

UNR911xJ Series (UN911xJ Series)

Silicon PNP epitaxial planar type

For digital circuits

■ Features

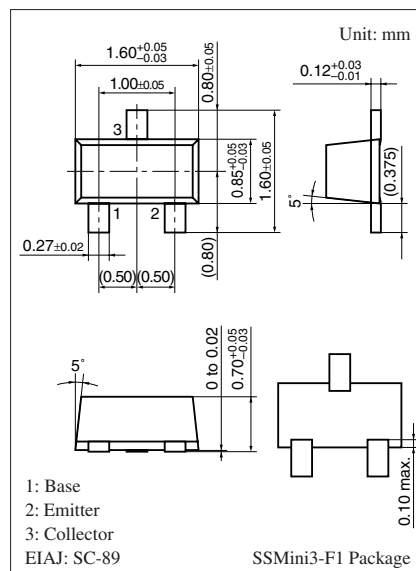
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- SS-Mini type package, allowing automatic insertion through tape packing.

■ Resistance by Part Number

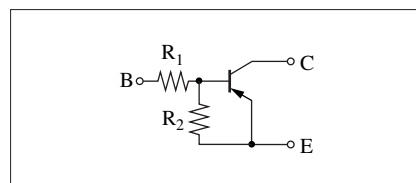
	Marking Symbol	(R ₁)	(R ₂)
• UNR9110J (UN9110J)	6L	47 kΩ	—
• UNR9111J (UN9111J)	6A	10 kΩ	10 kΩ
• UNR9112J (UN9112J)	6B	22 kΩ	22 kΩ
• UNR9113J (UN9113J)	6C	47 kΩ	47 kΩ
• UNR9114J (UN9114J)	6D	10 kΩ	47 kΩ
• UNR9115J (UN9115J)	6E	10 kΩ	—
• UNR9116J (UN9116J)	6F	4.7 kΩ	—
• UNR9117J (UN9117J)	6H	22 kΩ	—
• UNR9118J (UN9118J)	6I	0.51 kΩ	5.1 kΩ
• UNR9119J (UN9119J)	6K	1 kΩ	10 kΩ
• UNR911AJ	6X	100 kΩ	100 kΩ
• UNR911BJ	6Y	100 kΩ	—
• UNR911CJ	6Z	—	47 kΩ
• UNR911DJ (UN911DJ)	6M	47 kΩ	10 kΩ
• UNR911EJ (UN911EJ)	6N	47 kΩ	22 kΩ
• UNR911FJ (UN911FJ)	6O	4.7 kΩ	10 kΩ
• UNR911HJ (UN911HJ)	6P	2.2 kΩ	10 kΩ
• UNR911LJ (UN911LJ)	6Q	4.7 kΩ	4.7 kΩ
• UNR911MJ	EI	2.2 kΩ	47 kΩ
• UNR911NJ	EW	4.7 kΩ	47 kΩ
• UNR911TJ (UN911TJ)	EY	22 kΩ	47 kΩ
• UNR911VJ	FC	2.2 kΩ	2.2 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	−100	mA
Total power dissipation	P _T	125	mW
Junction temperature	T _j	125	°C
Storage temperature	T _{stg}	−55 to +125	°C



Internal Connection



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

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

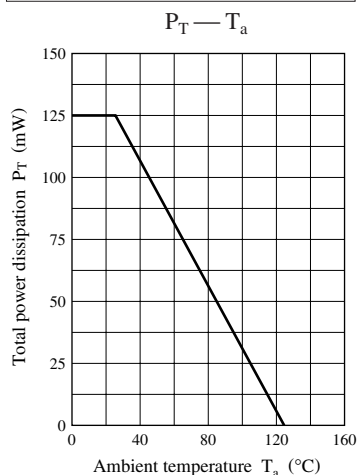
Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)		V _{CBO}	I _C = −10 μA, I _E = 0	−50			V
Collector-emitter voltage (Base open)		V _{CEO}	I _C = −2 mA, I _B = 0	−50			V
Collector-base cutoff current (Emitter open)		I _{CBO}	V _{CB} = −50 V, I _E = 0			− 0.1	μA
Collector-base cutoff current (Emitter open)		I _{CEO}	V _{CE} = −50 V, I _B = 0			− 0.5	μA
Emitter-base cutoff current (Collector open)	UNR9115J/9116J/9117J/911BJ	I _{EBO}	V _{EB} = −6 V, I _C = 0			− 0.01	mA
	UNR9110J/9113J/911AJ					− 0.1	
	UNR9112J/9114J/911DJ/ 911EJ/911MJ/911NJ/911TJ					− 0.2	
	UNR9111J					− 0.5	
	UNR911FJ/911HJ					−1.0	
	UNR9119J					−1.5	
	UNR9118J/911CJ/911LJ/911VJ					−2.0	
	Forward current transfer ratio			UNR911VJ	h _{FE}	V _{CE} = −10 V, I _C = −5 mA	
UNR9118J/911LJ		20					
UNR9119J/911DJ/911FJ/911HJ		30					
UNR9111J		35					
UNR9112J/911EJ		60					
UNR9113J/9114J/911AJ/ 911CJ/911MJ		80					
UNR911NJ/911TJ		80		400			
UNR9110J/9115J/9116J/ 9117J/911BJ		160		460			
Collector-emitter saturation voltage		V _{CE(sat)}	I _C = −10 mA, I _B = − 0.3 mA			− 0.25	V
UNR911VJ			I _C = −10 mA, I _B = −1.5 mA				
Output voltage high-level		V _{OH}	V _{CC} = −5 V, V _B = − 0.5 V, R _L = 1 kΩ	−4.9			V
Output voltage low-level		V _{OL}	V _{CC} = −5 V, V _B = −2.5 V, R _L = 1 kΩ			− 0.2	V
UNR9113J/911BJ			V _{CC} = −5 V, V _B = −3.5 V, R _L = 1 kΩ				
UNR911DJ			V _{CC} = −5 V, V _B = −10 V, R _L = 1 kΩ				
UNR911EJ			V _{CC} = −5 V, V _B = −6 V, R _L = 1 kΩ				
UNR911AJ			V _{CC} = −5 V, V _B = −5 V, R _L = 1 kΩ				
Transition frequency		f _T	V _{CB} = −10 V, I _E = 1 mA, f = 200 MHz		80		MHz
UNR9113J			V _{CB} = −10 V, I _E = 1 mA, f = 200 MHz		150		
UNR911AJ			V _{CB} = −10 V, I _E = 2 mA, f = 200 MHz		80		
UNR911CJ			V _{CB} = −10 V, I _E = 2 mA, f = 200 MHz		150		
Input resistance	UNR9118J	R _I		−30%	0.51	+30%	kΩ
	UNR9119J				1.0		
	UNR911HJ/911MJ/911VJ				2.2		
	UNR9116J/911FJ/911LJ/911NJ				4.7		
	UNR9111J/9114J/9115J				10		
	UNR9112J/9117J/911TJ				22		
	UNR9110J/9113J/911DJ/911EJ				47		
	UNR911AJ/911BJ				100		

