

# UNR4121/4122/4123/4124/412X/412Y (UN4121/4122/4123/4124/412X/412Y)

Silicon PNP epitaxial planer transistor

For digital circuits

## ■ Features

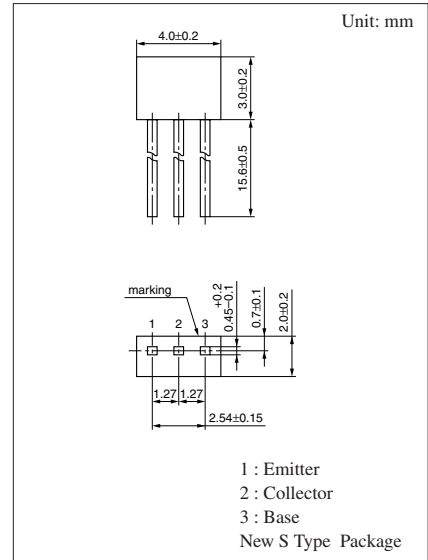
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- New S type package, allowing supply with the radial taping.

## ■ Resistance by Part Number

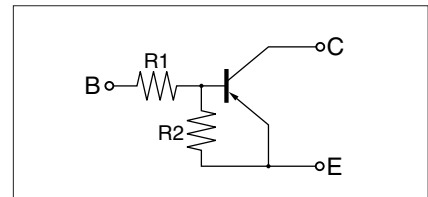
	(R <sub>1</sub> )	(R <sub>2</sub> )
• UNR4121	2.2kΩ	2.2kΩ
• UNR4122	4.7kΩ	4.7kΩ
• UNR4123	10kΩ	10kΩ
• UNR4124	2.2kΩ	10kΩ
• UNR412X	0.27kΩ	5.0kΩ
• UNR412Y	3.1kΩ	4.6kΩ

## ■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V <sub>CBO</sub>	-50	V
Collector to emitter voltage	V <sub>CEO</sub>	-50	V
Collector current	I <sub>C</sub>	-500	mA
Total power dissipation	P <sub>T</sub>	300	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C



## Internal Connection

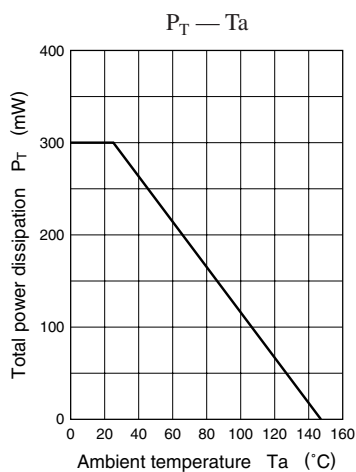


Note.) The Part numbers in the Parenthesis show conventional part number.

