

UNR212x Series (UN212x 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.
- Mini type package allowing easy 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

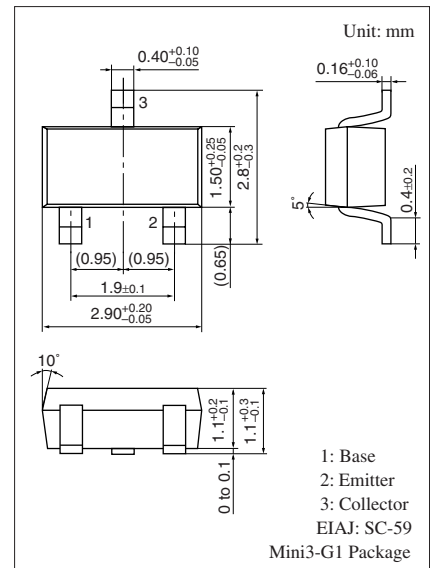
■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V _{CBO}	-50	V
Collector-emitter voltage (Base open)	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

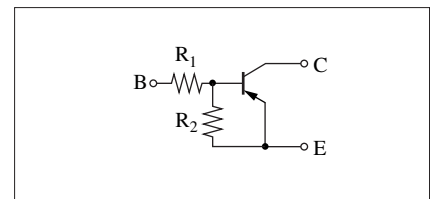
■ Electrical Characteristics T_a = 25°C ± 3°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V _{CBO}	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 _{CBO}	V _{CB} = -50 V, I _E = 0			-1.0	μA
	UNR212X				-0.1	
Collector-emitter cutoff current (Base open)	I _{CEO}	V _{CE} = -50 V, I _B = 0			-1.0	μA
	UNR212X				-0.5	
Emitter-base cutoff current (Collector open)	I _{EBO}	V _{EB} = -6 V, I _C = 0			-5	mA
	UNR2121				-2	
	UNR2122/212X/212Y				-1	
	UNR2123/2124					
Forward current transfer ratio	h _{FE}	V _{CE} = -10 V, I _C = -5 mA	40			—
	UNR2121		50			
	UNR2122/212Y		60			
	UNR2123/2124		20			
	UNR212X					

