

UNR1121/1122/1123/1124/112X/112Y

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

Silicon PNP epitaxial planar transistor

For digital circuits

Features

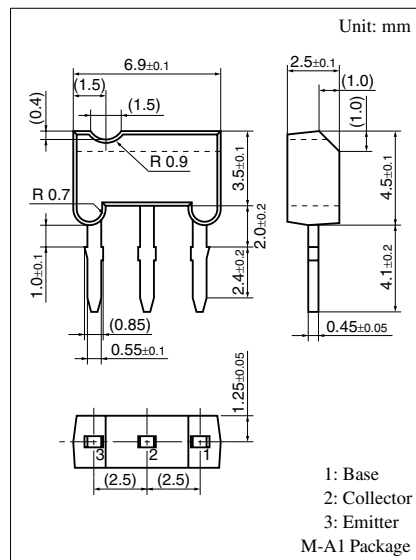
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

Resistance by Part Number

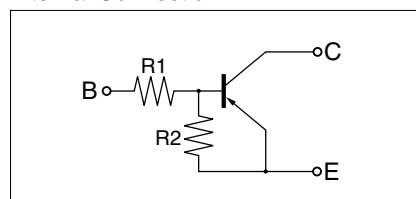
	(R ₁)	(R ₂)
• UNR1121	2.2kΩ	2.2kΩ
• UNR1122	4.7kΩ	4.7kΩ
• UNR1123	10kΩ	10kΩ
• UNR1124	2.2kΩ	10kΩ
• UNR112X	0.27kΩ	5kΩ
• UNR112Y	3.1kΩ	4.6kΩ

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



Internal Connection

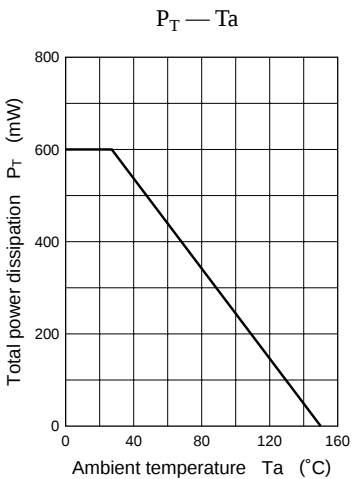


Note) The part numbers in the parenthesis show conventional part number.

