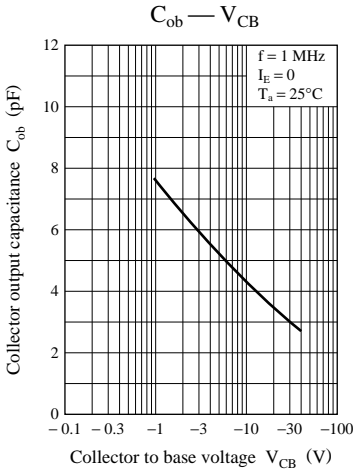
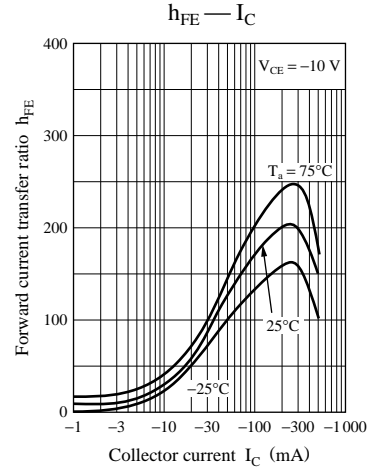
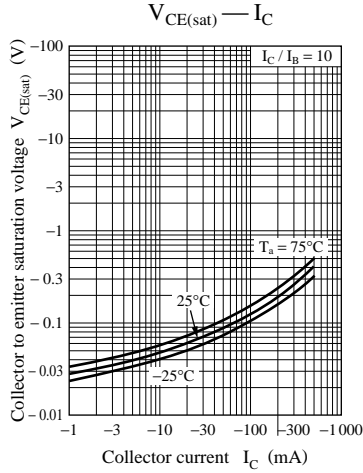
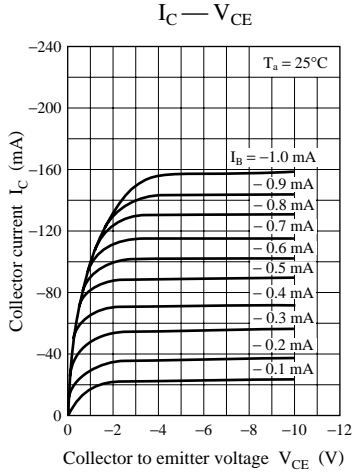
■ Electrical Characteristics (continued) $T_a = 25^\circ\text{C}$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector to emitter saturation voltage		$V_{CE(sat)}$	$I_C = -100\text{ mA}$, $I_B = -5\text{ mA}$			-0.25	V
	UNR212X		$I_C = -10\text{ mA}$, $I_B = -0.3\text{ mA}$			-0.25	
	UNR212Y		$I_C = -50\text{ mA}$, $I_B = -5\text{ mA}$			-0.15	
Output voltage high level		V_{OH}	$V_{CC} = -5\text{ V}$, $V_B = -0.5\text{ V}$, $R_L = 500\ \Omega$	-4.9			V
Output voltage low level		V_{OL}	$V_{CC} = -5\text{ V}$, $V_B = -3.5\text{ V}$, $R_L = 500\ \Omega$			-0.2	V
Transition frequency		f_T	$V_{CB} = -10\text{ V}$, $I_E = 50\text{ mA}$, $f = 200\text{ MHz}$		200		MHz
Input resistance	UNR2121/2124	R_1		-30%	2.2	+30%	k Ω
	UNR2122				4.7		
	UNR2123				10		
	UNR212X				0.27		
	UNR212Y				3.1		
Resistance ratio		R_1/R_2		0.8	1.0	1.2	
UNR2124					0.22		
UNR212X					0.054		
UNR212Y					0.67		

