

UNR2121/2122/2123/2124/212X/212Y (UN2121/2122/2123/2124/212X/212Y)

Silicon PNP epitaxial planer transistor

For digital circuits

Features

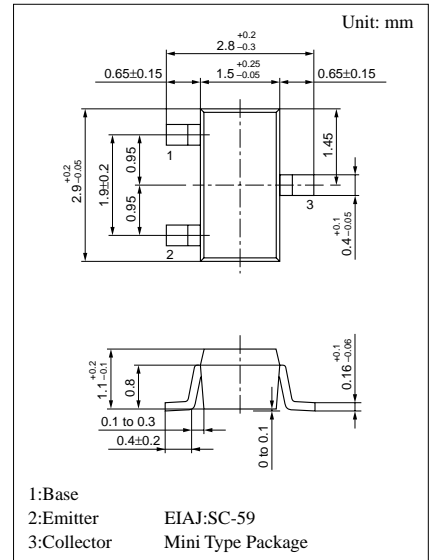
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- Mini type package, allowing downsizing of the equipment and automatic insertion through tape packing and magazine packing.

Resistance by Part Number

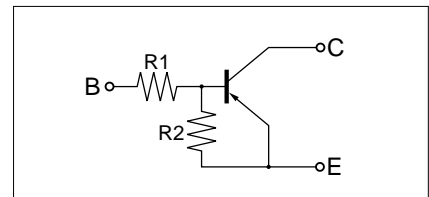
	Marking Symbol	(R ₁)	(R ₂)
• UNR2121	7A	2.2kΩ	2.2kΩ
• UNR2122	7B	4.7kΩ	4.7kΩ
• UNR2123	7C	10kΩ	10kΩ
• UNR2124	7D	2.2kΩ	10kΩ
• UNR212X	7I	0.27kΩ	5kΩ
• UNR212Y	7Y	3.1kΩ	4.6kΩ

Absolute Maximum Ratings (T_a=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

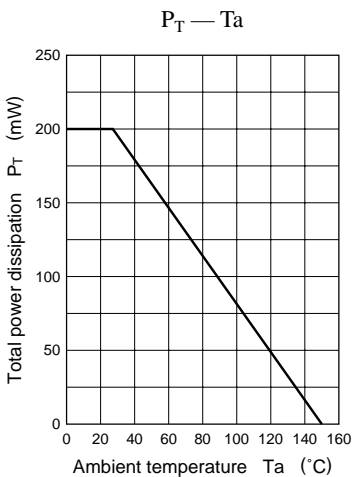


Note) The part numbers in the parenthesis show conventional part number.

