



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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UNR412x Series

Silicon PNP epitaxial planar type

For digital circuits

■ Features

- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- New S type package, allowing supply with the radial taping

■ Resistance by Part Number

	(R ₁)	(R ₂)
• UNR4121	2.2 kΩ	2.2 kΩ
• UNR4122	4.7 kΩ	4.7 kΩ
• UNR4123	10 kΩ	10 kΩ
• UNR4124	2.2 kΩ	10 kΩ

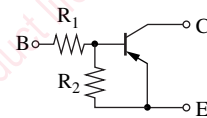
■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V _{CB0}	-50	V
Collector-emitter voltage (Base open)	V _{CEO}	-50	V
Collector current	I _C	-500	mA
Total power dissipation	P _T	300	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

■ Package

- Code
NS-A1
- Pin Name
1: Emitter
2: Collector
3: Base

■ Internal Connection



■ Electrical Characteristics T_a = 25°C ± 3°C

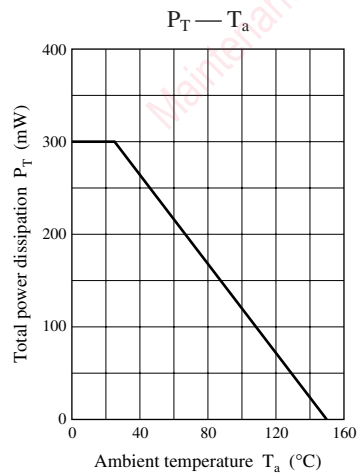
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V _{CB0}	I _C = -10 μA, I _E = 0	-50			V
Collector-emitter voltage (Base open)	V _{CEO}	I _C = -2 mA, I _B = 0	-50			V
Collector-base cutoff current (Emitter open)	I _{CB0}	V _{CB} = -50 V, I _E = 0			-1	μA
Collector-emitter cutoff current (Base open)	I _{CEO}	V _{CE} = -50 V, I _B = 0			-1	μA
Emitter-base cutoff current (Collector open)	UNR4121	V _{EB} = -6 V, I _C = 0			-5	mA
	UNR4122			-2		
	UNR4123/4124				-1	

■ Electrical Characteristics (continued) $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