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

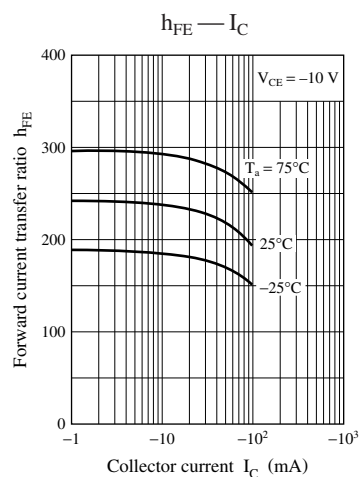
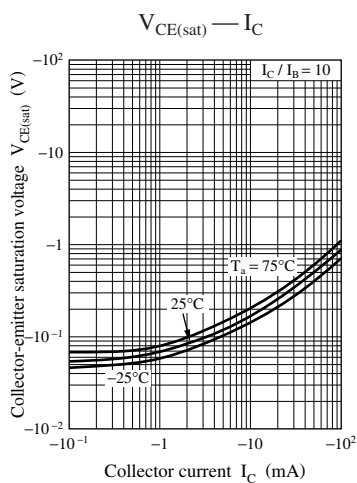
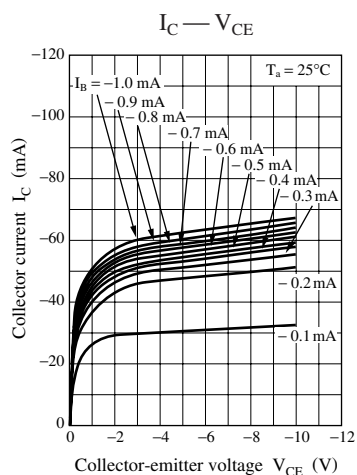
Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Emitter-base resistance		UNR911CJ	R_2	-30%	47	+30%	$k\Omega$
Resistance ratio	UNR911MJ	R_1/R_2			0.047		—
	UNR911NJ				0.1		
	UNR9118J/9119J			0.08	0.10	0.12	
	UNR9114J			0.17	0.21	0.25	
	UNR911HJ			0.17	0.22	0.27	
	UNR911TJ				0.47		
	UNR911FJ			0.37	0.47	0.57	
	UNR911AJ/911VJ				1.0		
	UNR9111J/9112J/9113J/911LJ			0.8	1.0	1.2	
	UNR911EJ			1.70	2.14	2.60	
	UNR911DJ			3.7	4.7	5.7	

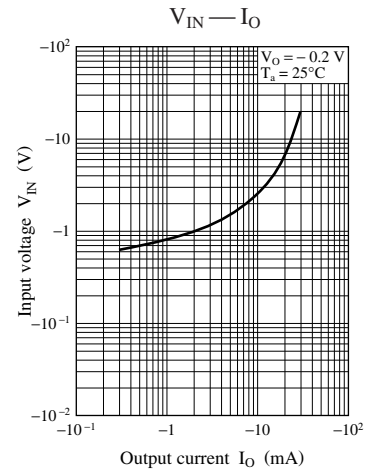
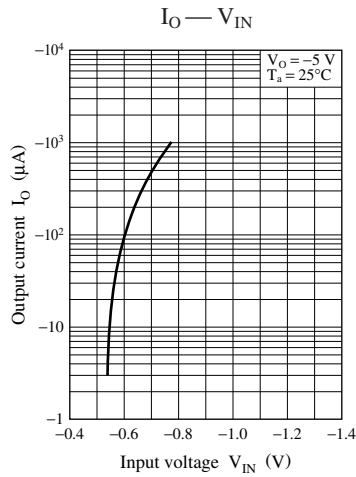
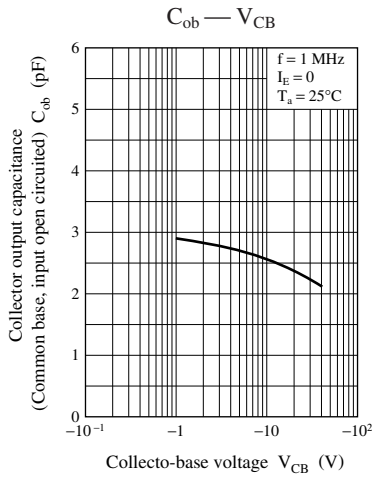
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