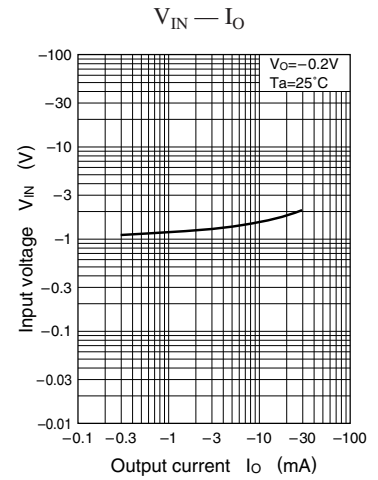
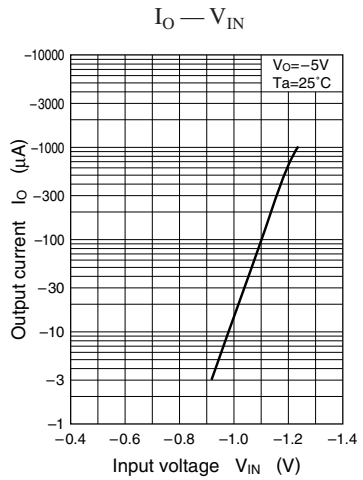
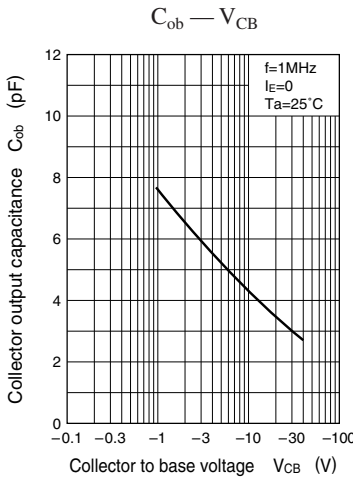
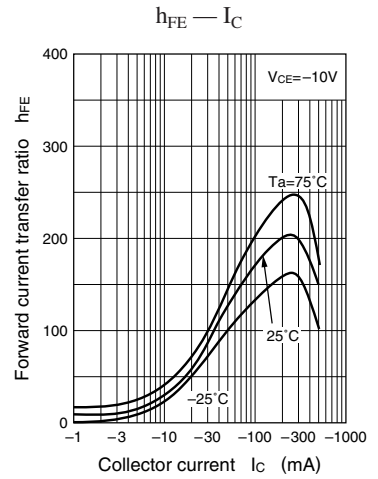
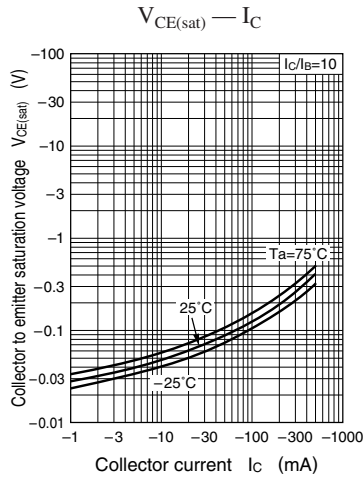
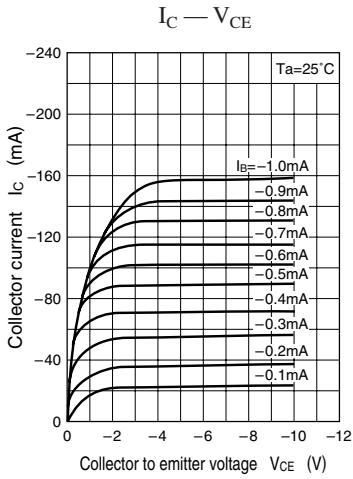
### Electrical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	min	typ	max	Unit	
Collector cutoff current		$I_{CBO}$	$V_{CB} = -50V, I_E = 0$			-1	$\mu A$	
	UNR412X	$I_{CBO}$	$V_{CB} = -50V, I_E = 0$			-0.1		
Collector cutoff current		$I_{CEO}$	$V_{CE} = -50V, I_B = 0$			-1	$\mu A$	
	UNR412X	$I_{CEO}$	$V_{CE} = -50V, I_B = 0$			-0.5		
Emitter cutoff current	UNR4121	$I_{EBO}$	$V_{EB} = -6V, I_C = 0$			-5	mA	
	UNR4122/412X/412Y					-2		
	UNR4123/4124					-1		
Collector to base voltage		$V_{CBO}$	$I_C = -10\mu A, I_E = 0$	-50			V	
Collector to emitter voltage		$V_{CEO}$	$I_C = -2mA, I_B = 0$	-50			V	
Forward current transfer ratio	UNR4121	$h_{FE}$	$V_{CE} = -10V, I_C = -100mA$	40				
	UNR4122/412Y			50				
	UNR4123/4124			60				
	UNR412X			20				
Collector to emitter saturation voltage		$V_{CE(sat)}$	$I_C = -100mA, I_B = -5mA$			-0.25	V	
		UNR412X	$V_{CE(sat)}$	$I_C = -10mA, I_B = -0.3mA$				-0.25
		UNR412Y	$V_{CE(sat)}$	$I_C = -50mA, I_B = -5mA$				-0.15
Output voltage high level		$V_{OH}$	$V_{CC} = -5V, V_B = -0.5V, R_L = 500\Omega$	-4.9			V	
Output voltage low level		$V_{OL}$	$V_{CC} = -5V, V_B = -3.5V, R_L = 500\Omega$			-0.2	V	
Transition frequency		$f_T$	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		80		MHz	
Input resistance	UNR4121/4124	$R_1$		(-30%)	2.2	(+30%)	k $\Omega$	
	UNR4122				4.7			
	UNR4123				10			
	UNR412X				0.27			
	UNR412Y				3.1			
Resistance ratio		$R_1/R_2$		0.8	1.0	1.2		
				UNR4124	0.17	0.22		0.27
				UNR412X	0.043	0.054		0.065
				UNR412Y		0.67		