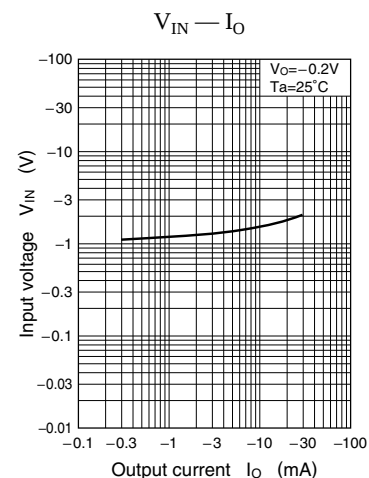
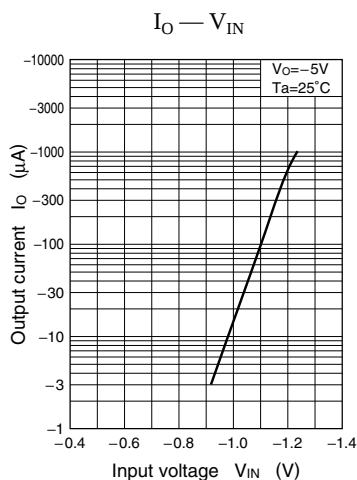
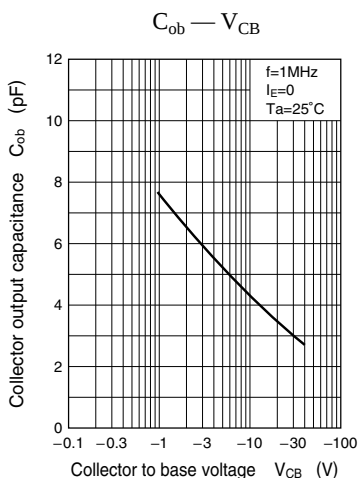
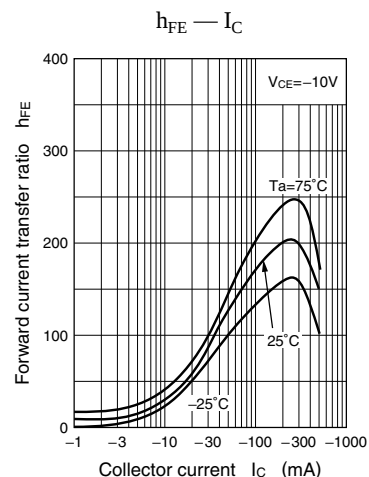
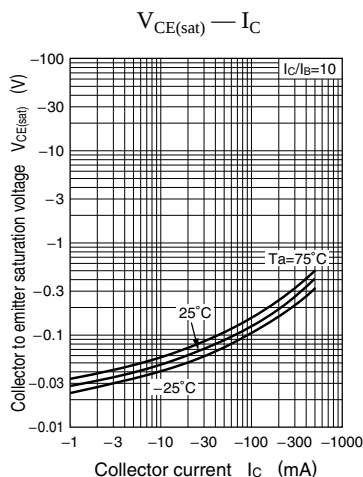
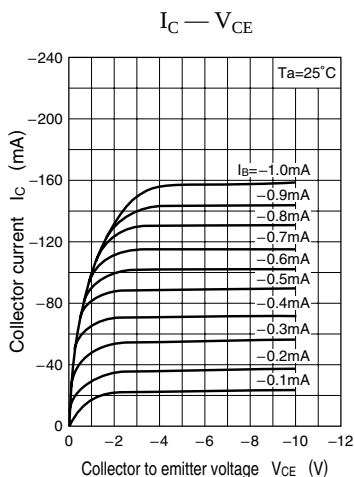
■ Electrical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		I _{CBO}	V _{CB} = -50V, I _E = 0			-1	μA
		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	
					0.22		
					0.054		
					0.67		

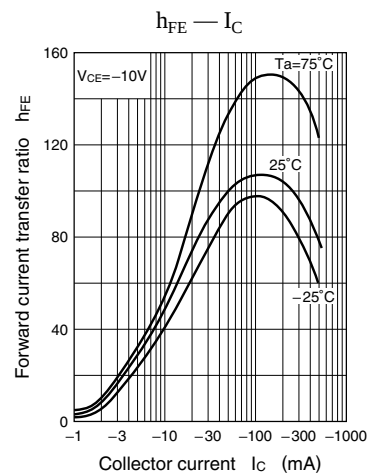
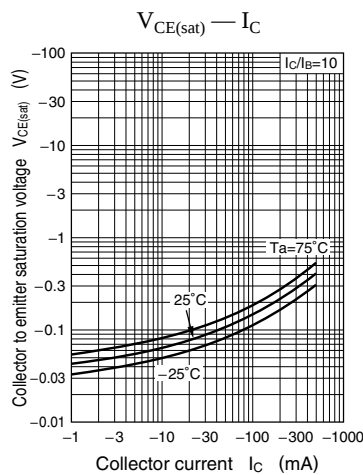
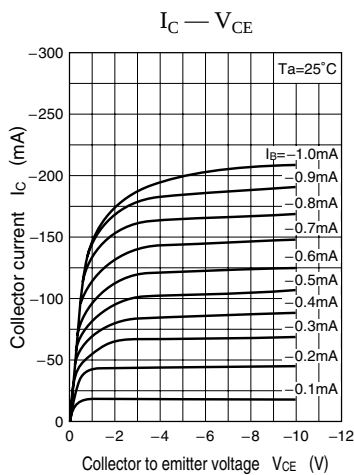
Common characteristics chart