Common characteristics chart

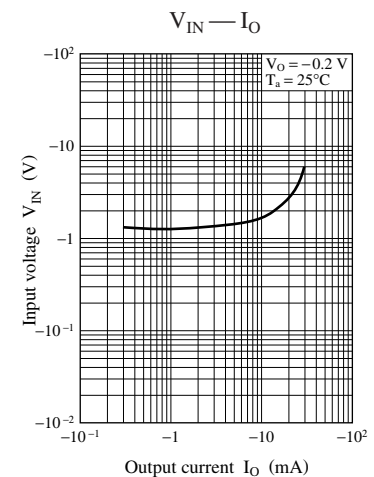
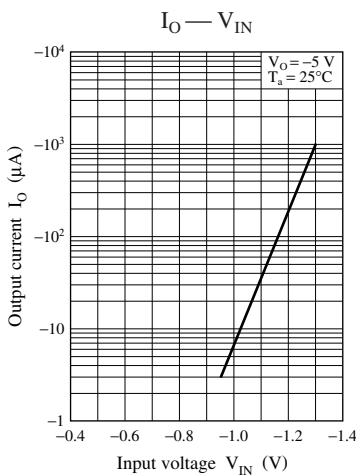
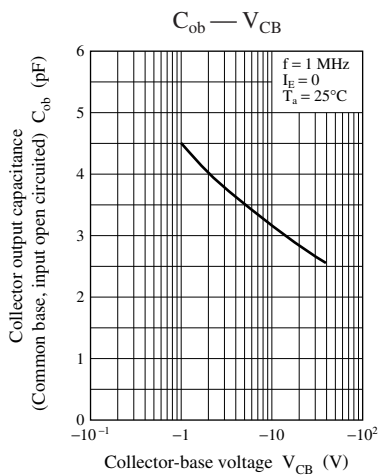
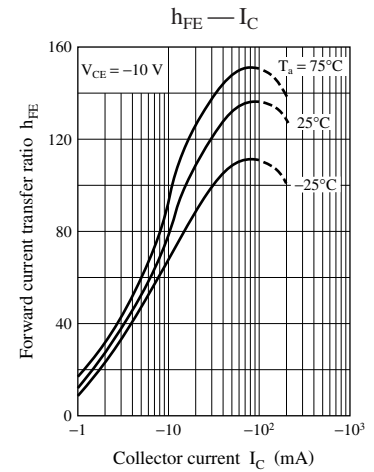
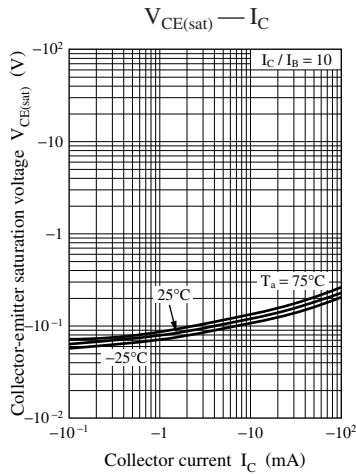
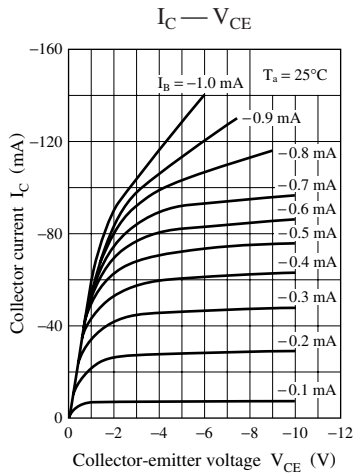