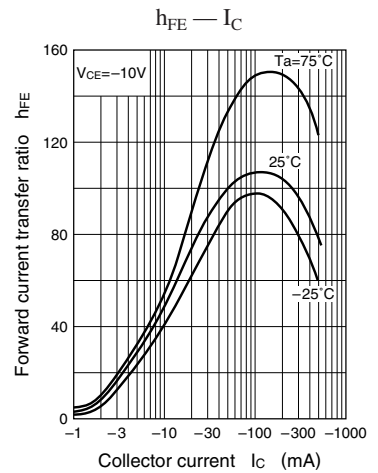
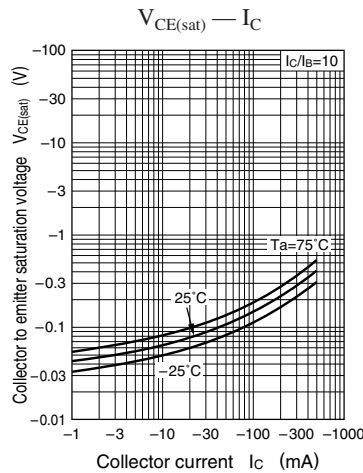
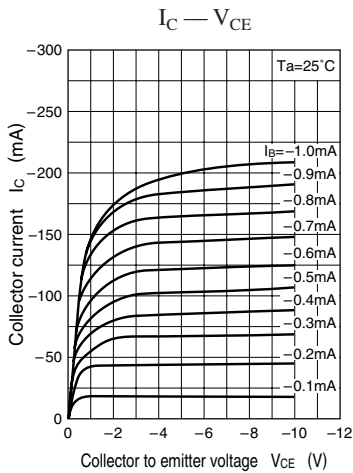
Common characteristics chart

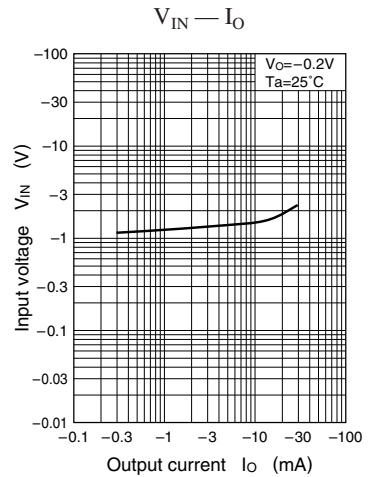
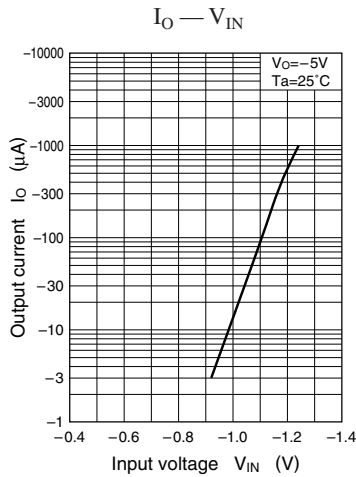
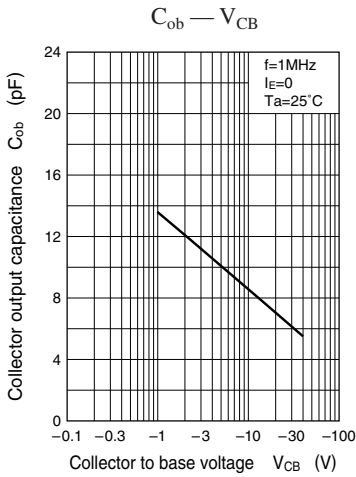