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



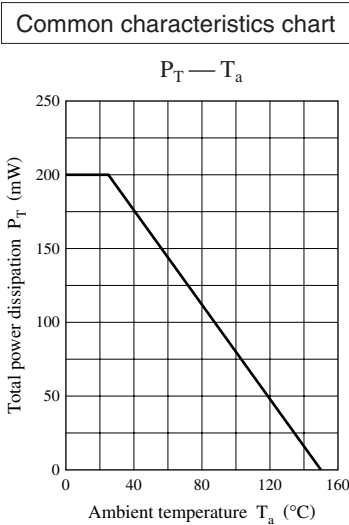
Internal Connection



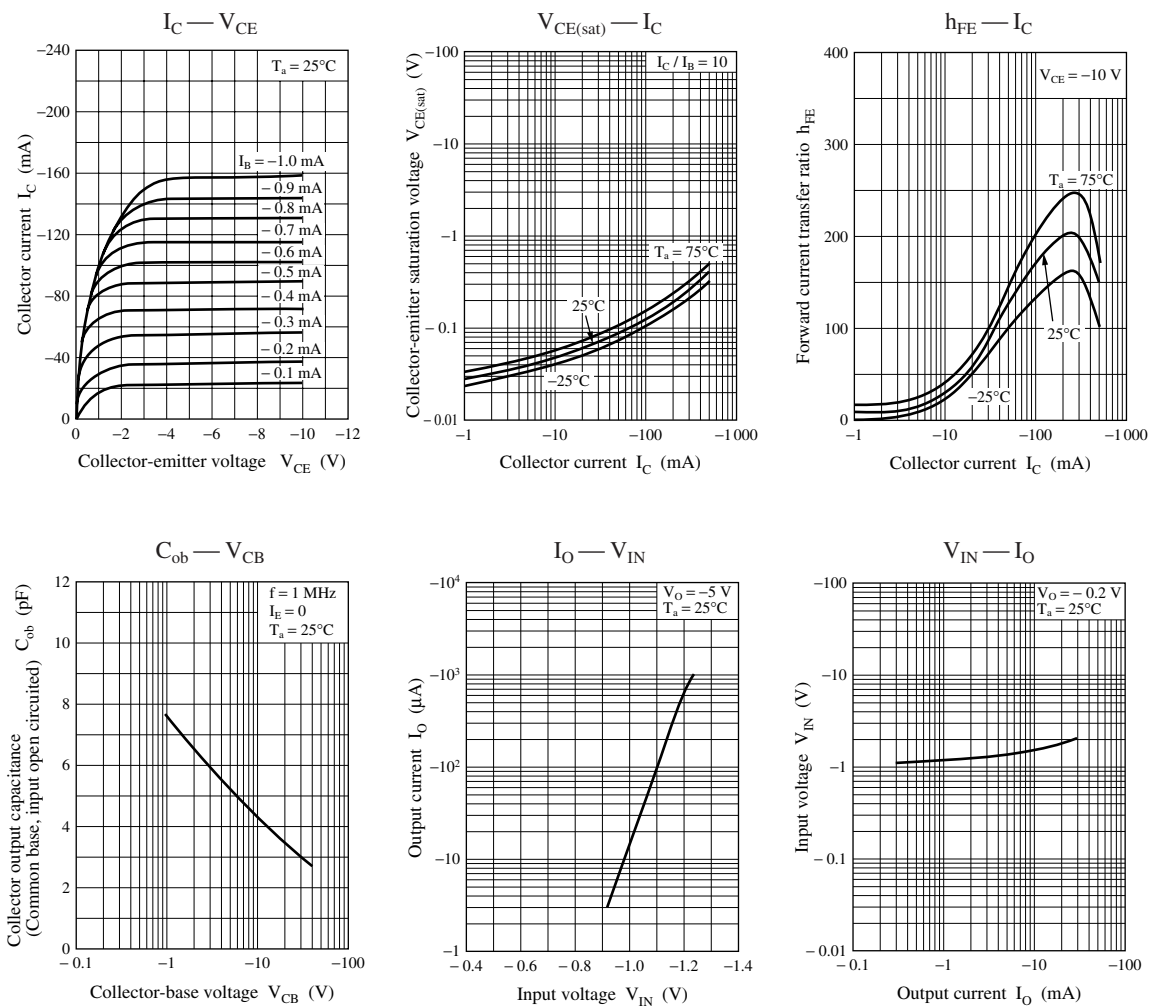
■ Electrical Characteristics (continued) $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{ mA}$, $I_B = -5\text{ mA}$			- 0.25	V
UNR212X/212Y		$I_C = -10\text{ mA}$, $I_B = -0.3\text{ mA}$				
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		0.17	0.22	0.27	
	UNR212X		0.043	0.054	0.065	
	UNR212Y		0.53	0.67	0.81	

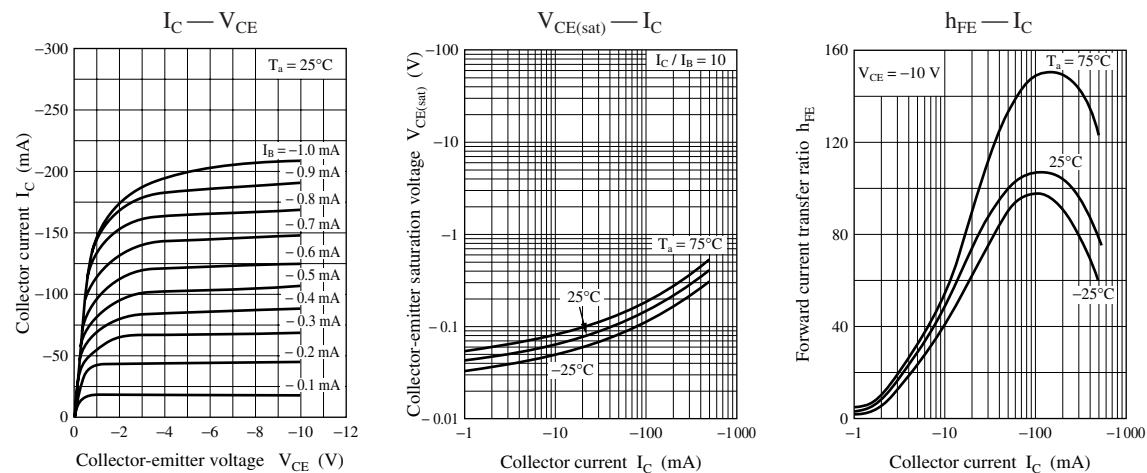
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

