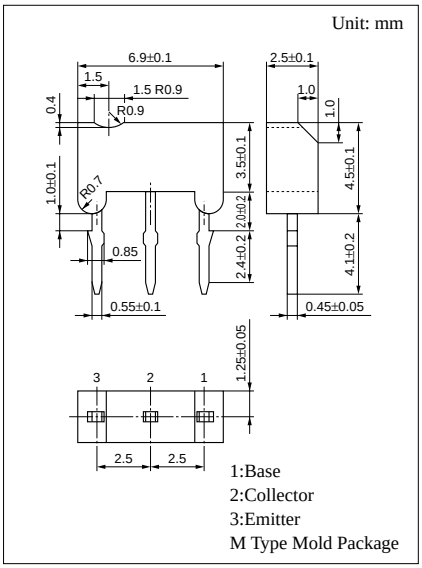
UNR1121/1122/1123/1124/112X/112Y (UN1121/1122/1123/1124/112X/112Y)

Silicon PNP epitaxial planer transistor

For digital circuits



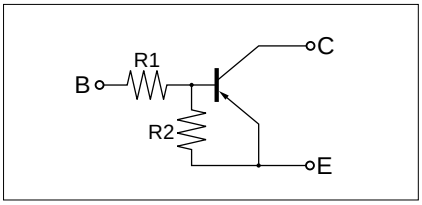
Features

- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

Resistance by Part Number

	(R_1)	(R_2)
● UNR1121	2.2kΩ	2.2kΩ
● UNR1122	4.7kΩ	4.7kΩ
● UNR1123	10kΩ	10kΩ
● UNR1124	2.2kΩ	10kΩ
● UNR112X	0.27kΩ	5kΩ
● UNR112Y	3.1kΩ	4.6kΩ

Internal Connection



Absolute Maximum Ratings (Ta=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	600	mW
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 to +150	˚C

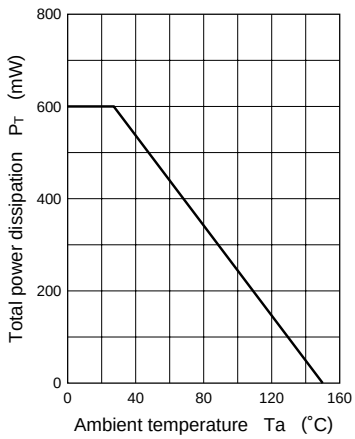
Note) The part numbers in the parenthesis show conventional part number.

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
	UNR112X	I_{CBO}	V_{CB} = –50V, I_E = 0			– 0.1	
Collector cutoff current		I_{CEO}	V_{CE} = –50V, I_B = 0			–1	μA
	UNR112X	I_{CEO}	V_{CE} = –50V, I_B = 0			– 0.5	
Emitter cutoff current	UNR1121	I_{EBO}	V_{EB} = –6V, I_C = 0			–5	mA
	UNR1122/112X/112Y					–2	
	UNR1123/1124					–1	
Collector to base voltage		V_{CBO}	I_C = –10μA, I_E = 0	–50			V
Forward current transfer ratio	UNR1121	h_{FE}	V_{CE} = –10V, I_C = –100mA	40			
	UNR1122/112Y			50			
	UNR1123/1124			60			
	UNR112X			20			
Collector to emitter saturation voltage		$V_{CE(sat)}$	I_C = –100mA, I_B = –5mA			– 0.25	V
	UNR112X	$V_{CE(sat)}$	I_C = –10mA, I_B = – 0.3mA			– 0.25	
	UNR112Y	$V_{CE(sat)}$	I_C = –50mA, I_B = –5mA			– 0.15	
Output voltage high level		V_{OH}	V_{CC} = –5V, V_B = – 0.5V, R_L = 500Ω	–4.9			V
Output voltage low level		V_{OL}	V_{CC} = –5V, V_B = –3.5V, R_L = 500Ω			– 0.2	V
Transition frequency		f_T	V_{CB} = –10V, I_E = 50mA, f = 200MHz		200		MHz
Input resistance	UNR1121	R_1		(–30%)	2.2	(+30%)	kΩ
	UNR1122				4.7		
	UNR1123				10		
	UNR112X				0.27		
	UNR112Y				3.1		
Resistance ratio		R_1/R_2		0.8	1.0	1.2	
	UNR1124				0.22		
	UNR112X				0.054		
	UNR112Y				0.67		