Characteristics charts of UNR4121

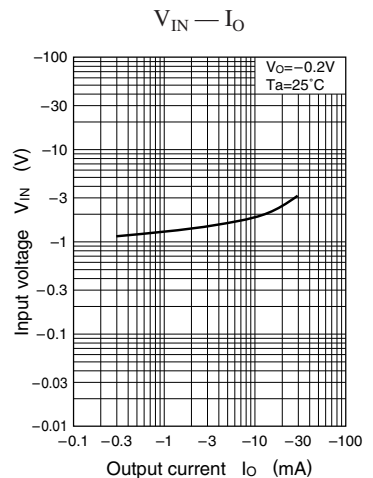
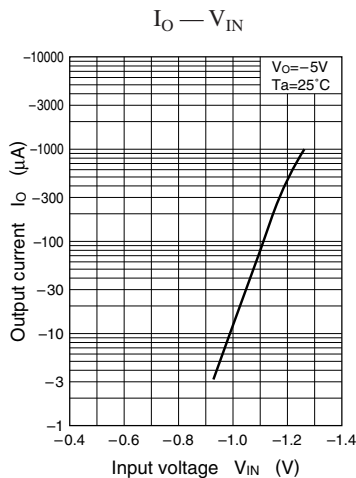
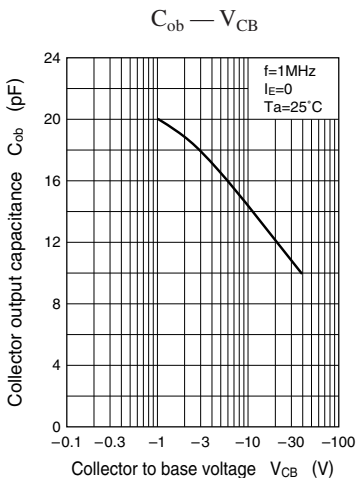
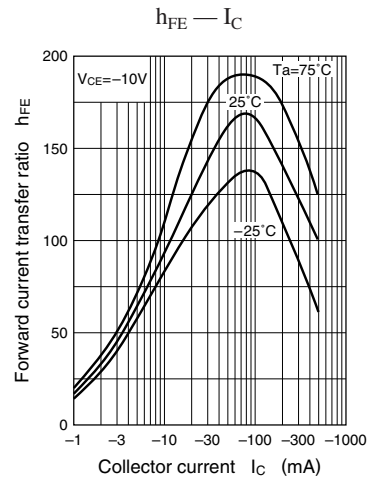
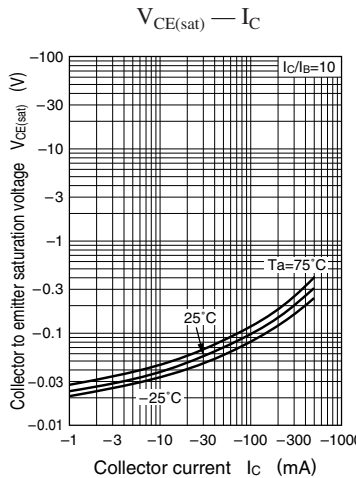
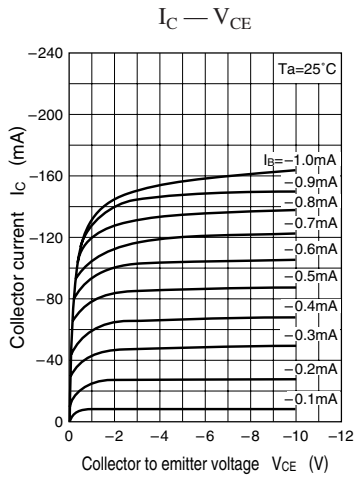