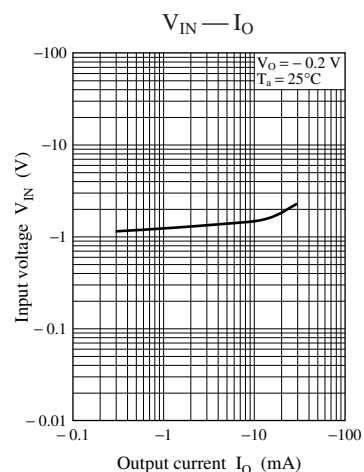
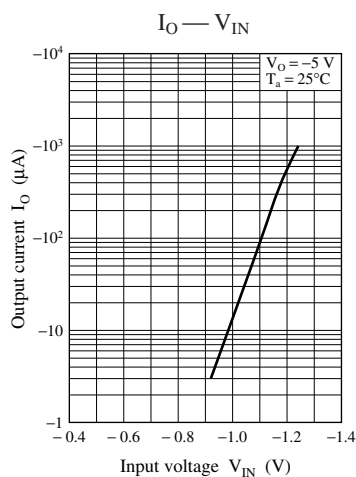
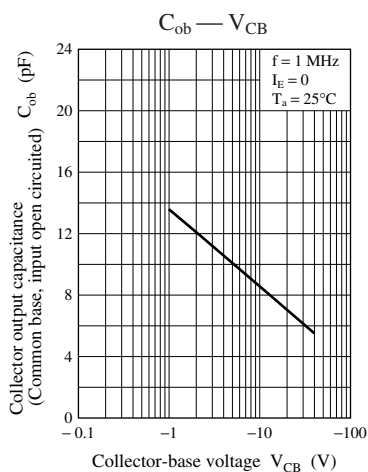