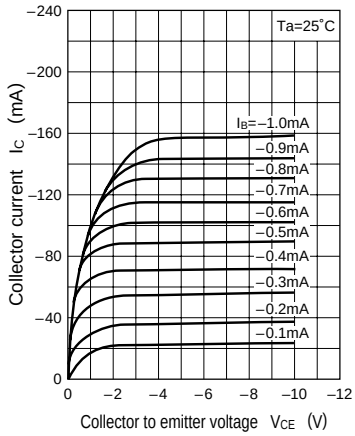
Common characteristics chart

P_T — Ta

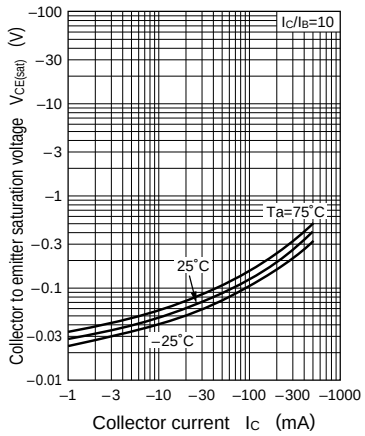


Characteristics charts of UNR1121

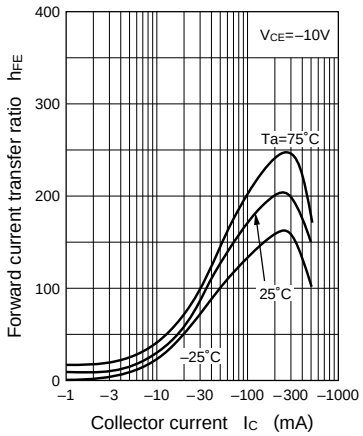
I_C — V_{CE}



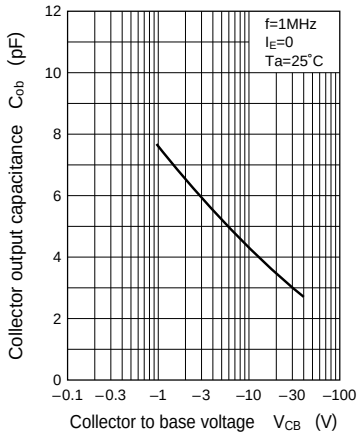
$V_{CE(sat)}$ — I_C



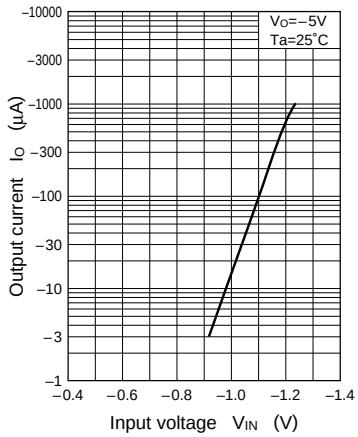
h_{FE} — I_C



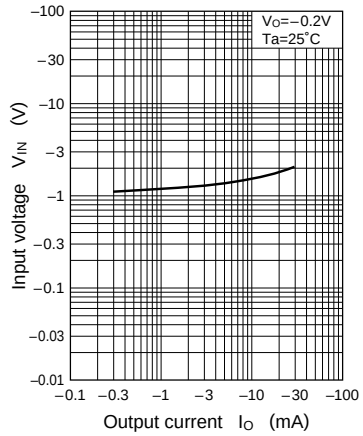
C_{ob} — V_{CB}



I_O — V_{IN}

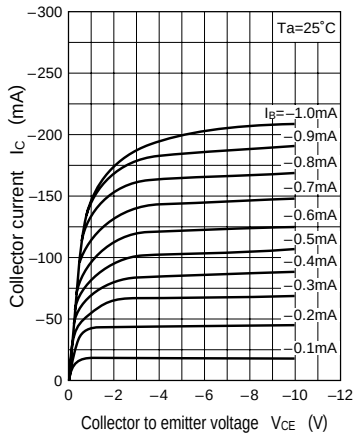