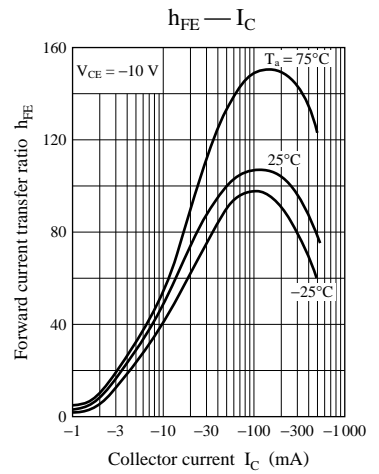
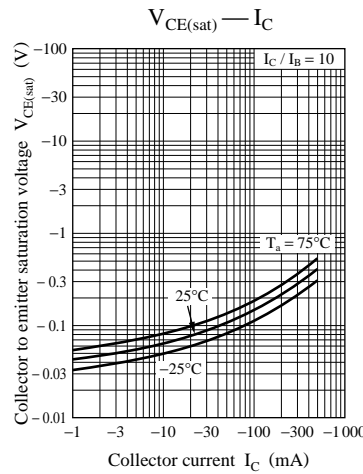
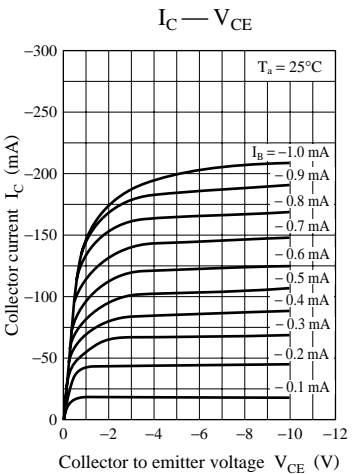
Common characteristics chart

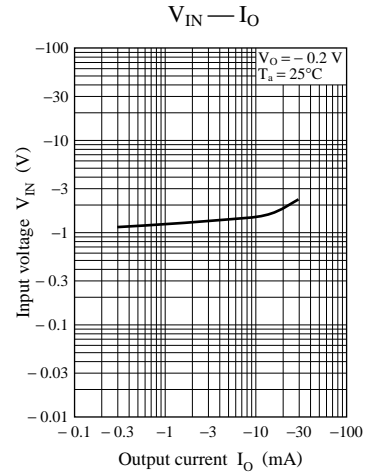
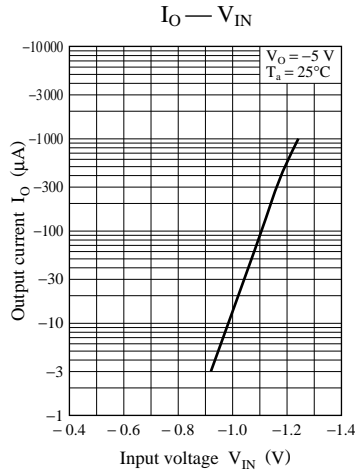
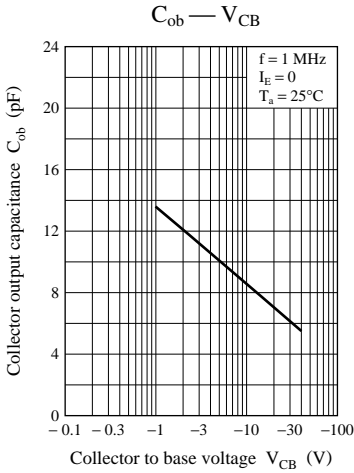