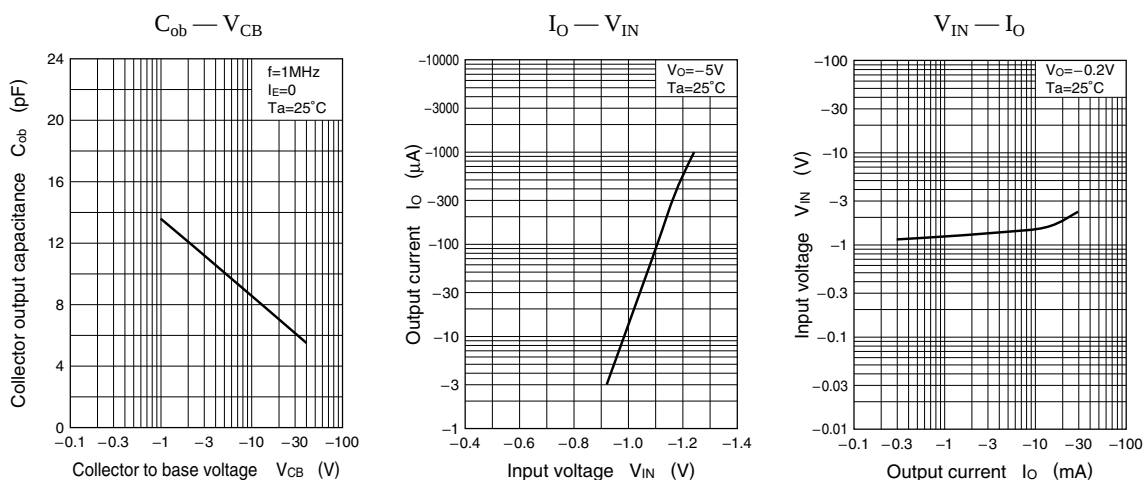


Characteristics charts of UNR1121

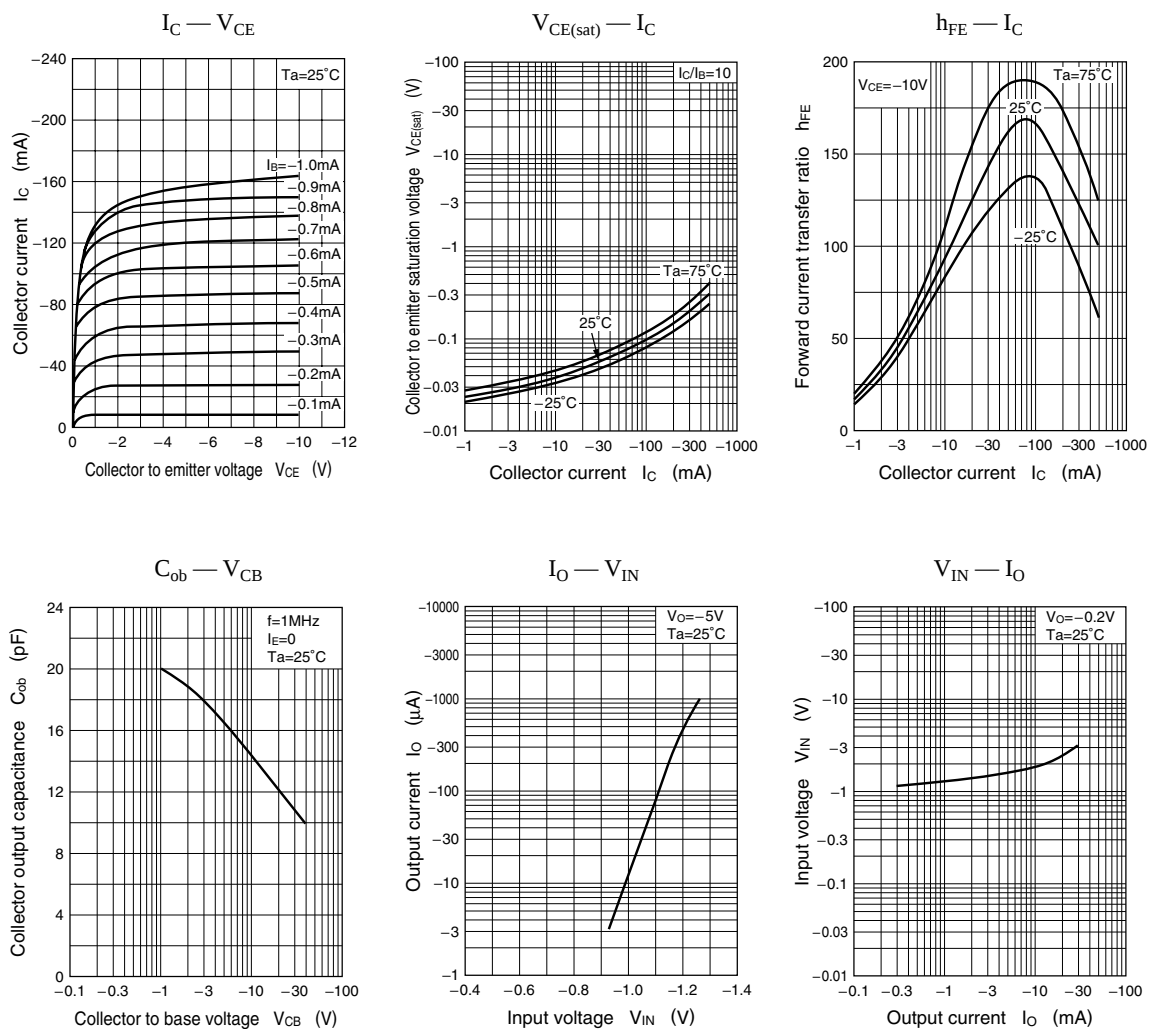


Characteristics charts of UNR1122

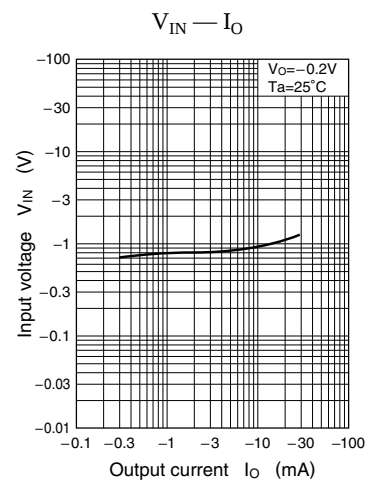