V_{IN} — I_O

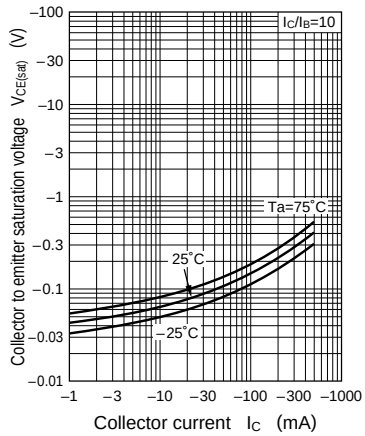


Characteristics charts of UNR1122

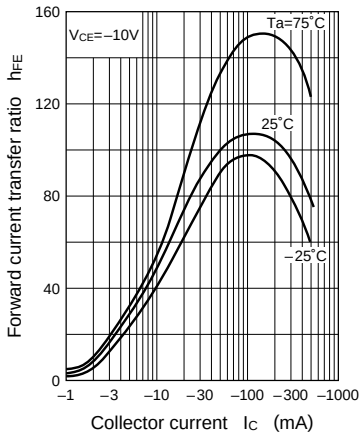
I_C — V_{CE}



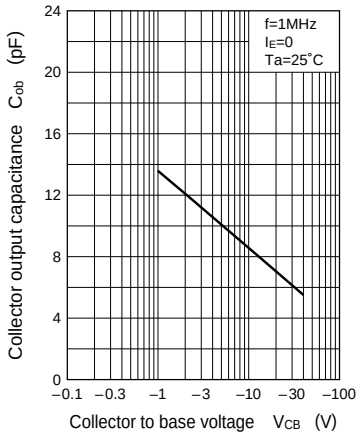
$V_{CE(sat)}$ — I_C



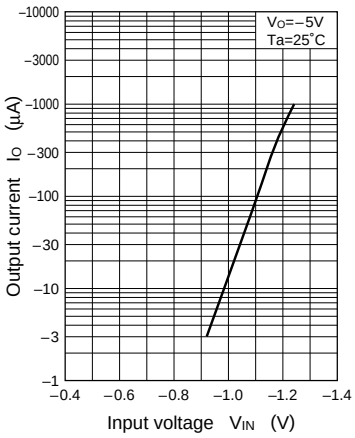
h_{FE} — I_C



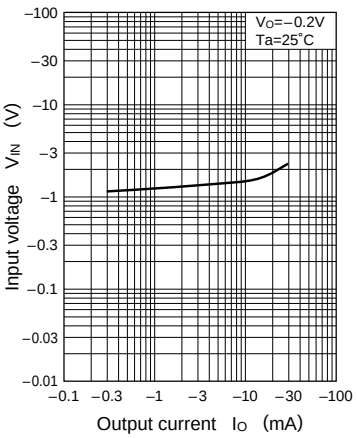
C_{ob} — V_{CB}



I_O — V_{IN}

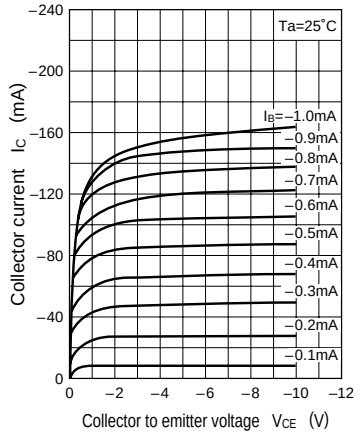


V_{IN} — I_O

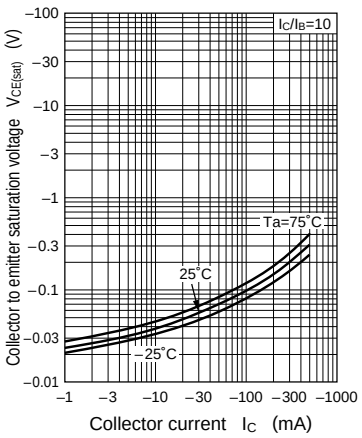


Characteristics charts of UNR1123