Characteristics charts of UNR9110J

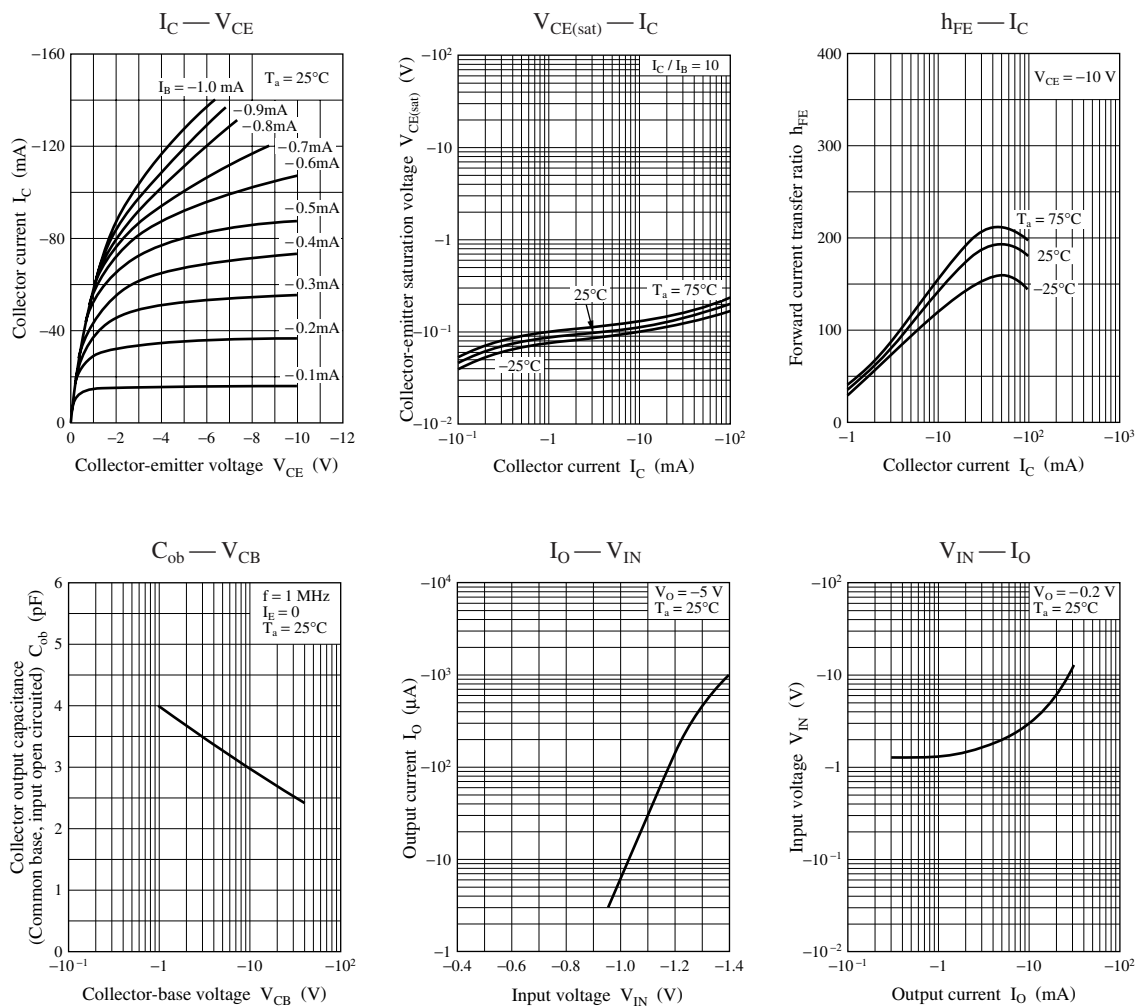




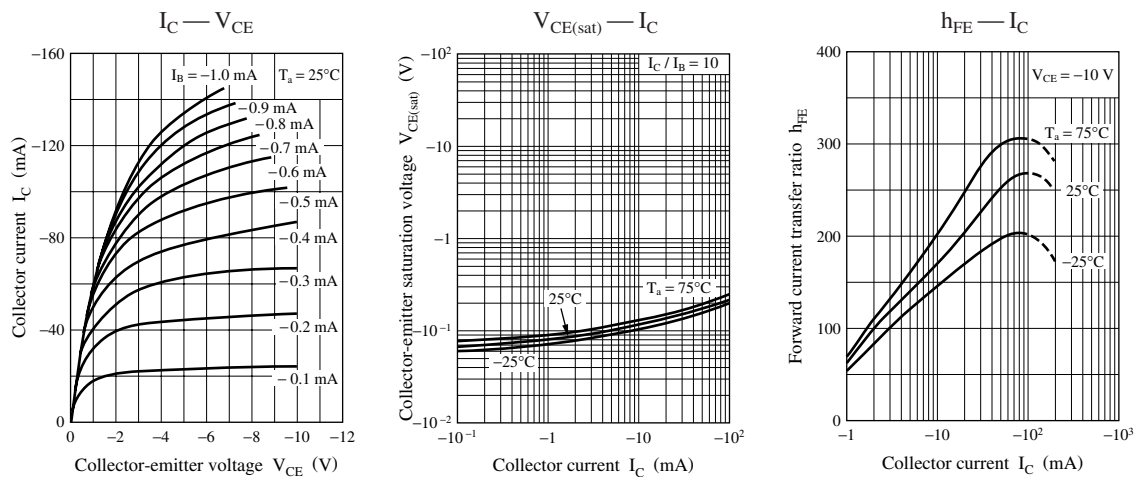
Characteristics charts of UNR9111J