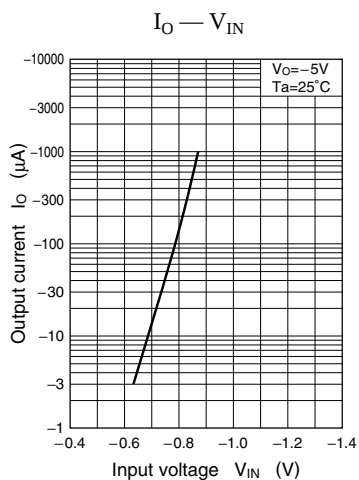
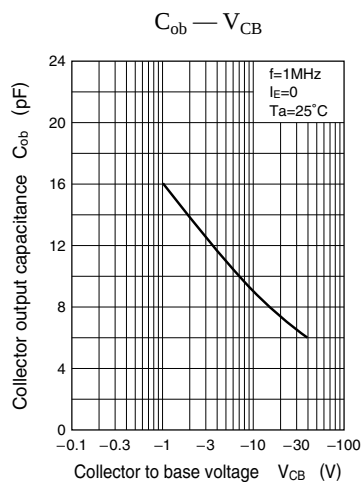
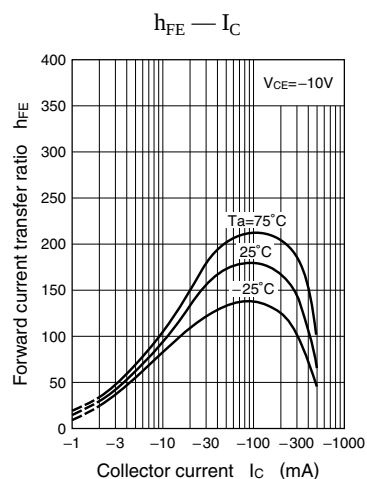
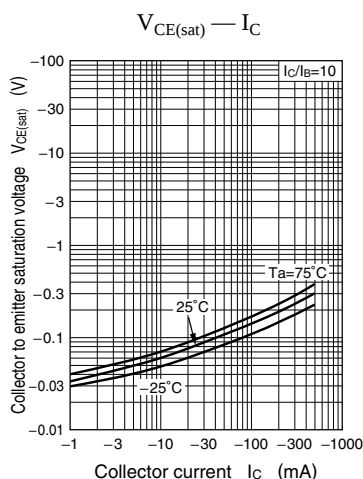
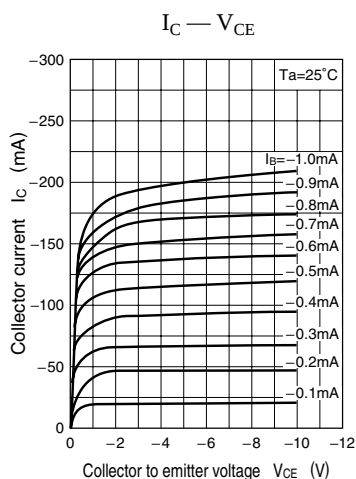