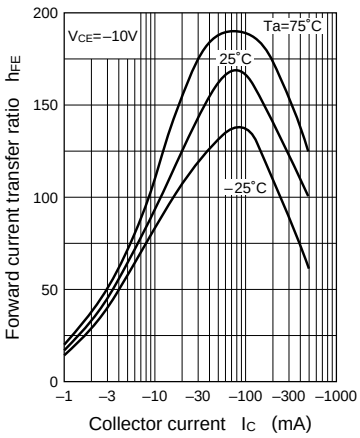
I_C — V_{CE}



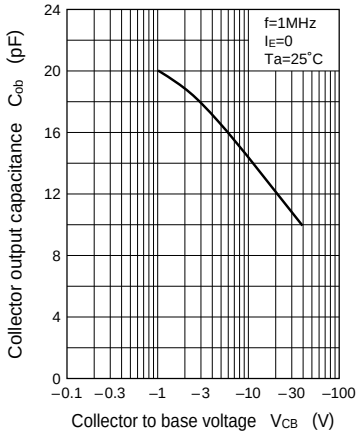
$V_{CE(sat)}$ — I_C



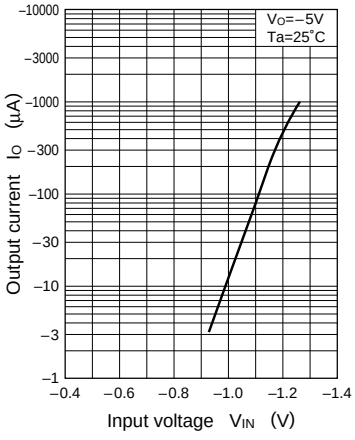
h_{FE} — I_C



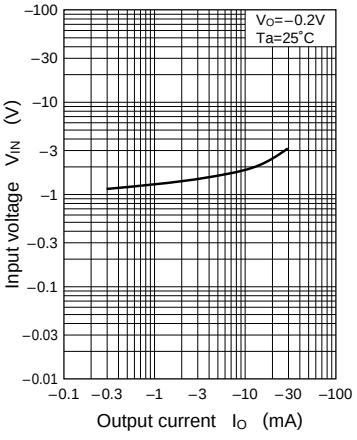
C_{ob} — V_{CB}



I_O — V_{IN}

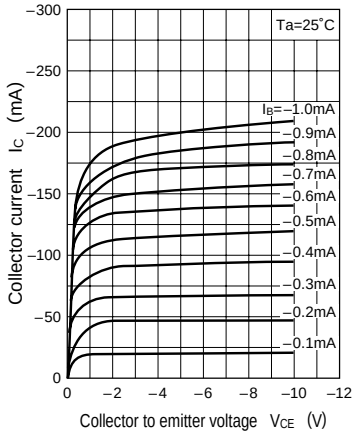


V_{IN} — I_O

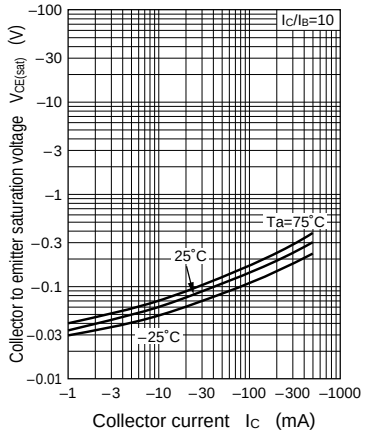


Characteristics charts of UNR1124

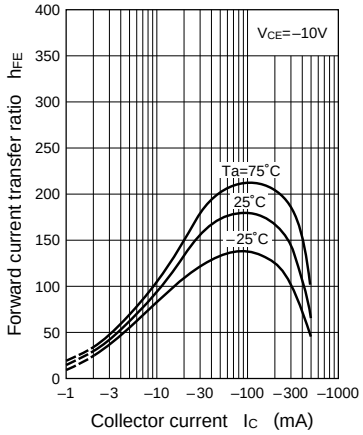
I_C — V_{CE}