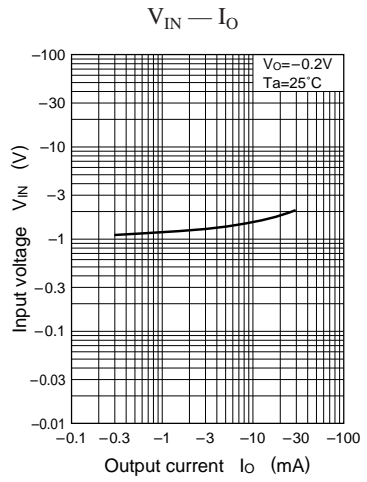
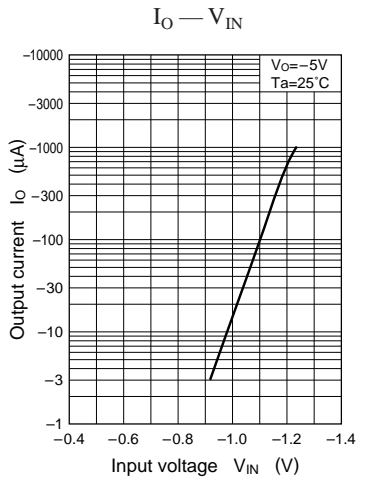
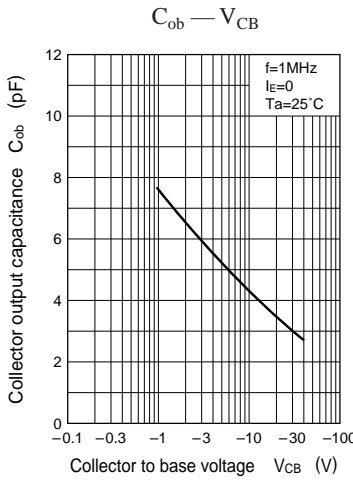
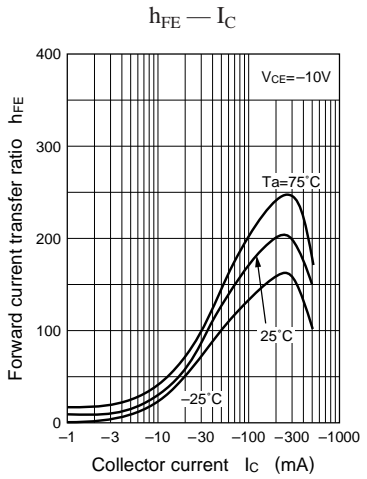
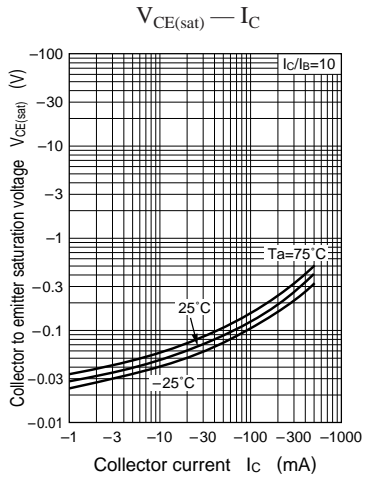
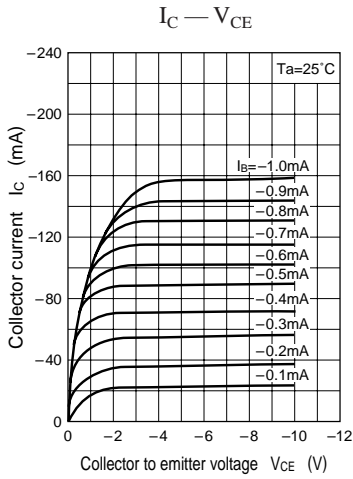
■ Electrical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	min	typ	max	Unit	
Collector cutoff current		I_{CBO}	$V_{CB} = -50V, I_E = 0$			-1	μA	
	UNR212X	I_{CBO}	$V_{CB} = -50V, I_E = 0$			-0.1		
Collector cutoff current		I_{CEO}	$V_{CE} = -50V, I_B = 0$			-1	μA	
	UNR212X	I_{CEO}	$V_{CE} = -50V, I_B = 0$			-0.5		
Emitter cutoff current	UNR2121	I_{EBO}	$V_{EB} = -6V, I_C = 0$			-5	mA	
	UNR2122/212X/212Y					-2		
	UNR2123/2124					-1		
Collector to base voltage		V_{CBO}	$I_C = -10\mu A, I_E = 0$	-50			V	
Forward transfer ratio	UNR2121	h_{FE}	$V_{CE} = -10V, I_C = -100mA$	40				
	UNR2122/212Y			50				
	UNR2123/2124			60				
	UNR212X			20				
Collector to emitter saturation voltage		$V_{CE(sat)}$	$I_C = -100mA, I_B = -5mA$			-0.25	V	
		UNR212X	$V_{CE(sat)}$	$I_C = -10mA, I_B = -0.3mA$				-0.25
		UNR212Y	$V_{CE(sat)}$	$I_C = -50mA, I_B = -5mA$				-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	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		200		MHz	
Input resistance	UNR2121	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	
						0.22		
						0.054		
						0.67		