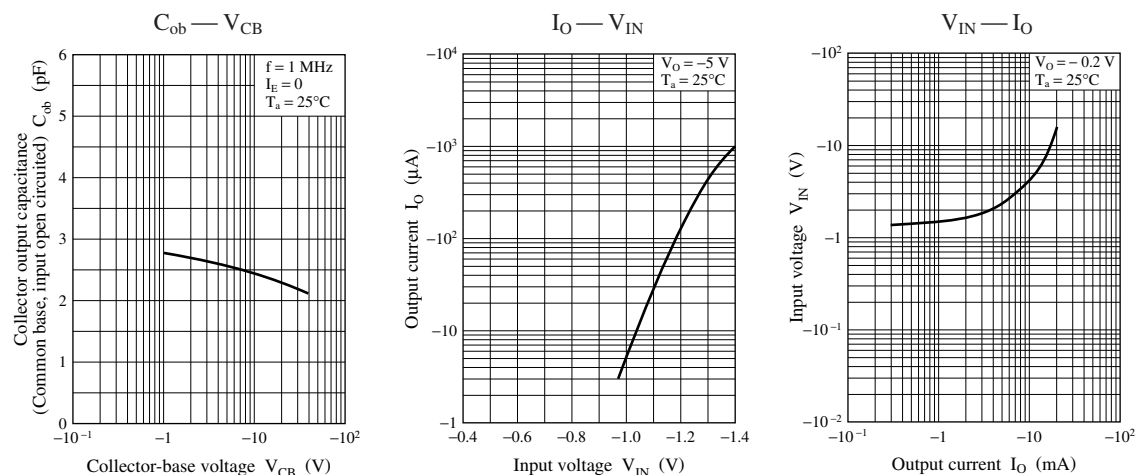


Characteristics charts of UNR9112J

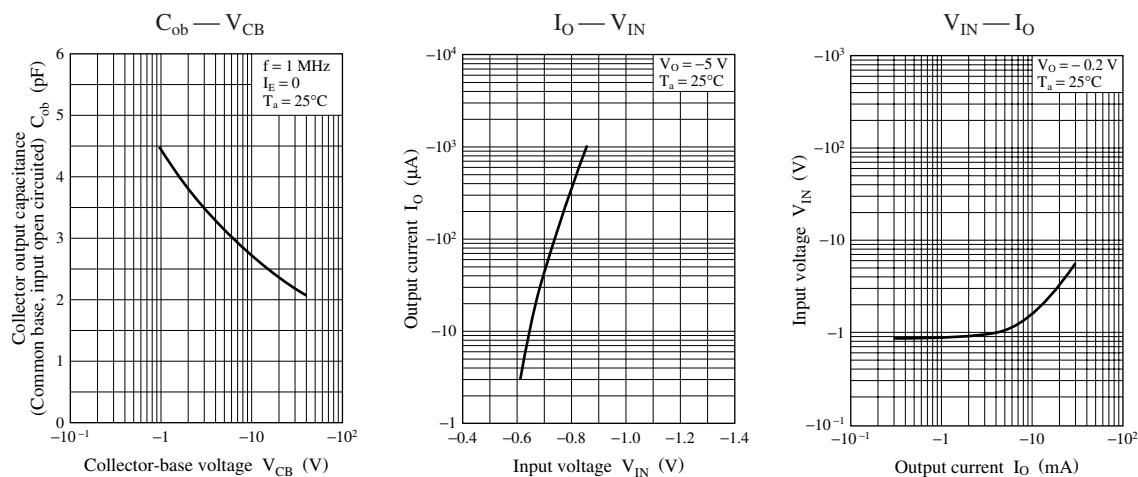
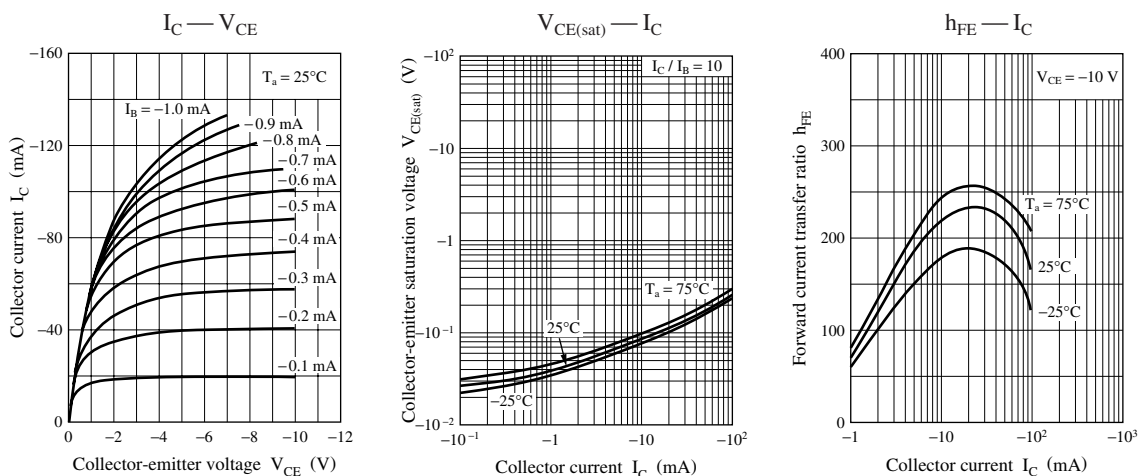


