

UNR6121/6122/6123/6124/612X/612Y (UN6121/6122/6123/6124/612X/612Y)

Silicon PNP epitaxial planer transistor

For digital circuits

Features

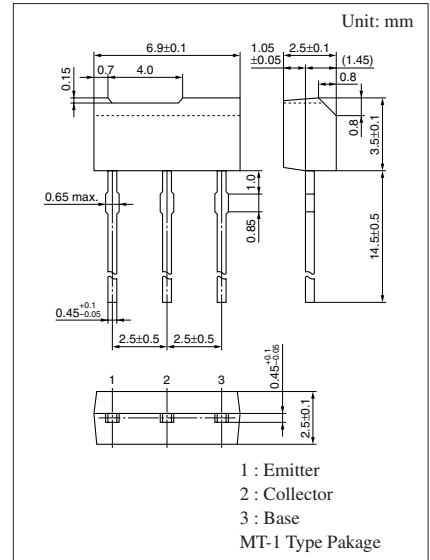
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- MT-1 type package, allowing supply with the radial taping.

Resistance by Part Number

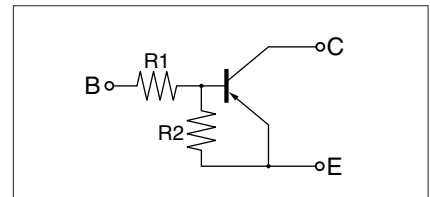
	(R ₁)	(R ₂)
• UNR6121	2.2kΩ	2.2kΩ
• UNR6122	4.7kΩ	4.7kΩ
• UNR6123	10kΩ	10kΩ
• UNR6124	2.2kΩ	10kΩ
• UNR612X	0.27kΩ	5kΩ
• UNR612Y	3.1kΩ	4.6kΩ

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rated	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	600	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C



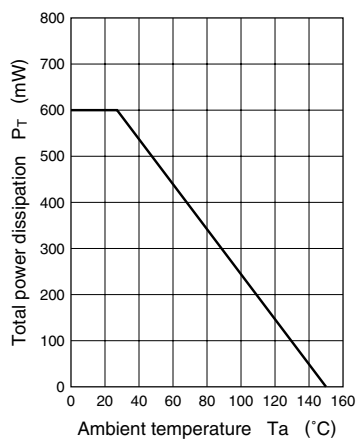
Internal Connection



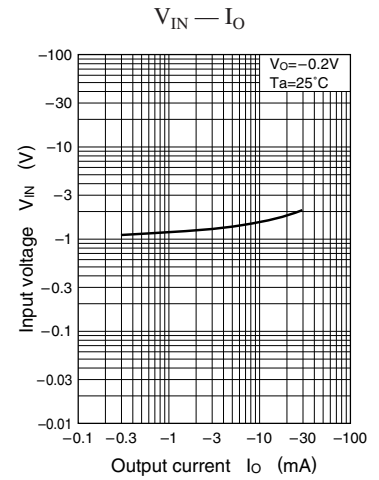
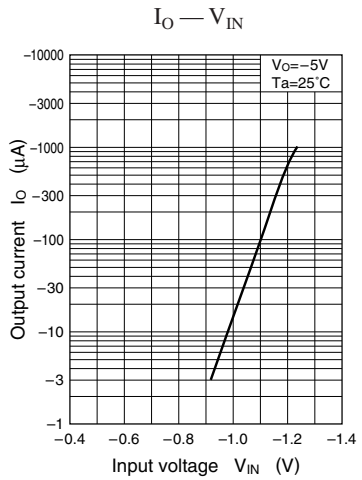
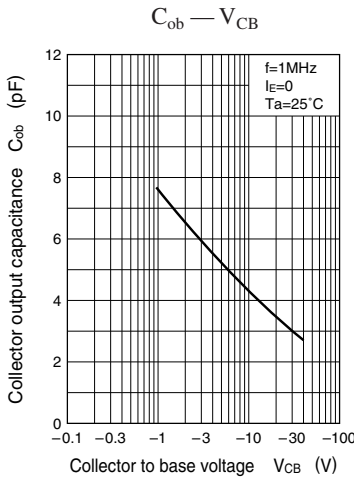
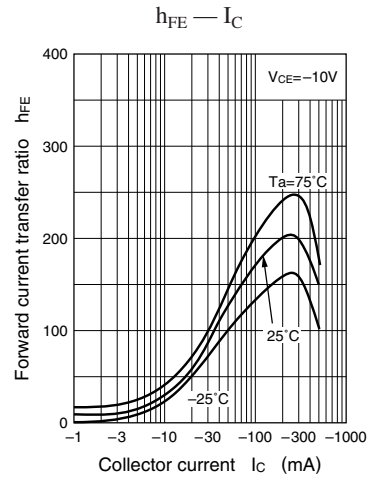
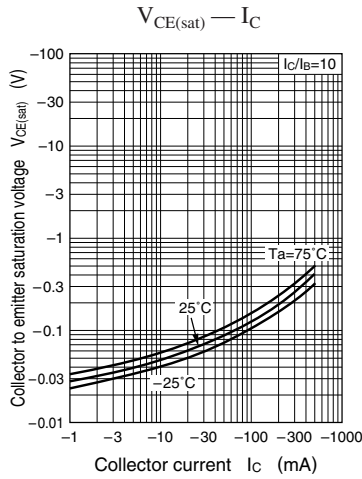
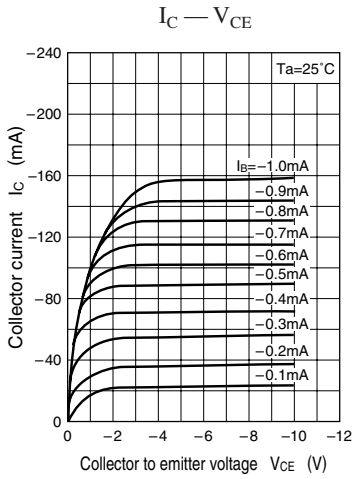
Note.) The Part numbers in the Parenthesis show conventional part number.