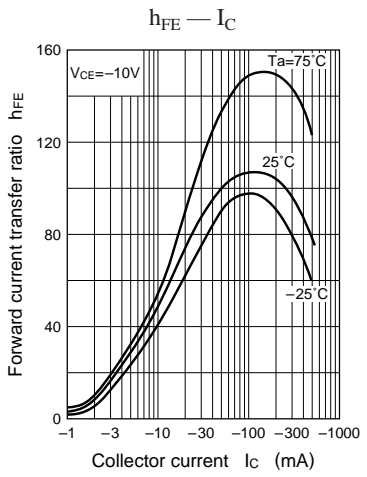
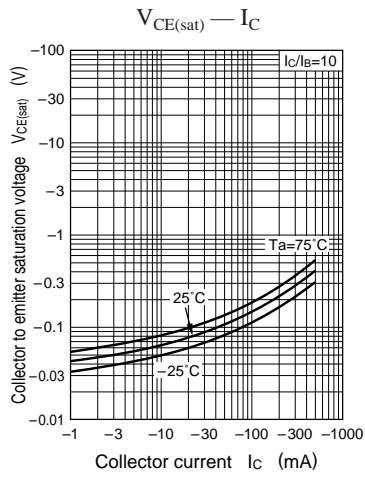
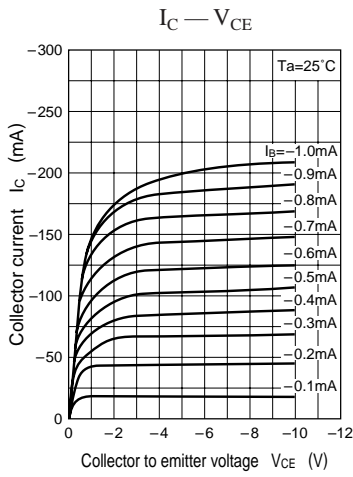
Common characteristics chart

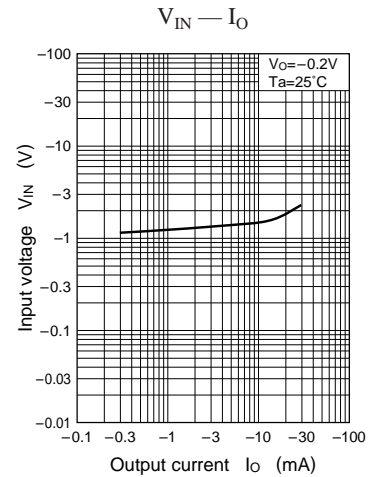
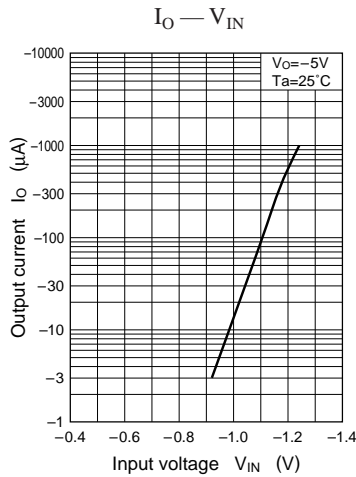
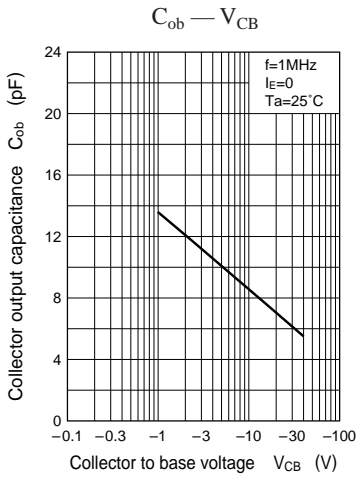