Characteristics charts of UNR2121

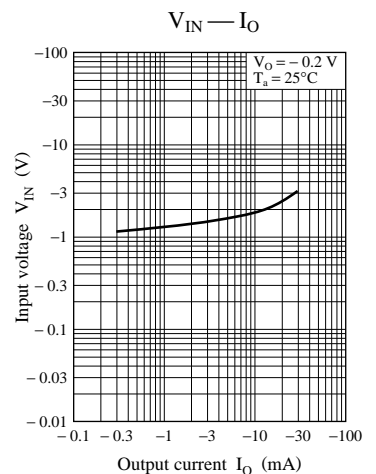
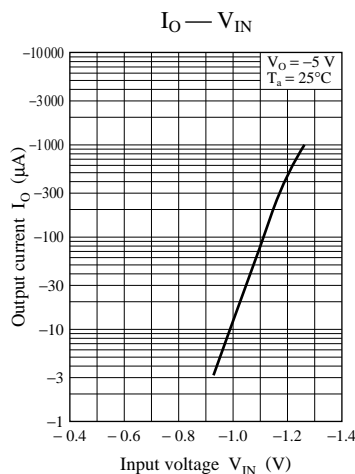
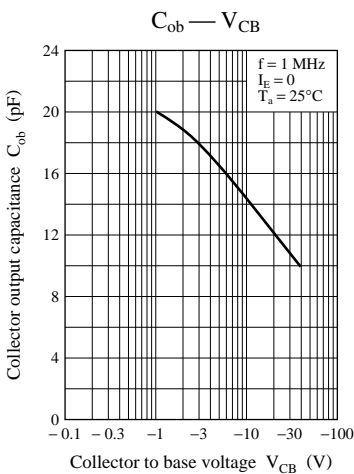
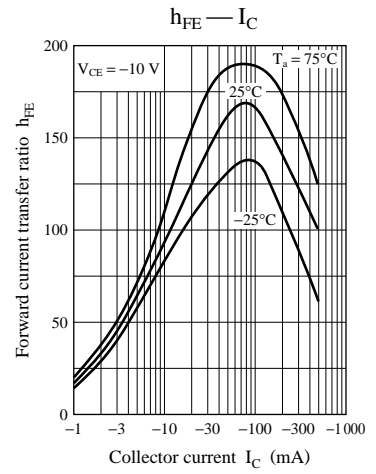
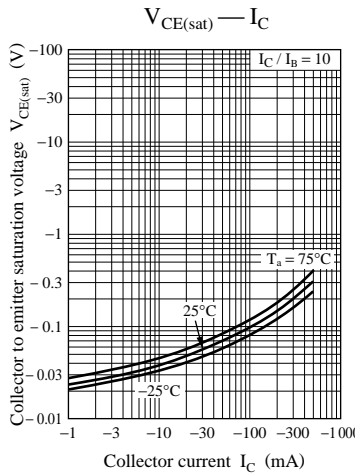
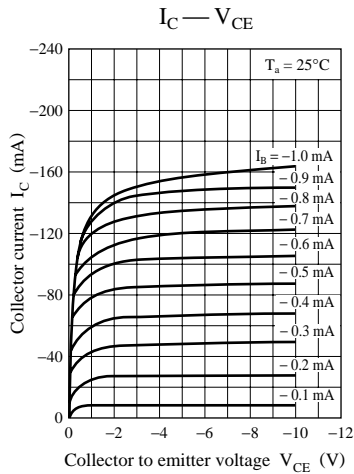