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

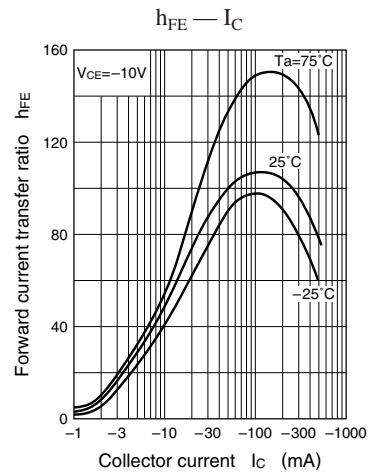
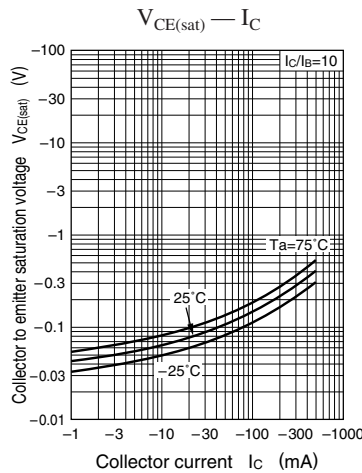
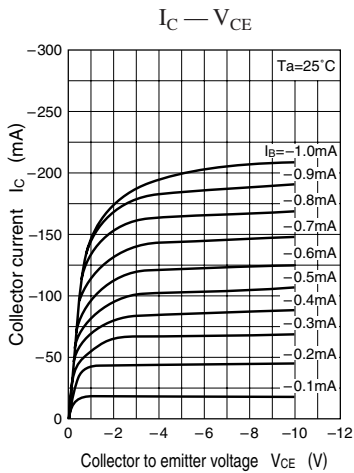
Parameter		Symbol	Conditions	min	typ	max	Unit		
Collector cutoff current		I_{CBO}	$V_{\text{CB}} = -50\text{V}, I_{\text{E}} = 0$			-1	μA		
	UNR612X	I_{CBO}	$V_{\text{CB}} = -50\text{V}, I_{\text{E}} = 0$			-0.1			
Collector cutoff current		I_{CEO}	$V_{\text{CE}} = -50\text{V}, I_{\text{B}} = 0$			-1	μA		
	UNR612X	I_{CEO}	$V_{\text{CE}} = -50\text{V}, I_{\text{B}} = 0$			-0.5			
Emitter cutoff current	UNR6121	I_{EBO}	$V_{\text{EE}} = -6\text{V}, I_{\text{C}} = 0$			-5	mA		
	UNR6122/612X/612Y					-2			
	UNR6123/6124					-1			
Collector to base voltage		V_{CBO}	$I_{\text{C}} = -10\mu\text{A}, I_{\text{E}} = 0$	-50			V		
Collector to emitter voltage		V_{CEO}	$I_{\text{C}} = -2\text{mA}, I_{\text{B}} = 0$	-50			V		
Forward current transfer ratio	UNR6121	h_{FE}	$V_{\text{CE}} = -10\text{V}, I_{\text{C}} = -100\text{mA}$	40					
	UNR6122/612Y			50					
	UNR6123/6124			60					
	UNR612X			20					
Collector to emitter saturation voltage		$V_{\text{CE(sat)}}$	$I_{\text{C}} = -100\text{mA}, I_{\text{B}} = -5\text{mA}$			-0.25	V		
		UNR612X	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -10\text{mA}, I_{\text{B}} = -0.3\text{mA}$				-0.25	
		UNR612Y	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -50\text{mA}, I_{\text{B}} = -5\text{mA}$				-0.15	
Output voltage high level		V_{OH}	$V_{\text{CC}} = -5\text{V}, V_{\text{B}} = -0.5\text{V}, R_{\text{L}} = 500\Omega$	-4.9			V		
Output voltage low level		V_{OL}	$V_{\text{CC}} = -5\text{V}, V_{\text{B}} = -3.5\text{V}, R_{\text{L}} = 500\Omega$			-0.2	V		
Transition frequency		f_{T}	$V_{\text{CB}} = -10\text{V}, I_{\text{E}} = 50\text{mA}, f = 200\text{MHz}$		80		MHz		
Input resistance	UNR6121	R_{I}		(-30%)	2.2	(+30%)	k Ω		
	UNR6122				4.7				
	UNR6123				10				
	UNR612X				0.27				
	UNR612Y				3.1				
Resistance ratio		$R_{\text{I}}/R_{\text{2}}$			0.8	1.0	1.2		
					UNR6124	0.17		0.22	0.27
					UNR612X	0.043		0.054	0.065
					UNR612Y			0.67	