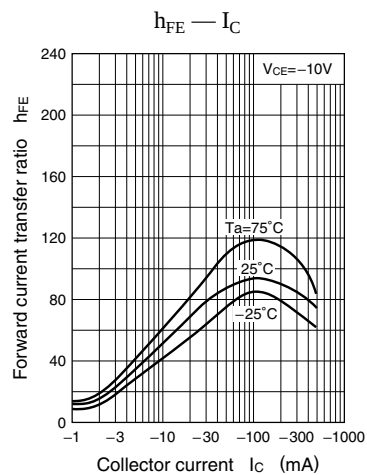
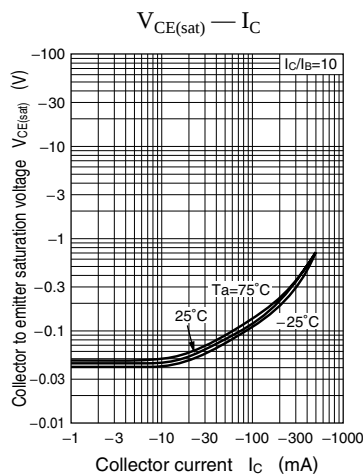
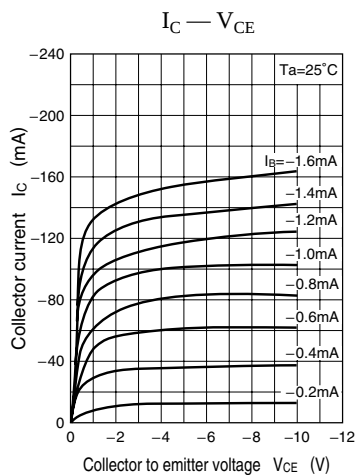
Characteristics charts of UNR1123

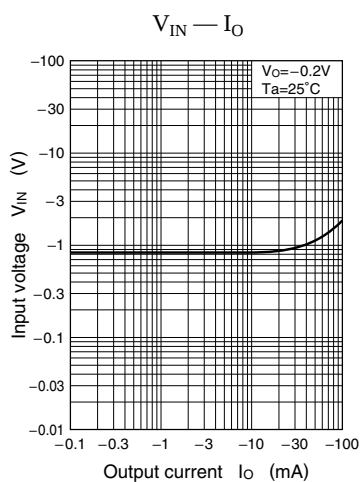
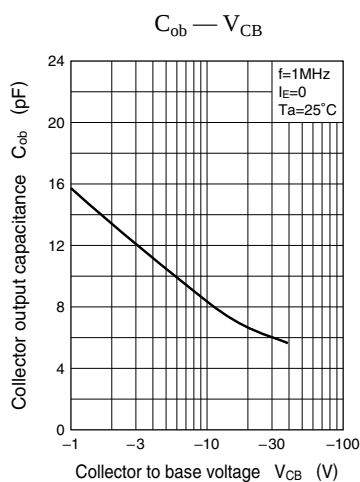