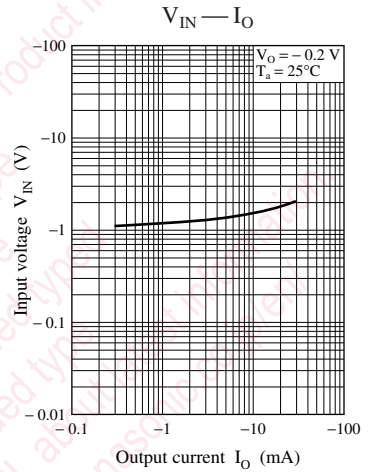
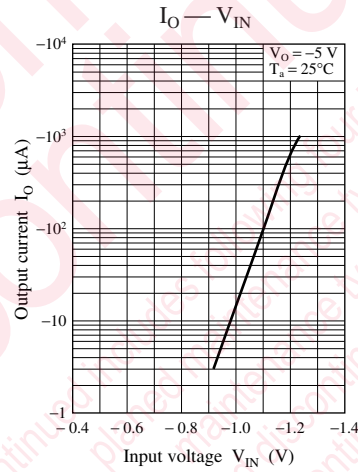
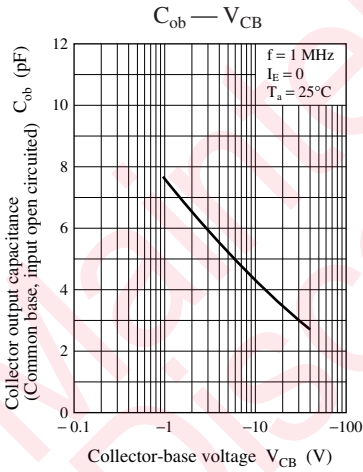
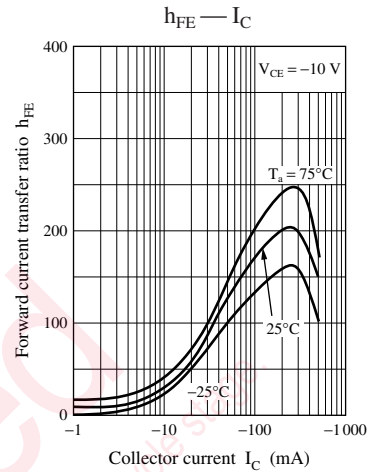
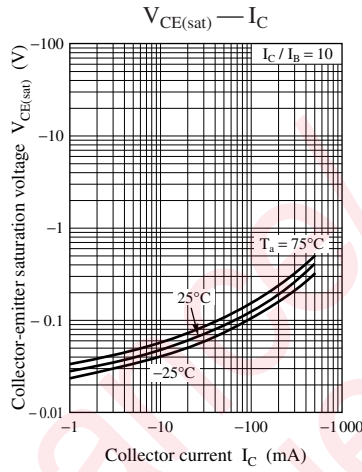
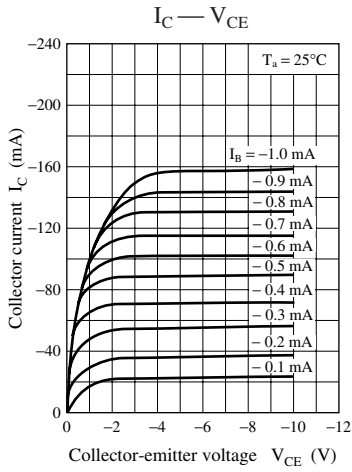
Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Forward current transfer ratio	UNR4121	h_{FE}	$V_{CE} = -10\text{ V}, I_C = -100\text{ mA}$	40			—
	UNR4122			50			
	UNR4123/4124			60			
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = -100\text{ mA}, I_B = -5\text{ mA}$			-0.25	V
Output voltage 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	UNR4121/4124	R_1		-30%	2.2	+30%	k Ω
	UNR4122				4.7		
	UNR4123				10		
Resistance ratio		R_1/R_2		0.8	1.0	1.2	—
	UNR4124			0.17	0.22	0.27	

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

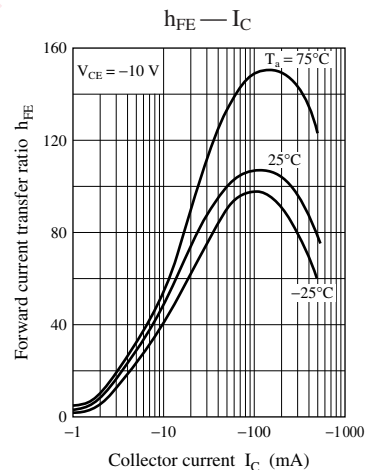
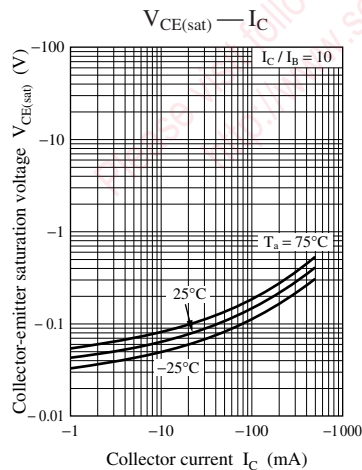
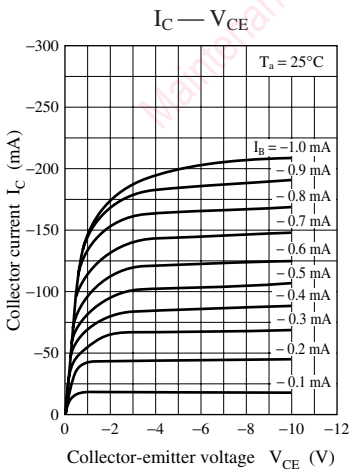
Common characteristics chart