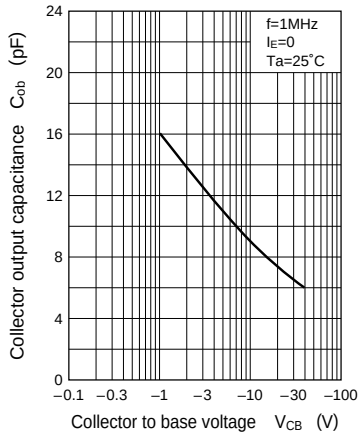
$V_{CE(sat)}$ — I_C



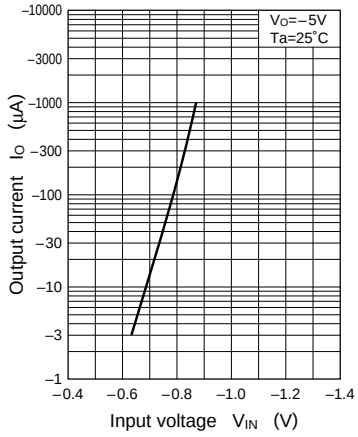
h_{FE} — I_C



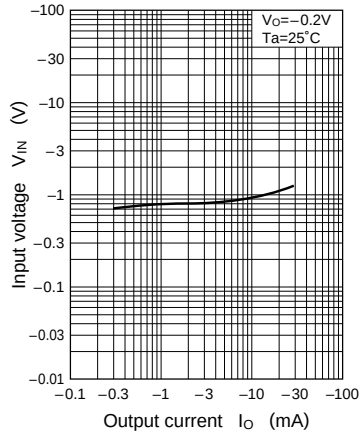
C_{ob} — V_{CB}



I_O — V_{IN}

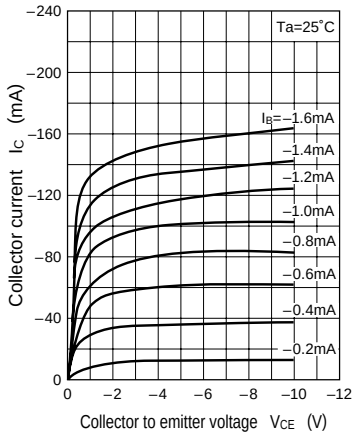


V_{IN} — I_O

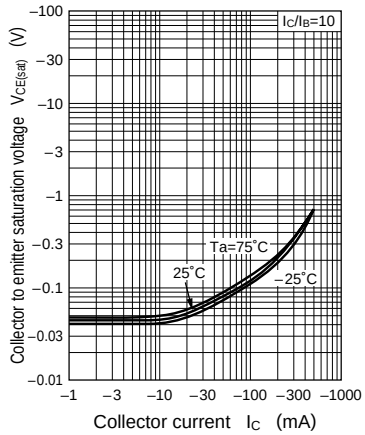


Characteristics charts of UNR112X

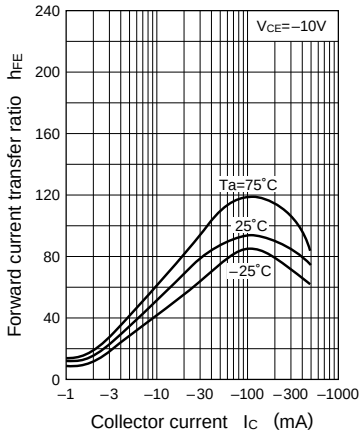
I_C — V_{CE}



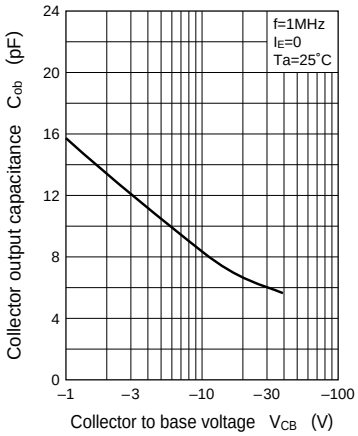
$V_{CE(sat)}$ — I_C