Characteristics charts of UNR1124

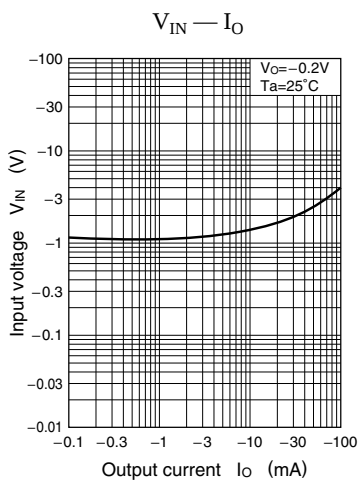
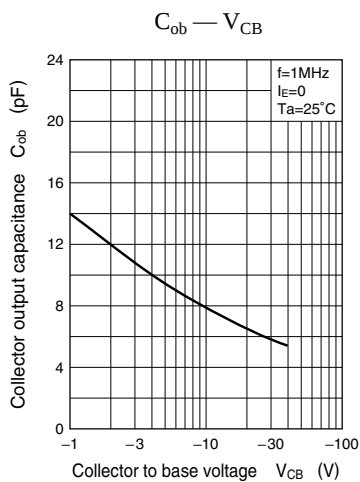
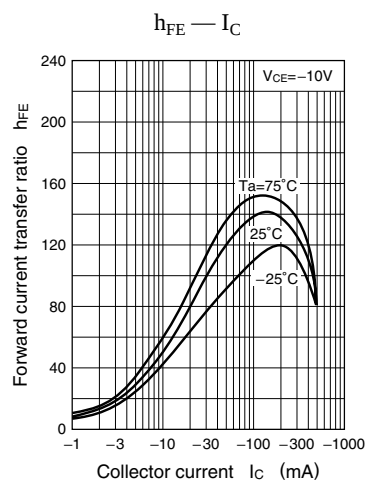
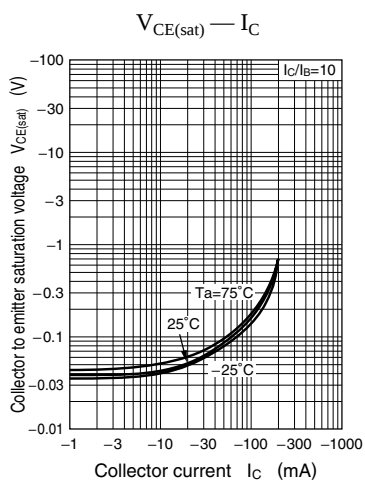
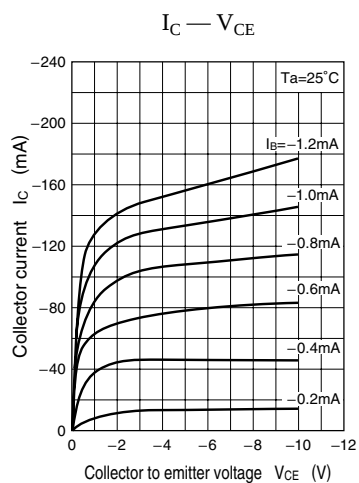


Characteristics charts of UNR112X





Characteristics charts of UNR112Y



Request for your special attention and precautions in using the technical information and semiconductors described in this material

- (1) An export permit needs to be obtained from the competent authorities of the Japanese Government if any of the products or technologies described in this material and controlled under the "Foreign Exchange and Foreign Trade Law" is to be exported or taken out of Japan.
- (2) The technical information described in this material is limited to showing representative characteristics and applied circuits examples of the products. It neither warrants non-infringement of intellectual property right or any other rights owned by our company or a third party, nor grants any license.
- (3) We are not liable for the infringement of rights owned by a third party arising out of the use of the product or technologies as described in this material.
- (4) The products described in this material are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
 - Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
 - Any applications other than the standard applications intended.
- (5) The products and product specifications described in this material are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (6) When designing your equipment, comply with the guaranteed values, in particular those of maximum rating, the range of operating power supply voltage, and heat radiation characteristics. Otherwise, we will not be liable for any defect which may arise later in your equipment.
Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (7) When using products for which damp-proof packing is required, observe the conditions (including shelf life and amount of time let standing of unsealed items) agreed upon when specification sheets are individually exchanged.
- (8) This material may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.