Characteristics charts of UNR2121

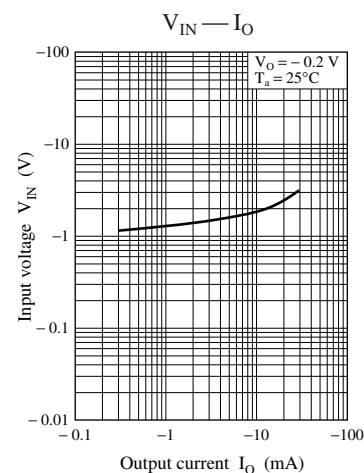
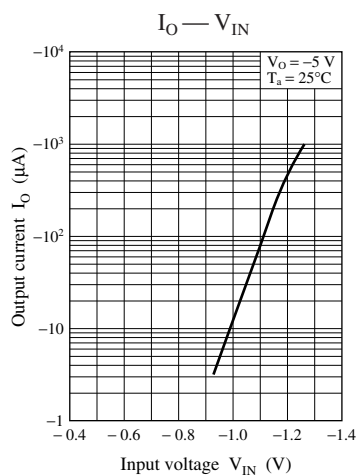
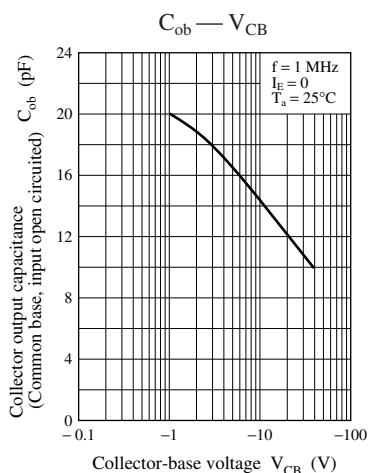
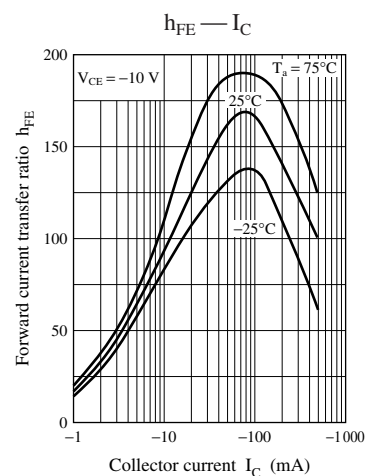
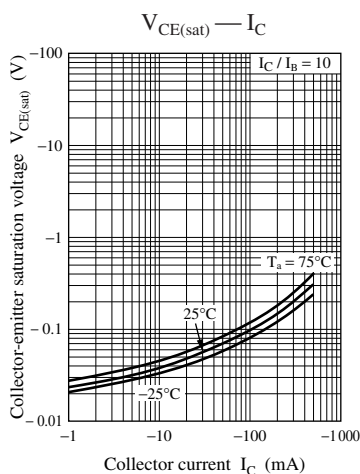
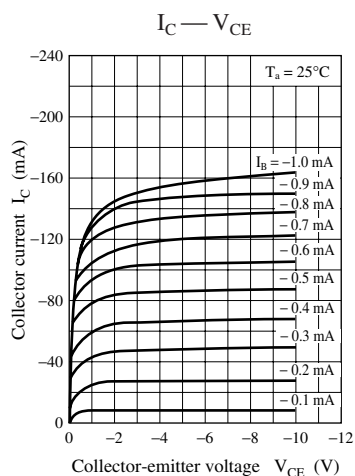