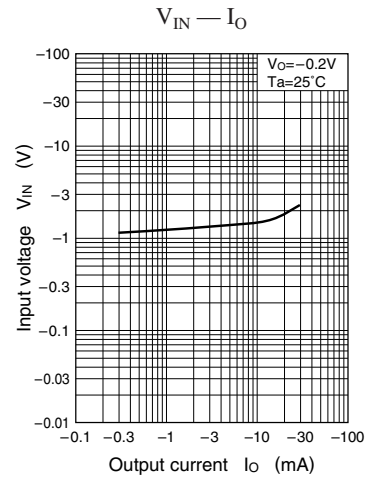
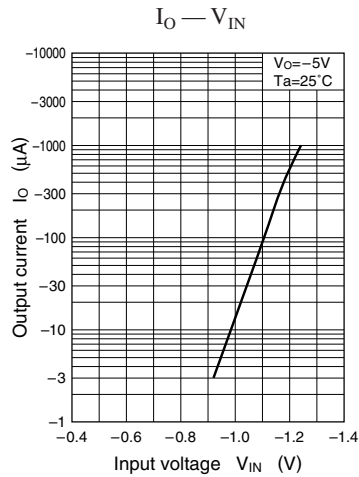
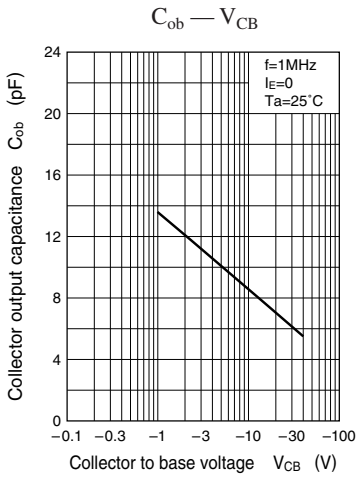
Common characteristics chart
 $P_{\text{T}} - T_{\text{a}}$