Characteristics charts of UNR9113J

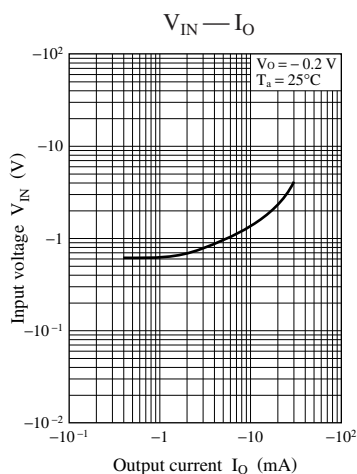
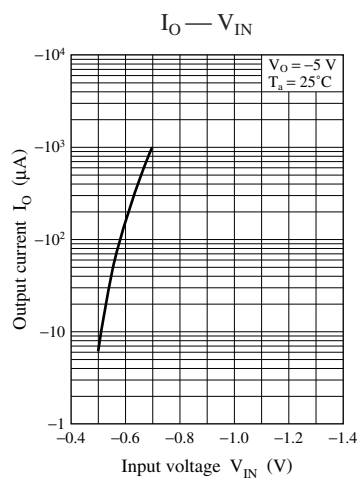
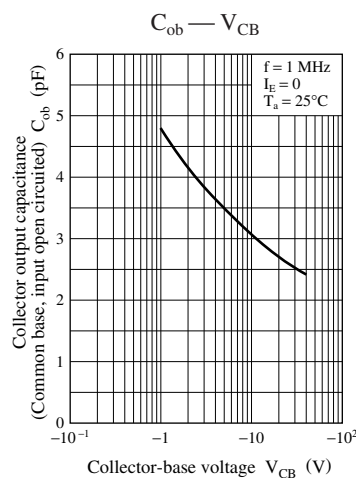
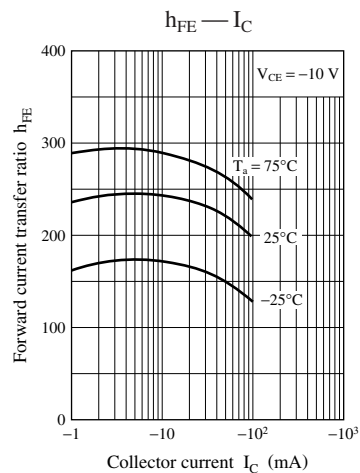
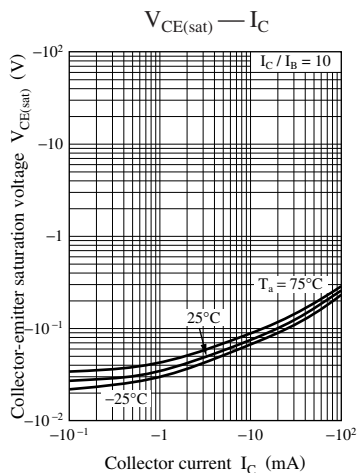
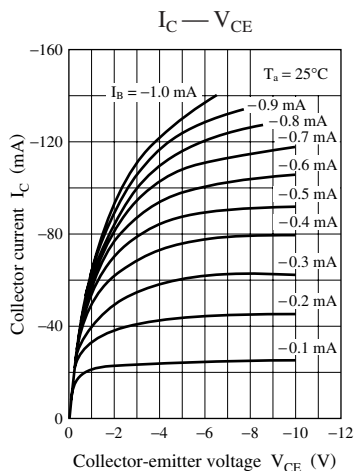




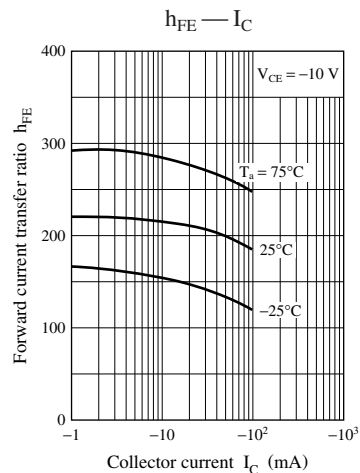
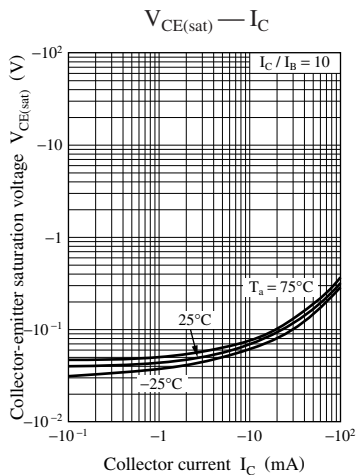
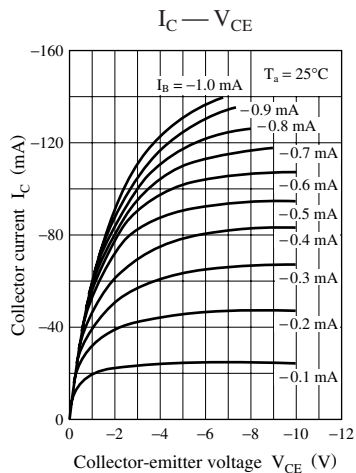
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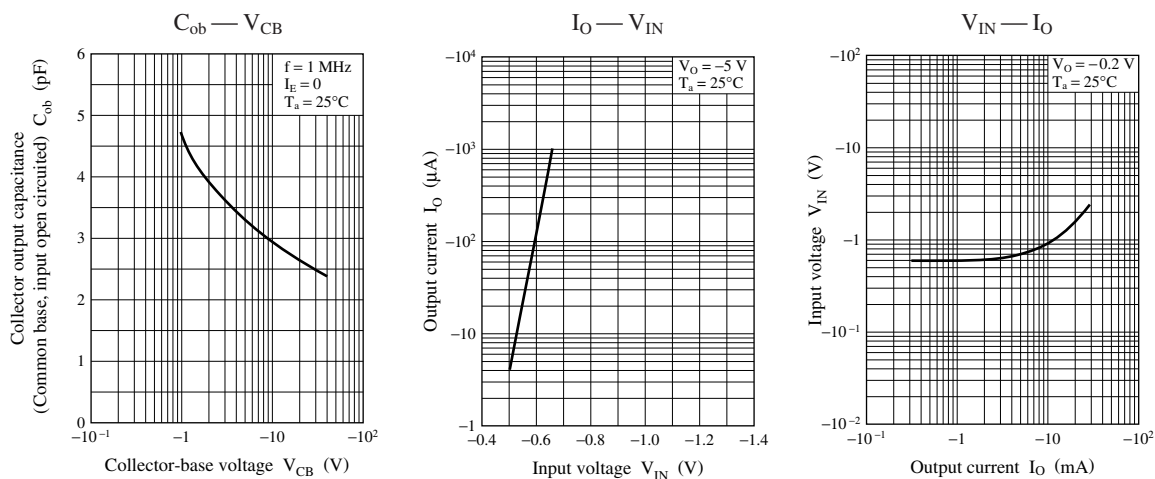