Characteristics charts of UNR4122

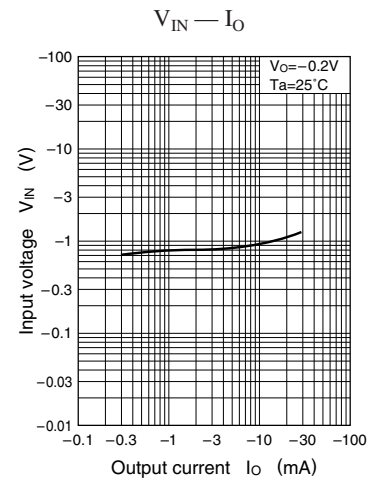
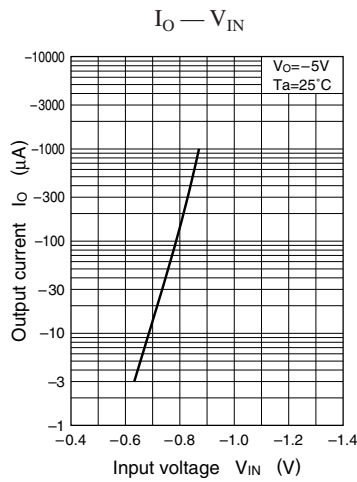
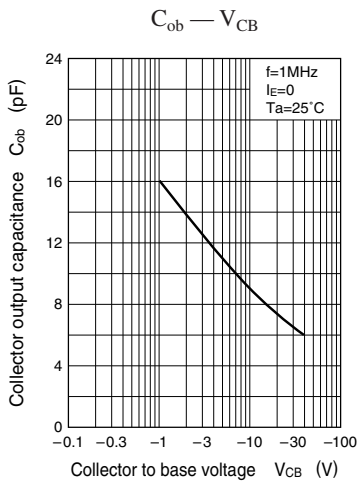
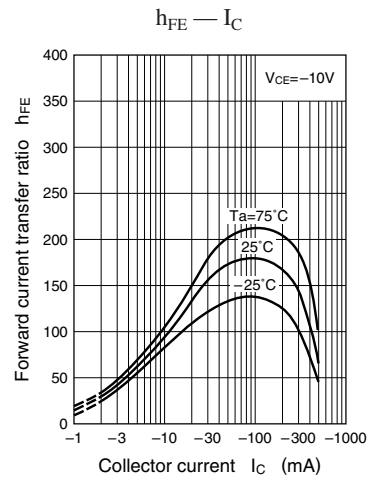
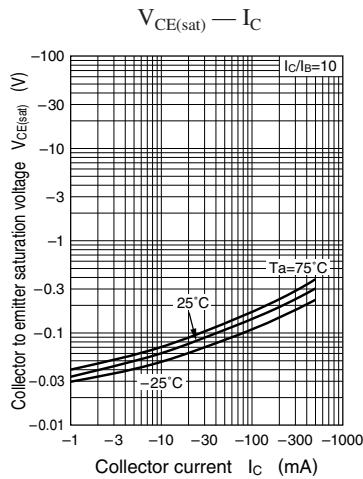
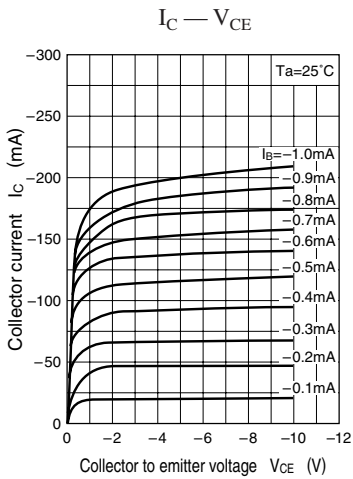




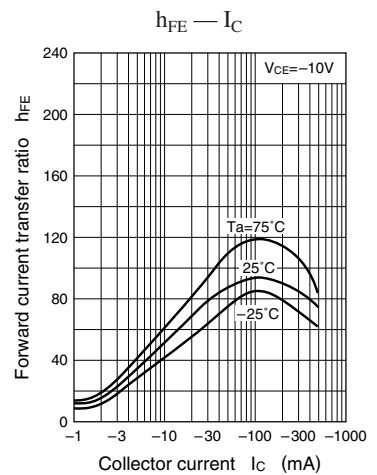
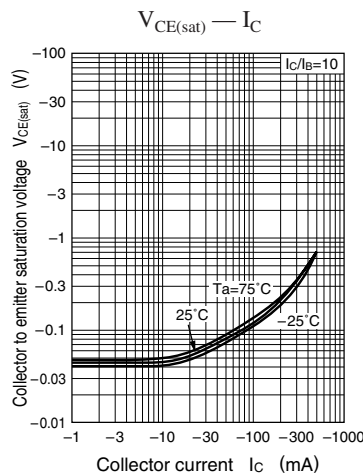
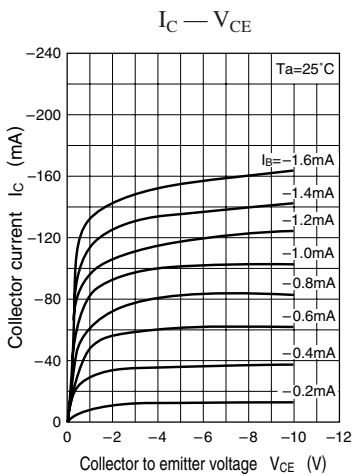
Characteristics charts of UNR4123