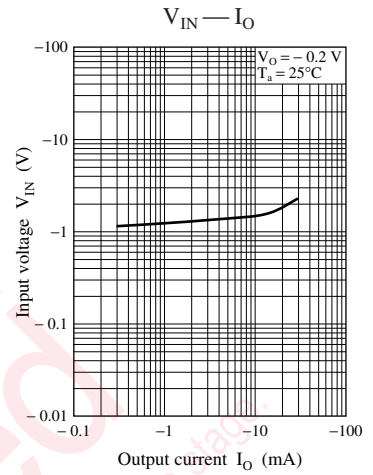
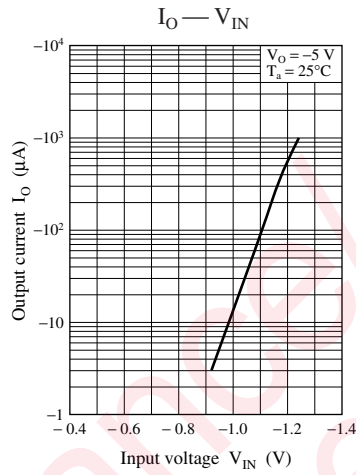
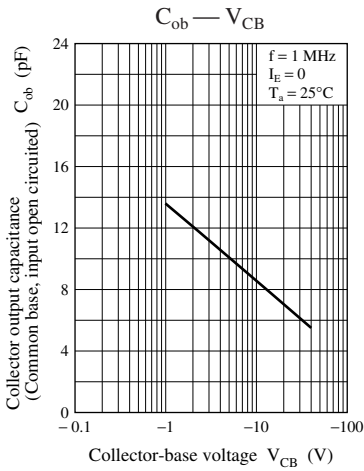


Characteristics charts of UNR4121

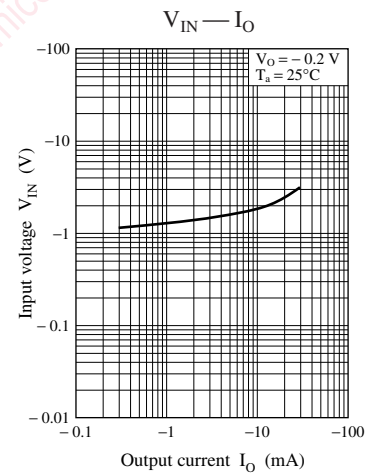
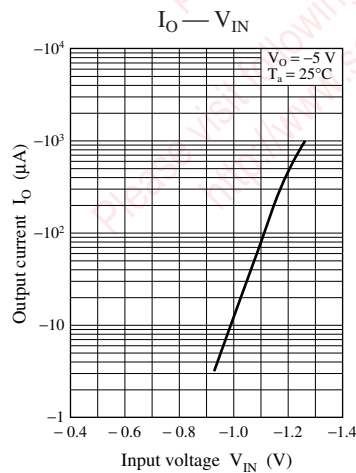
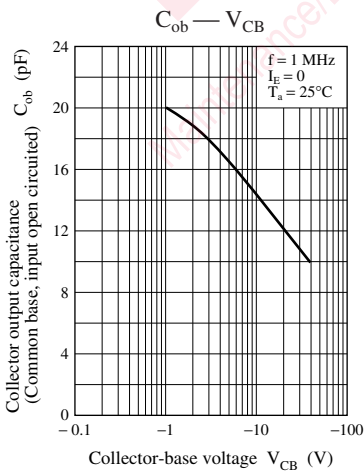
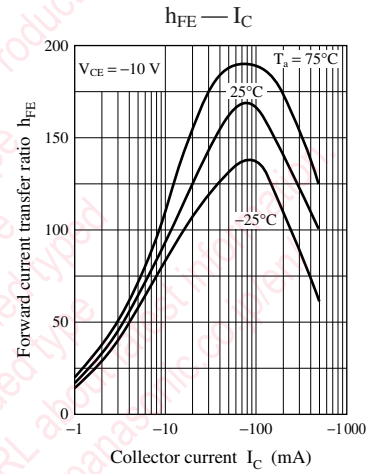
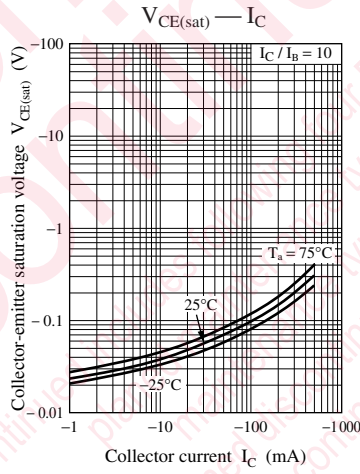
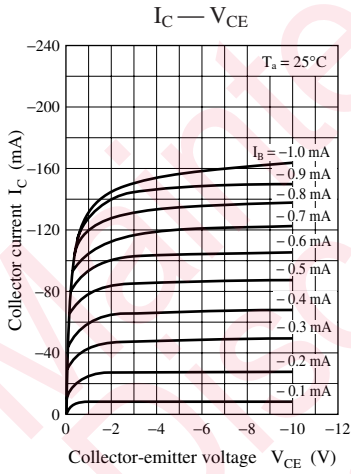