Characteristics charts of UNR9115J

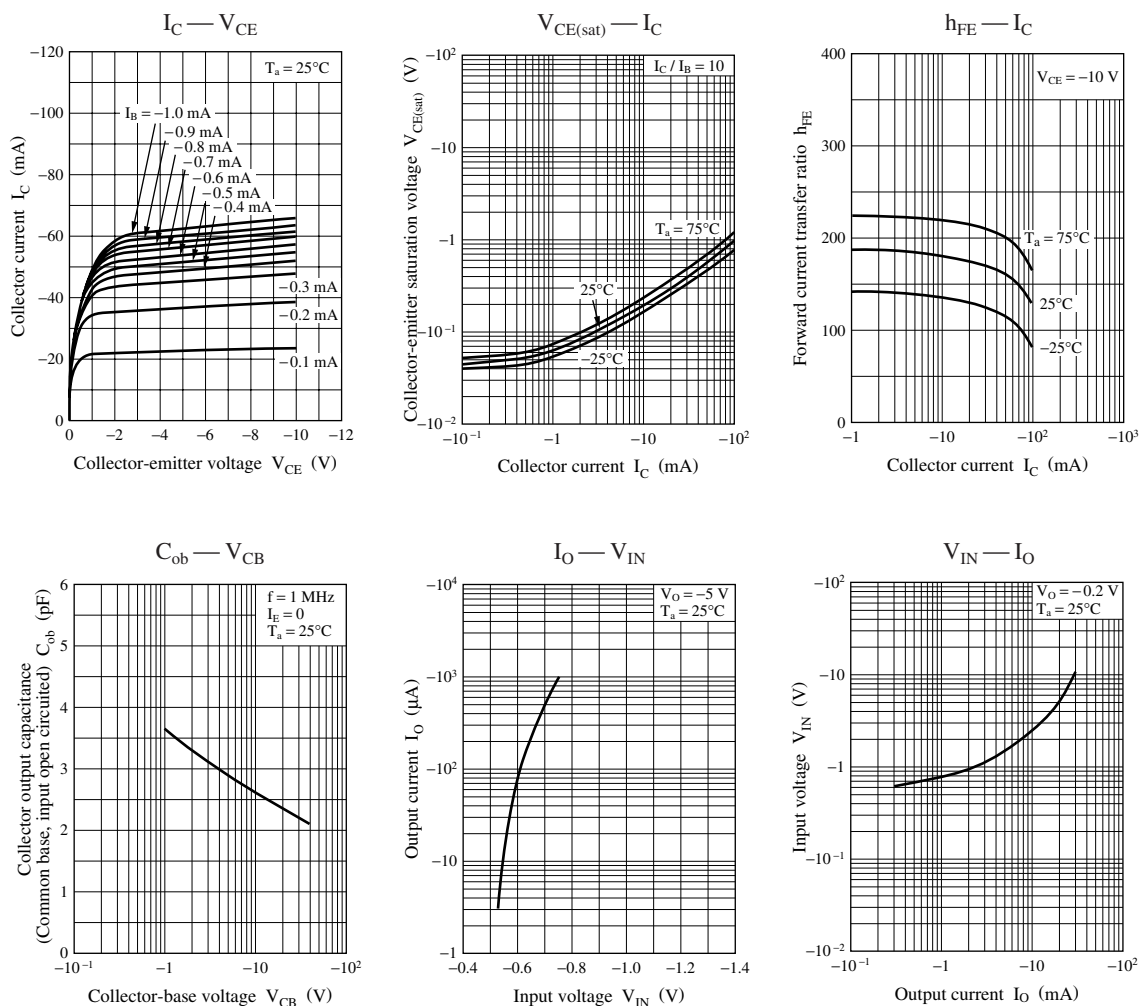


Characteristics charts of UNR9116J

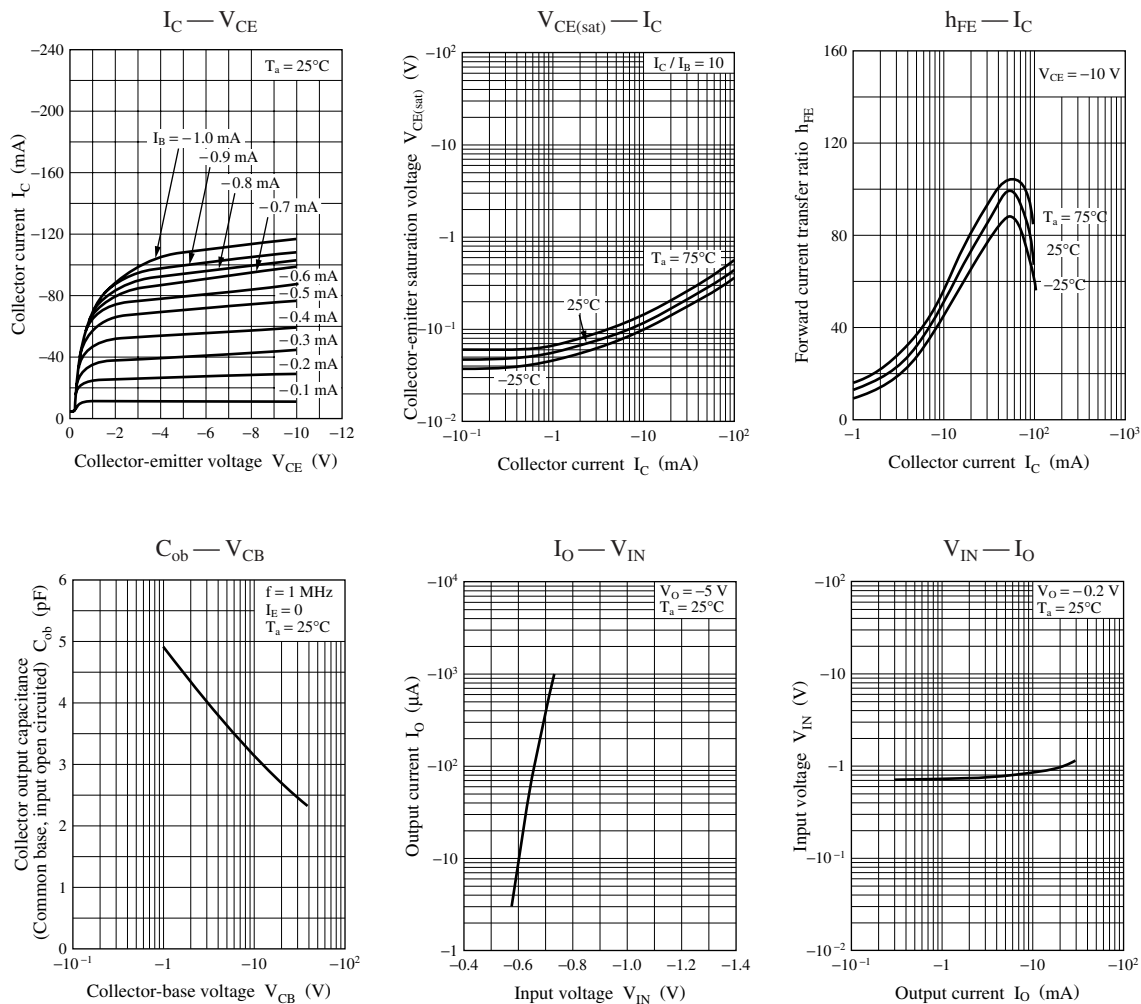




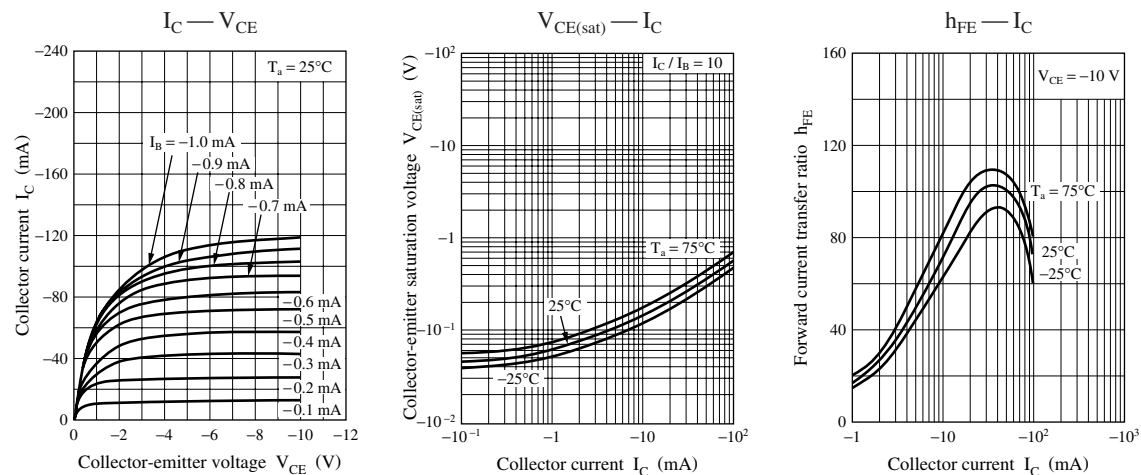