Characteristics charts of UNR2122

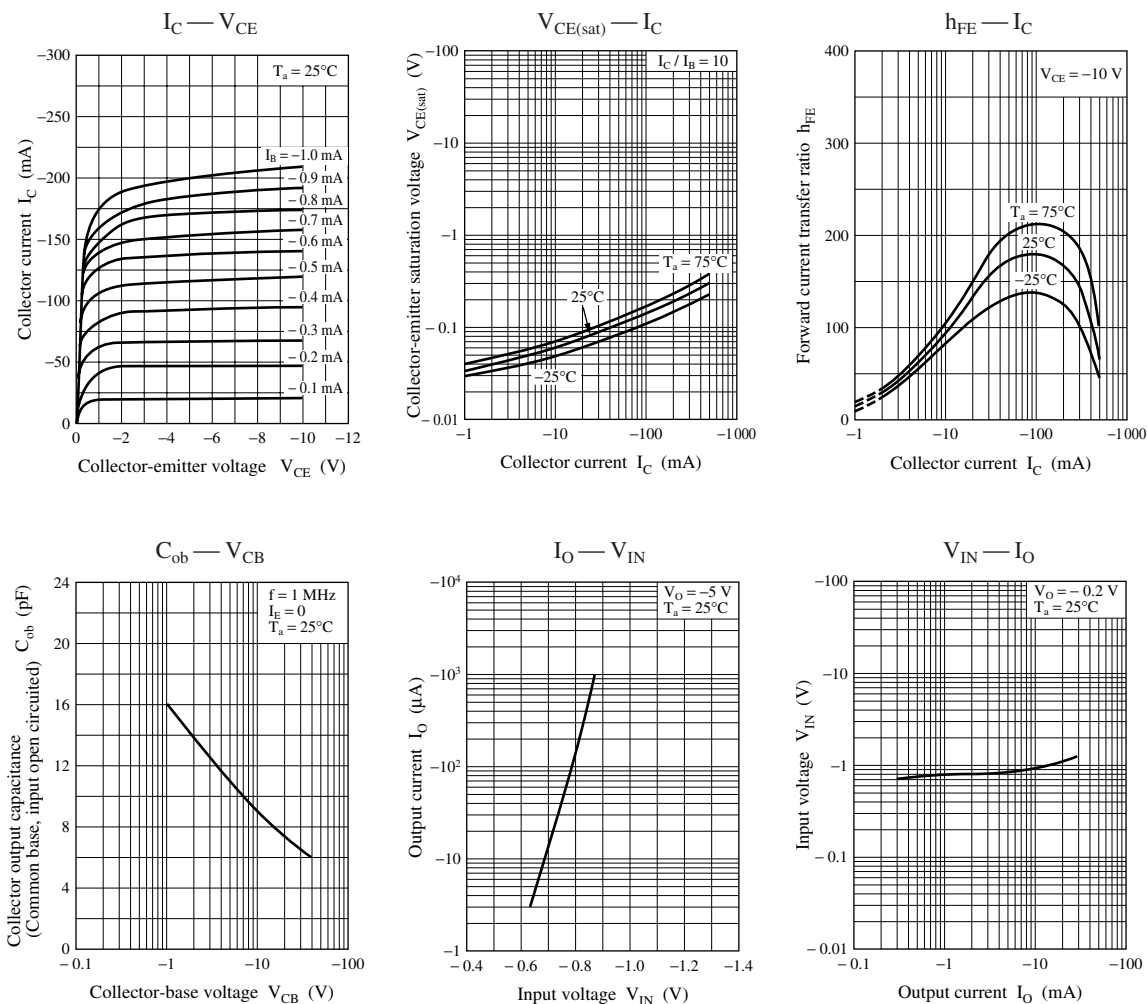




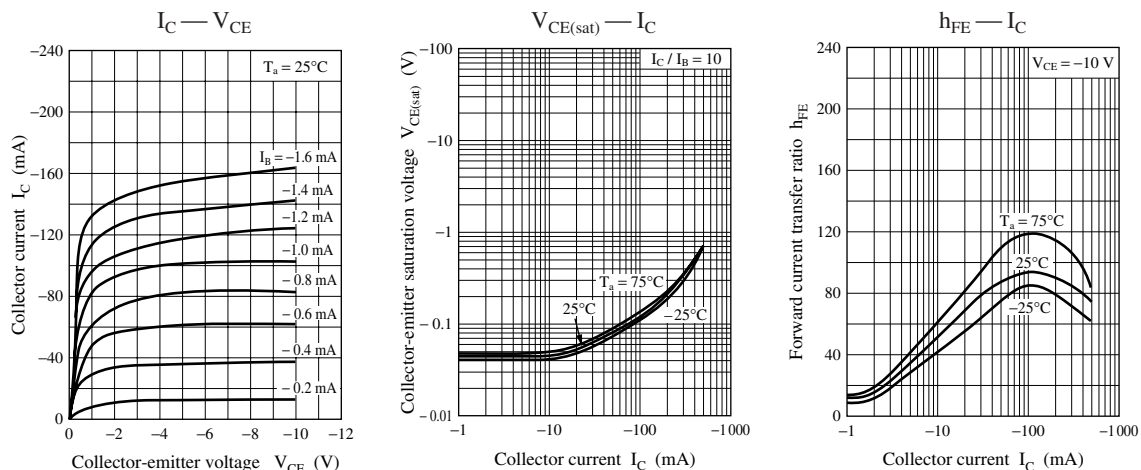
Characteristics charts of UNR2123

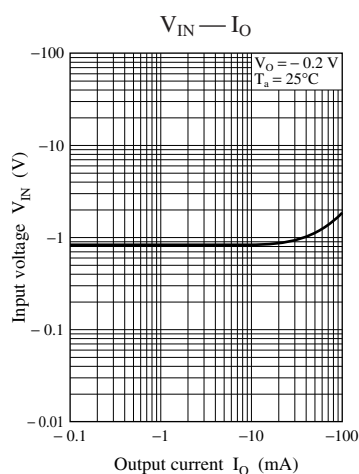
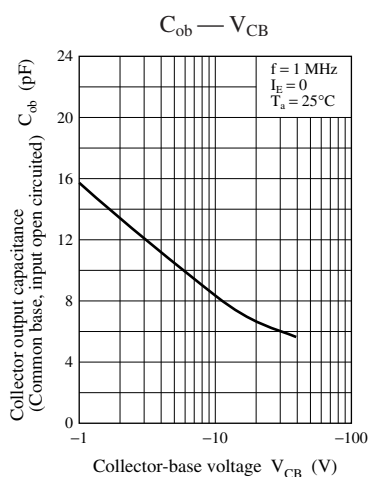


Characteristics charts of UNR2124

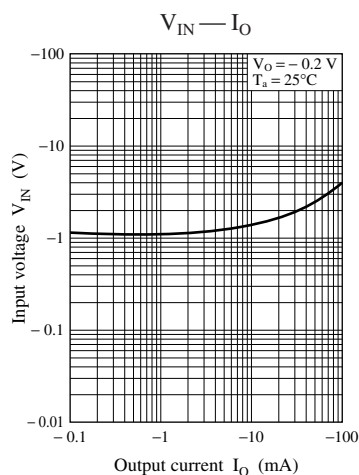