Characteristics charts of UNR2122

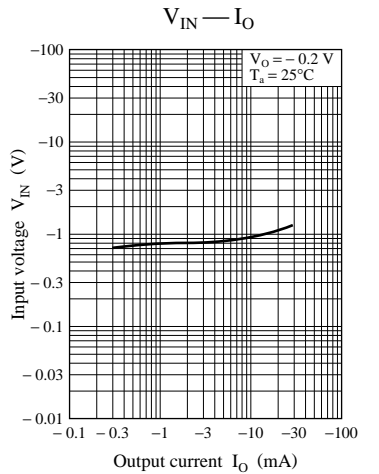
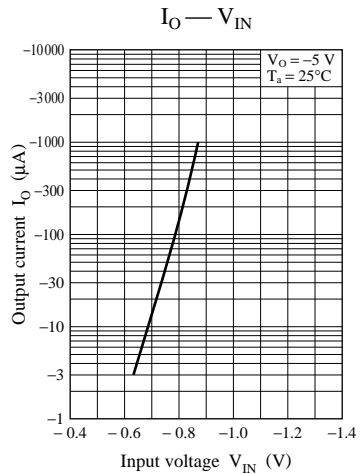
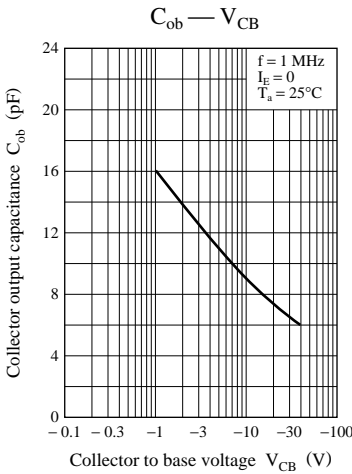
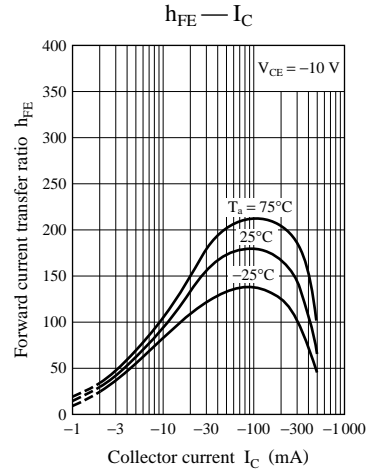
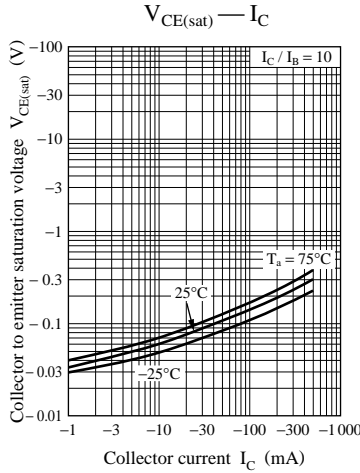
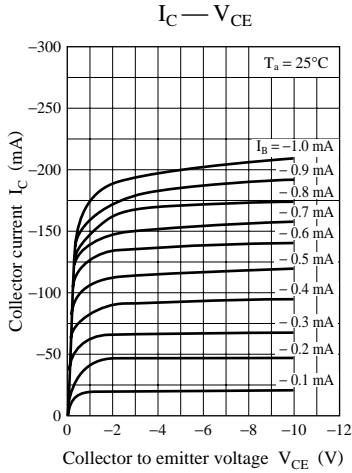




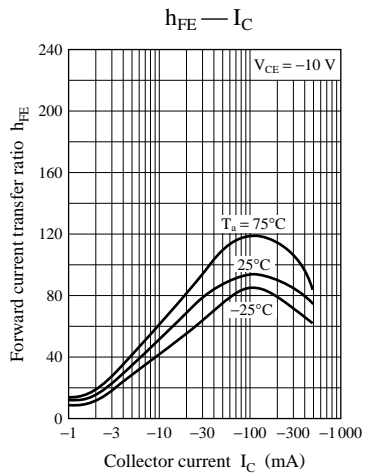
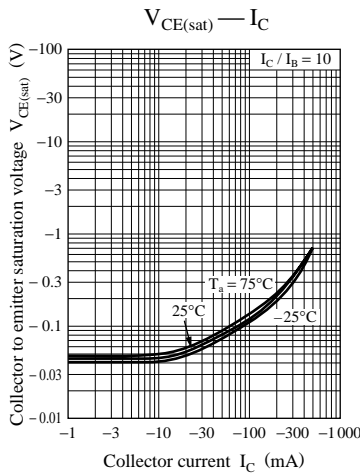
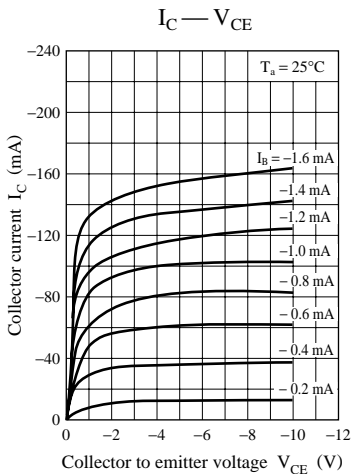
Characteristics charts of UNR2123