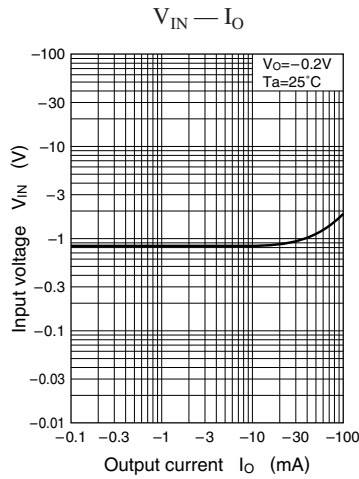
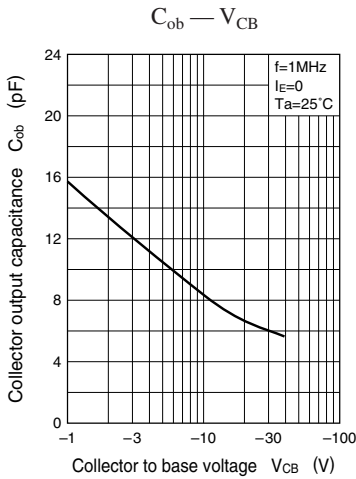


Characteristics charts of UNR4124

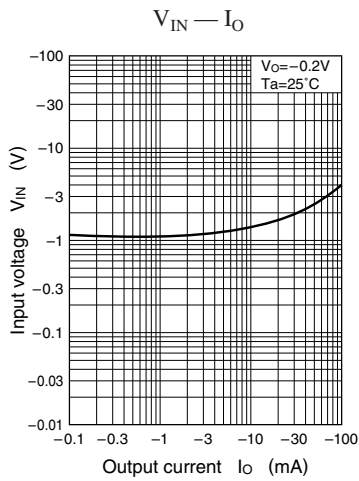
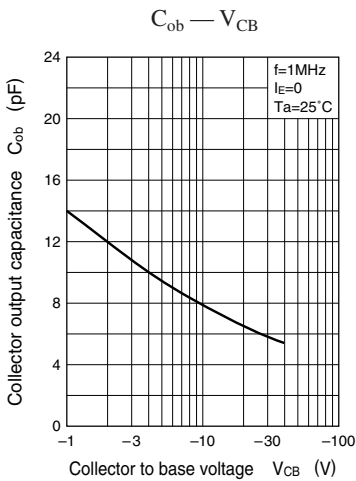
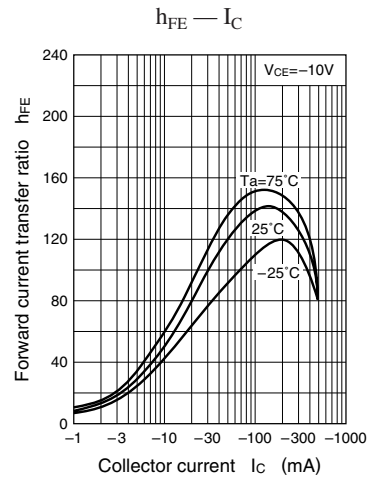
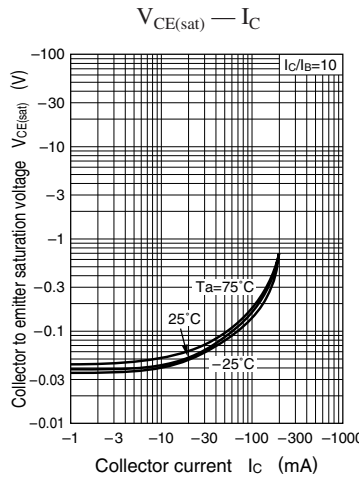
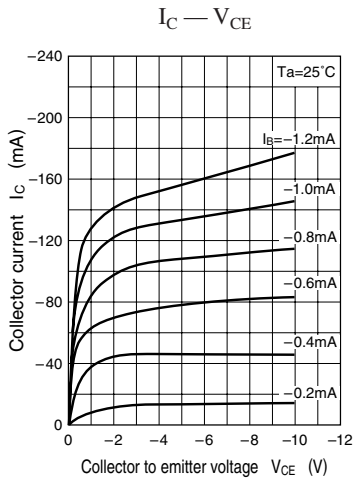


Characteristics charts of UNR412X





Characteristics charts of UNR412Y



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