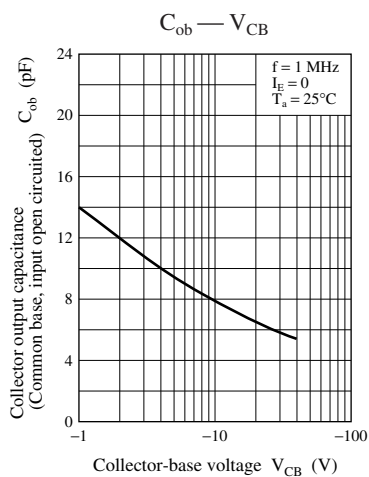
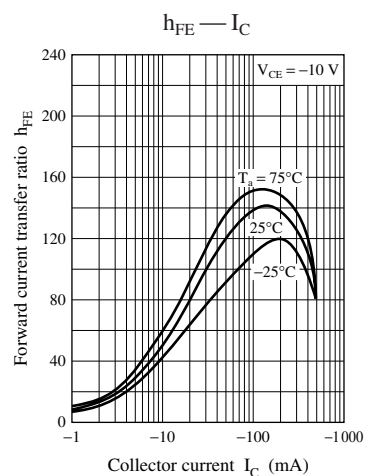
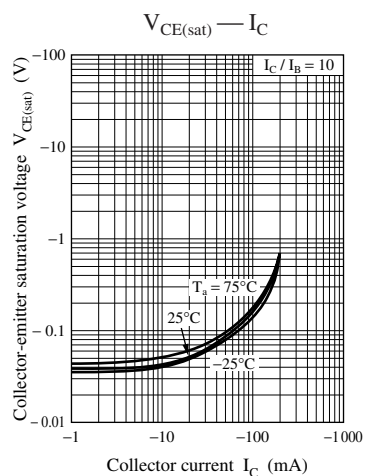
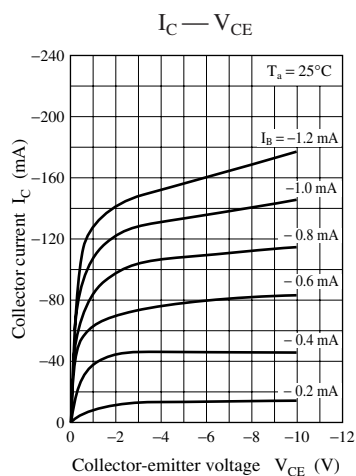


Characteristics charts of UNR212X





Characteristics charts of UNR212Y



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