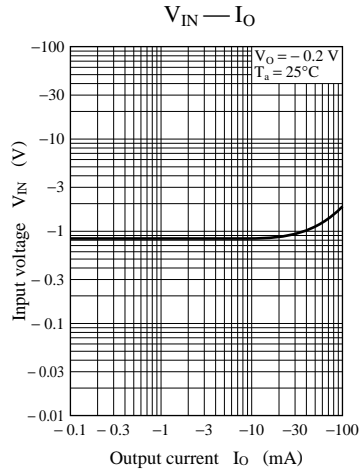
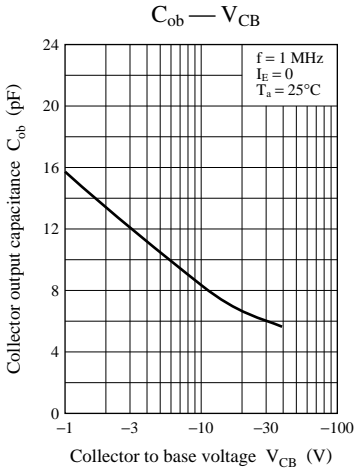


Characteristics charts of UNR2124

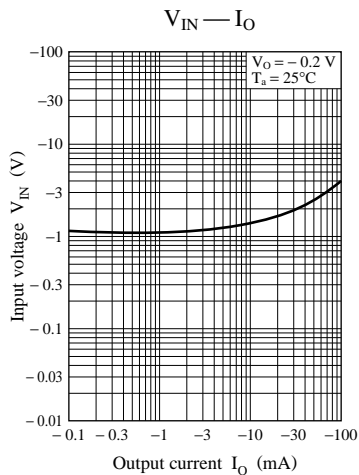
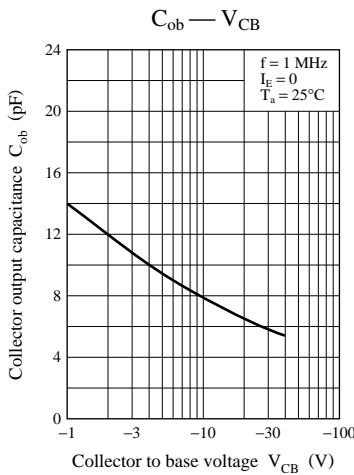
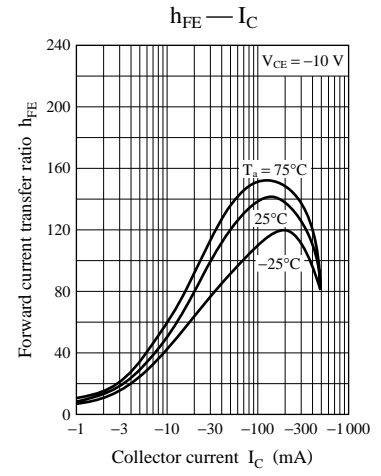
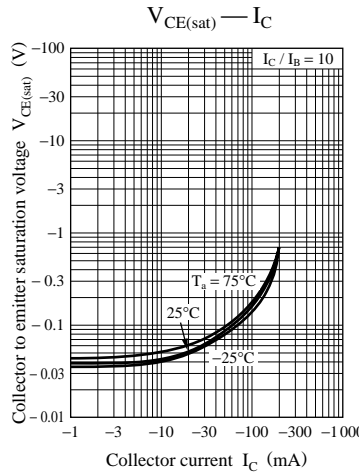
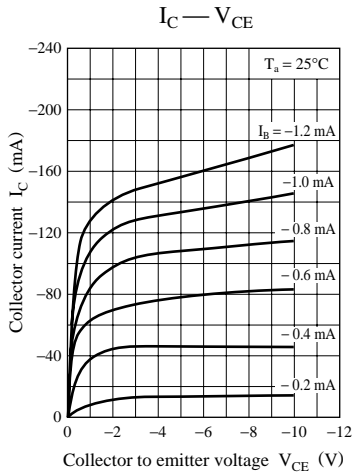


Characteristics charts of UNR212X





Characteristics charts of UNR212Y



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