Characteristics charts of UNR4122

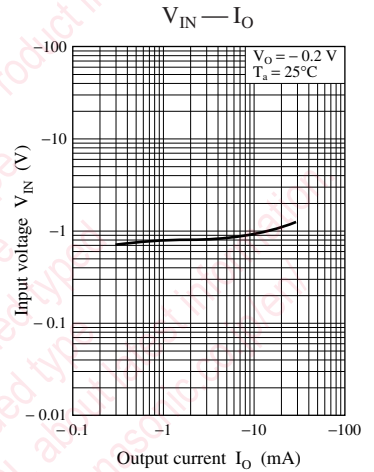
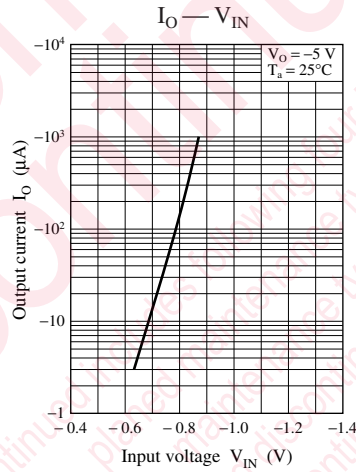
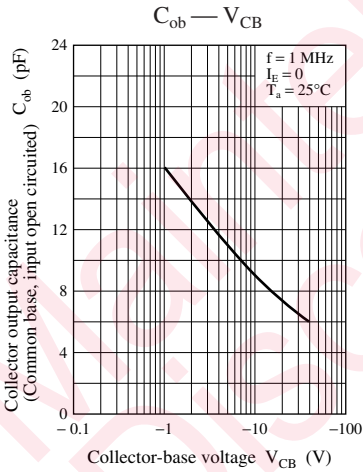
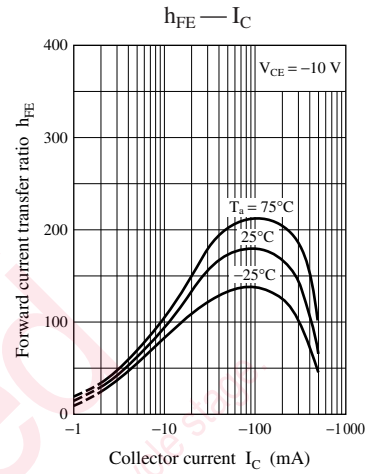
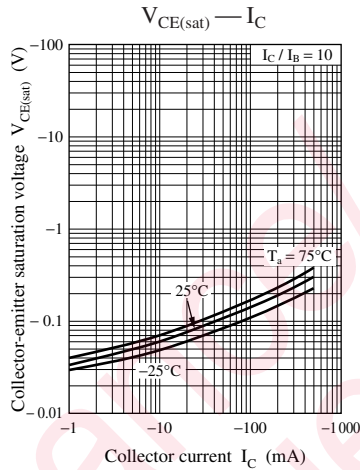
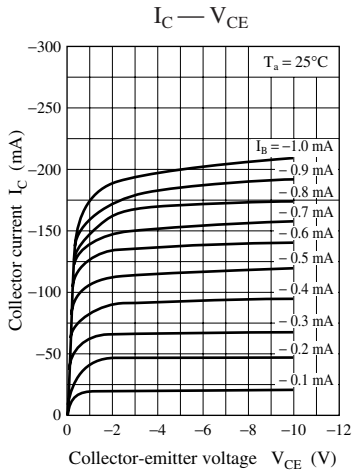