Characteristics charts of UNR6121

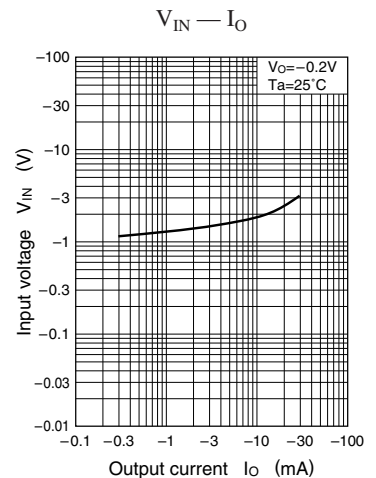
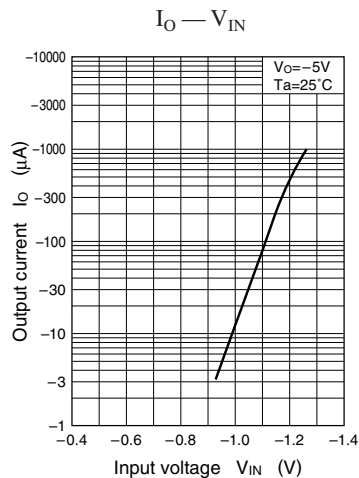
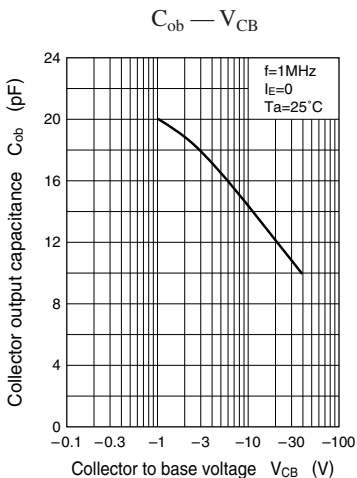
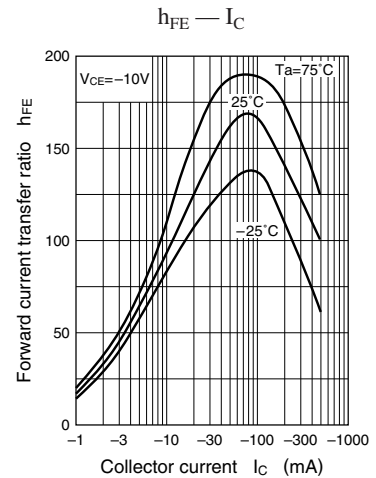
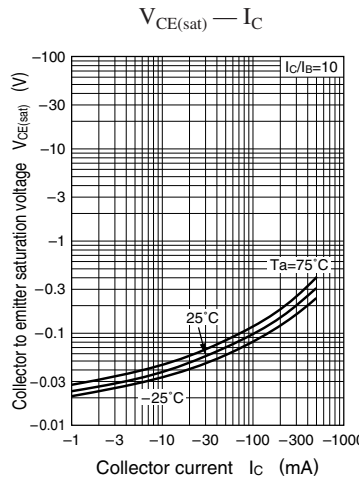
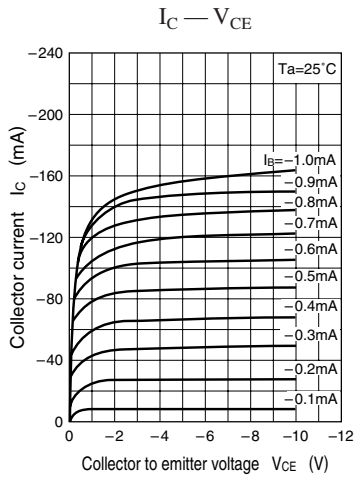