Characteristics charts of UNR2121

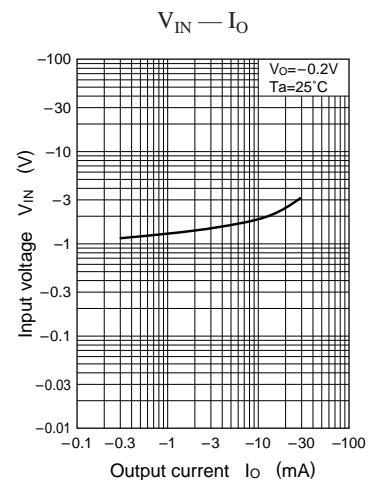
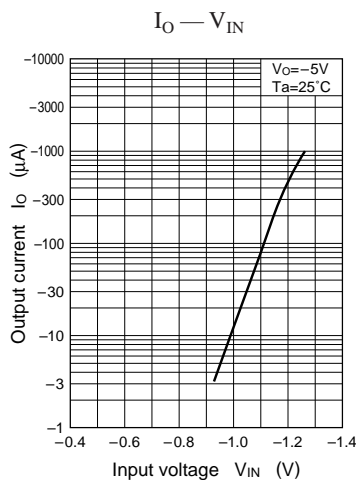
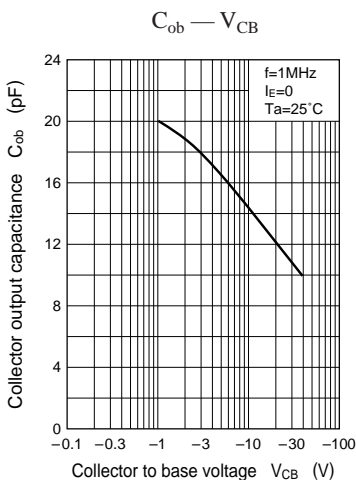
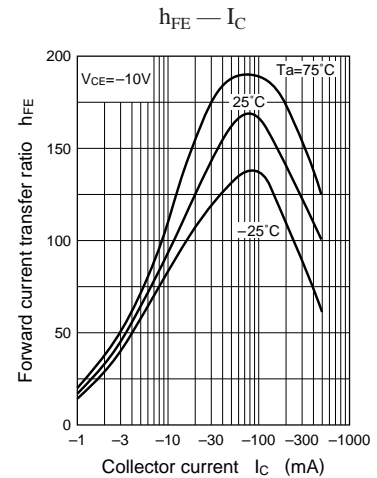
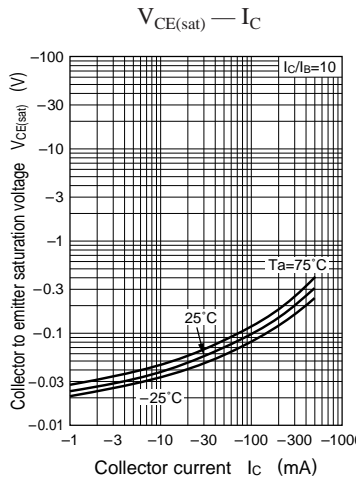
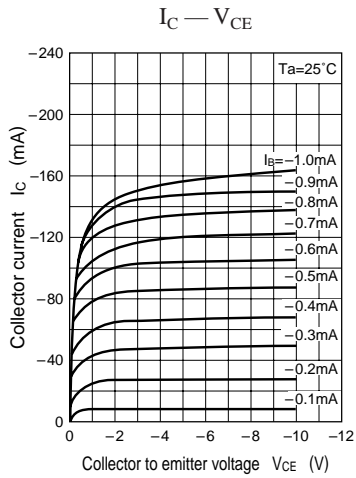