Characteristics charts of UNR4123

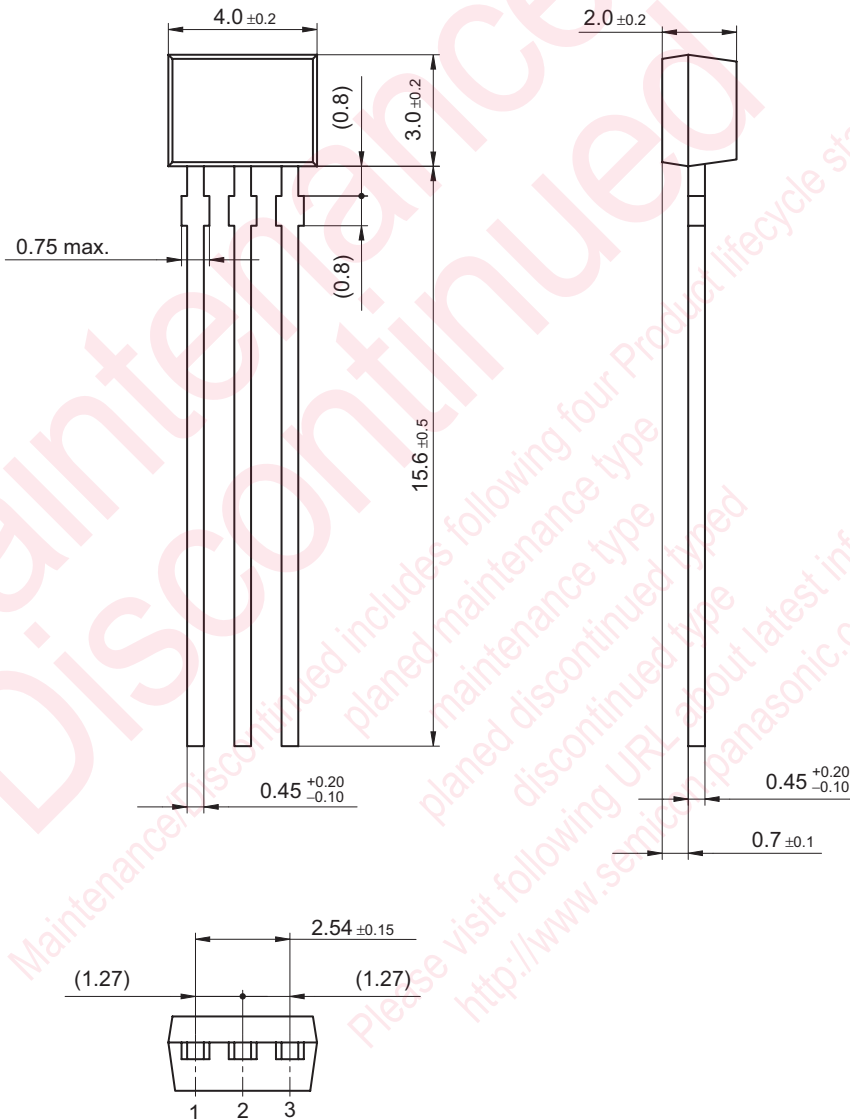


Characteristics charts of UNR4124



NS-A1

Unit: mm



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