Characteristics charts of UNR6122

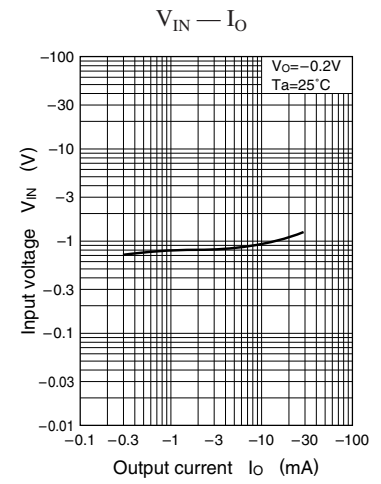
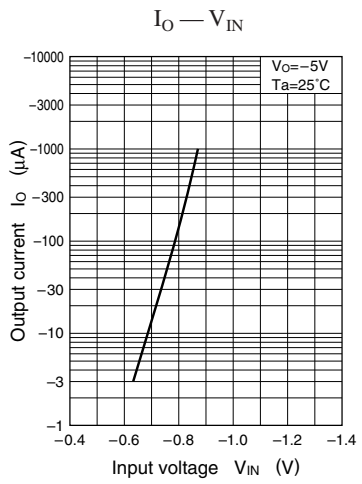
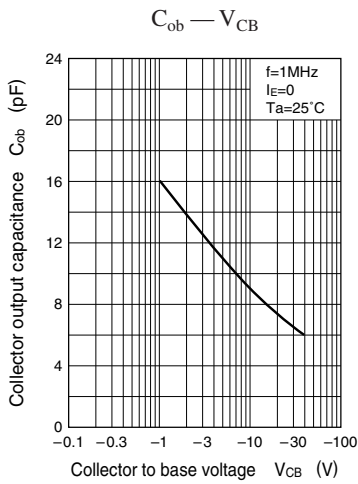
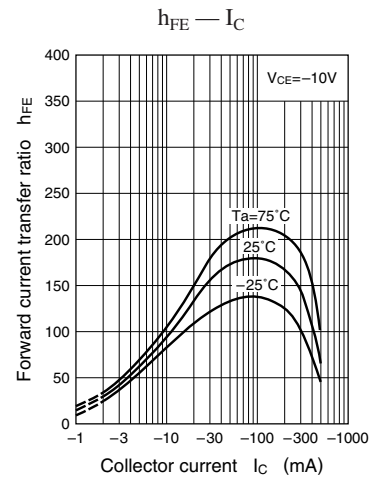
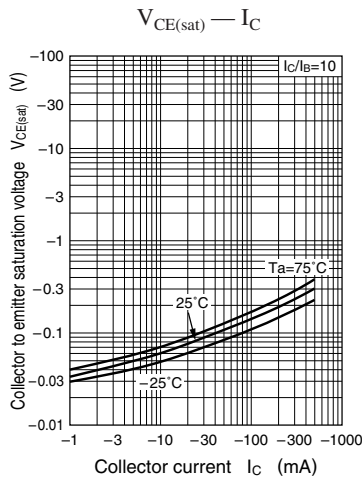
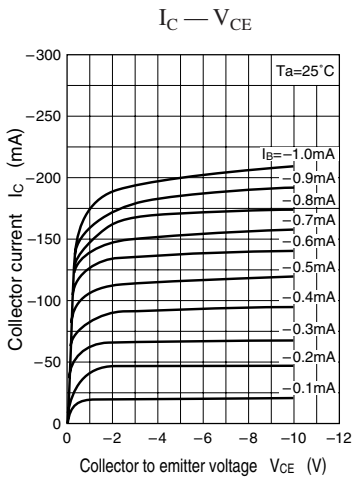




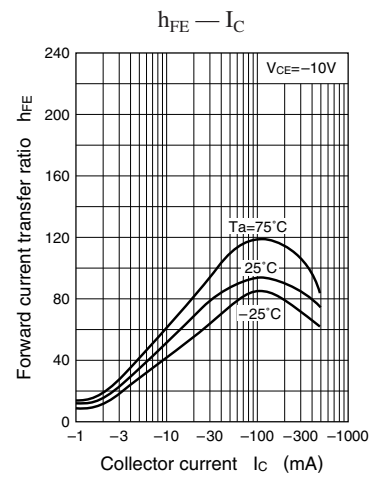
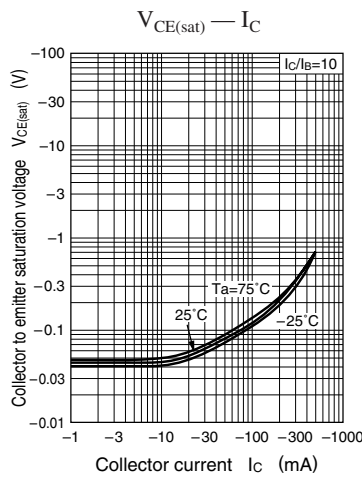
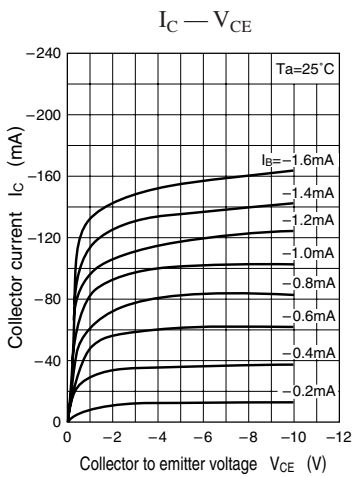
Characteristics charts of UNR6123