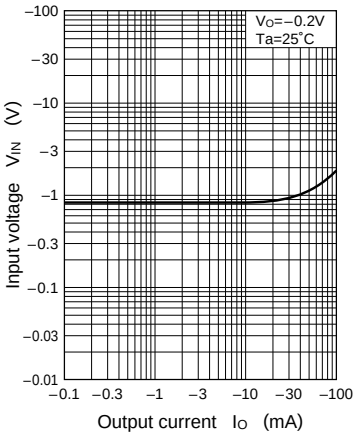
h_{FE} — I_C



C_{ob} — V_{CB}

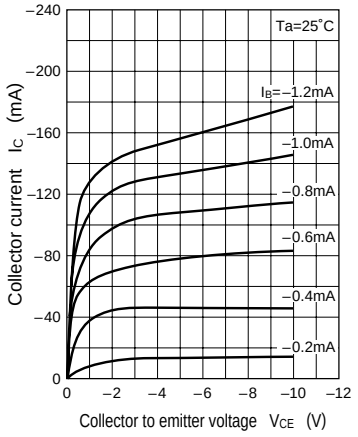


V_{IN} — I_O

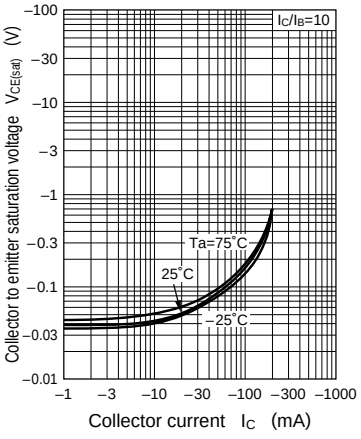


Characteristics charts of UNR112Y

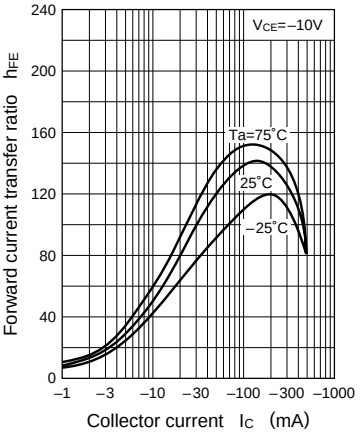
I_C — V_{CE}



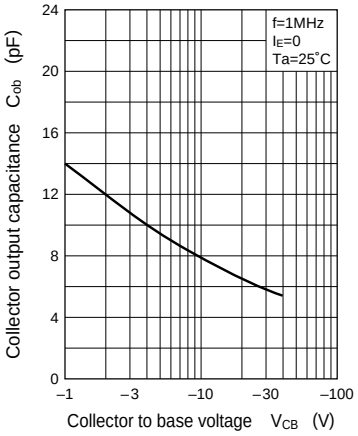
$V_{CE(sat)}$ — I_C



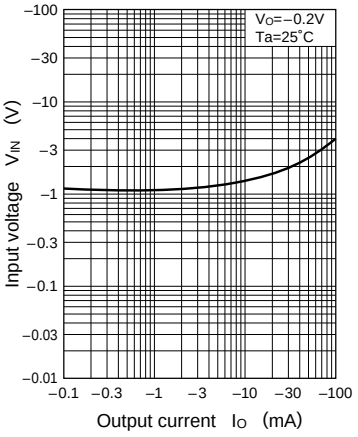
h_{FE} — I_C



C_{ob} — V_{CB}



V_{IN} — I_O



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