Characteristics charts of UNR2122

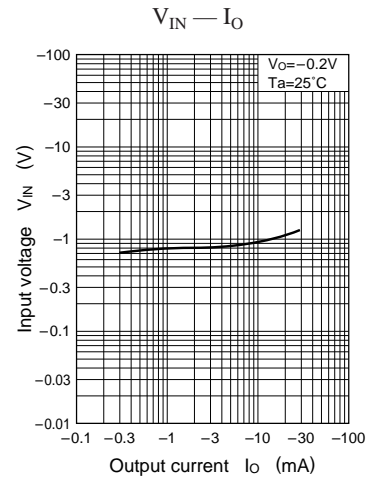
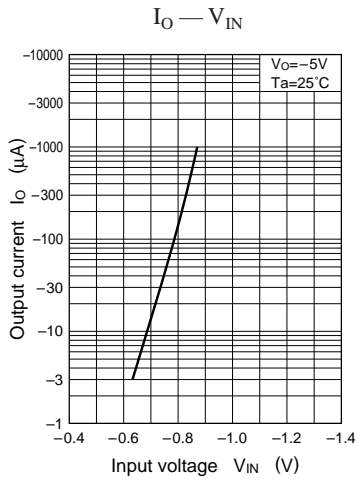
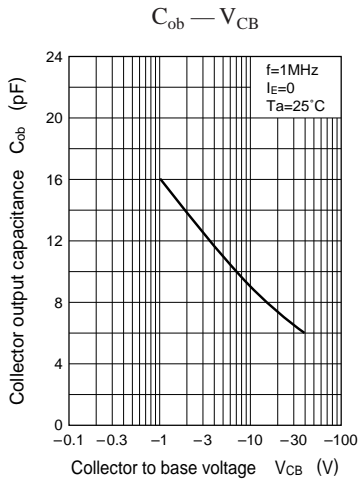
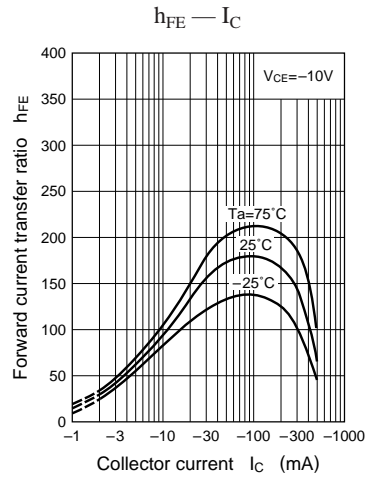
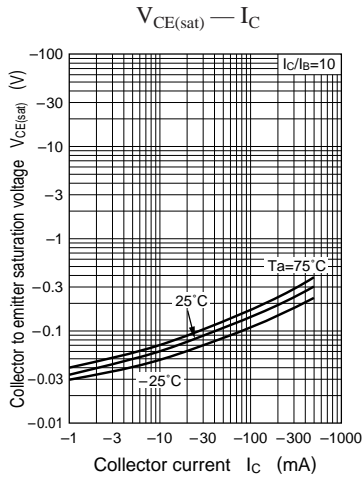
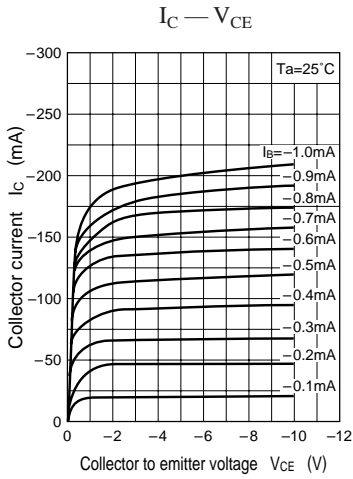




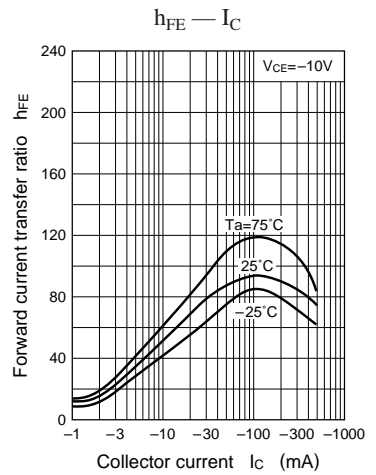
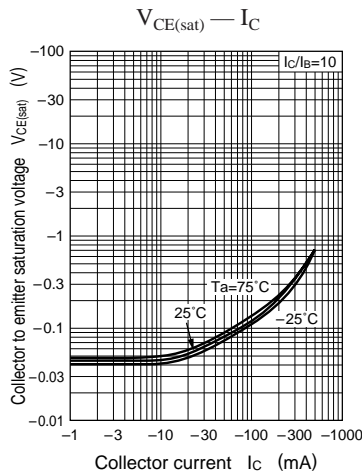
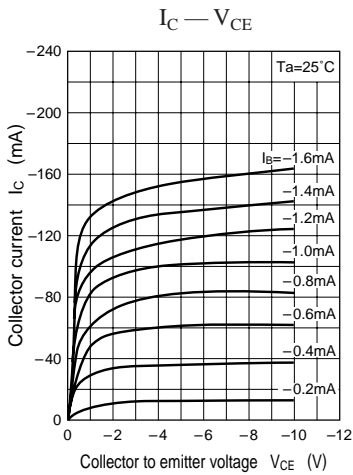
Characteristics charts of UNR2123