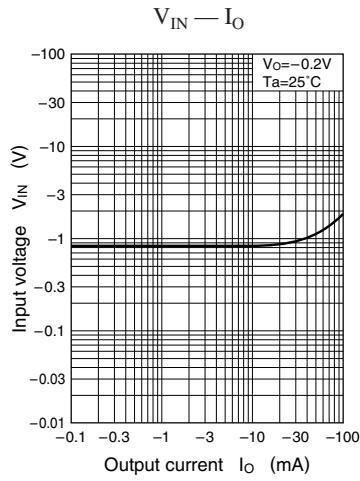
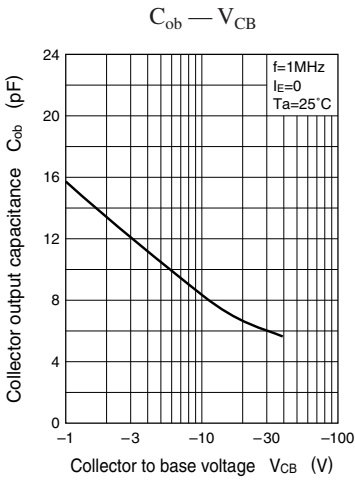


Characteristics charts of UNR6124

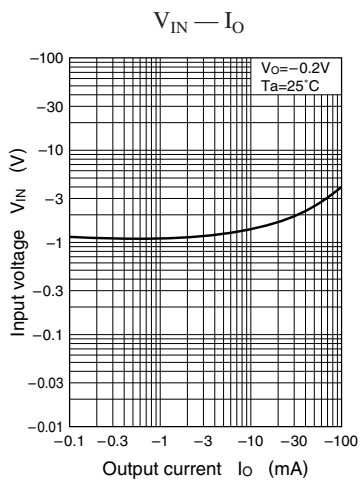
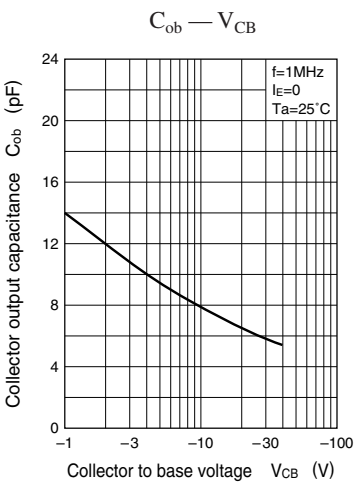
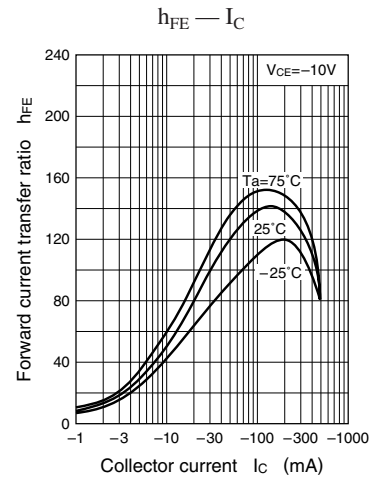
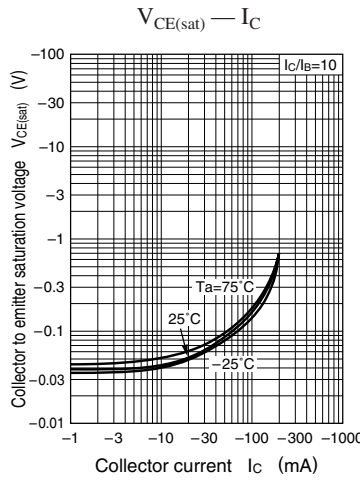
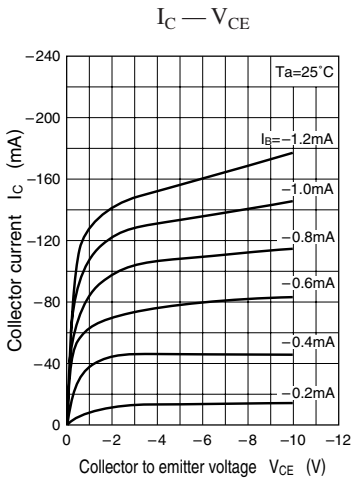


Characteristics charts of UNR612X





Characteristics charts of UNR612Y



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