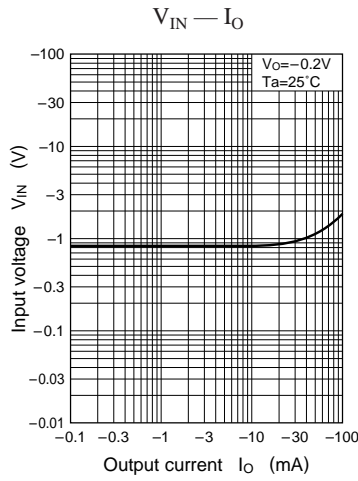
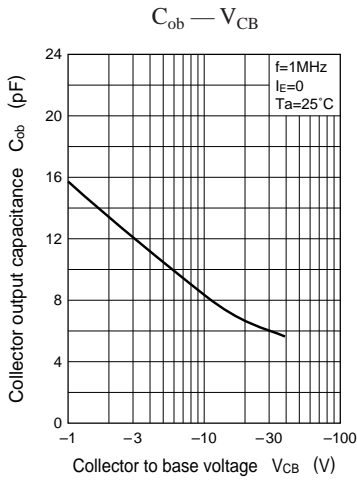


Characteristics charts of UNR2124

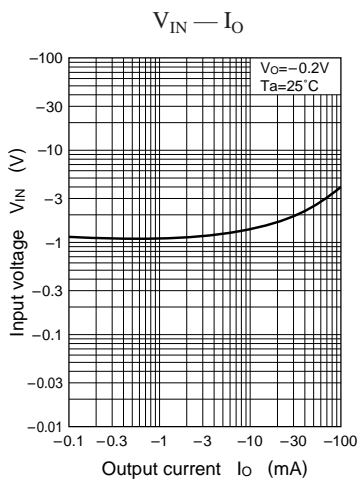
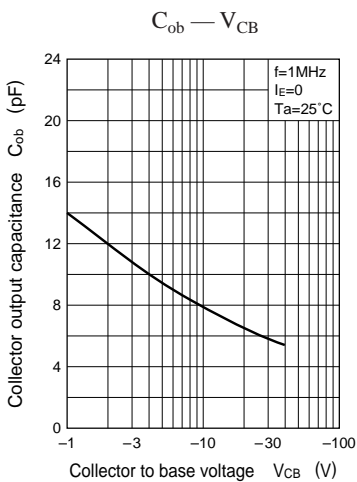
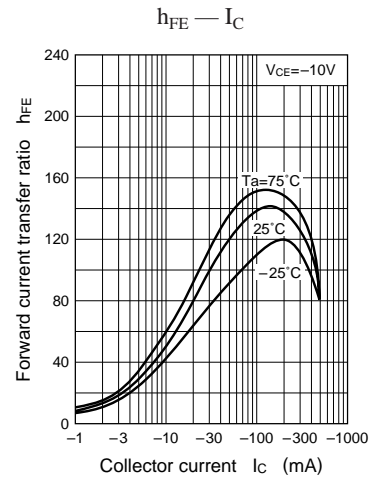
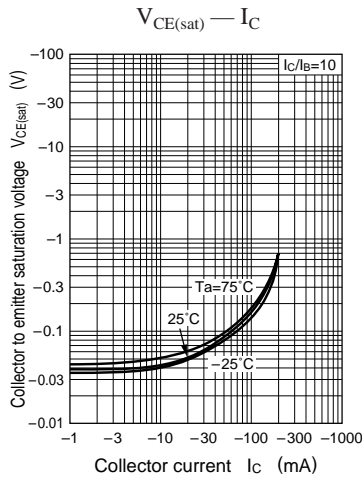
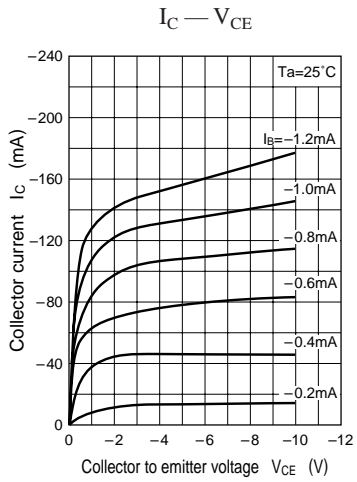


Characteristics charts of UNR212X





Characteristics charts of UNR212Y



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