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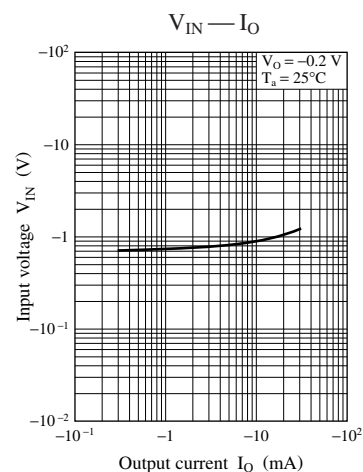
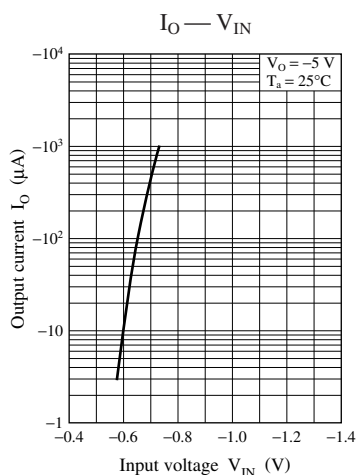
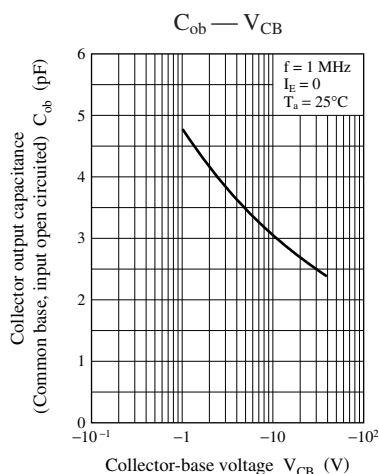


Characteristics charts of UNR9118J

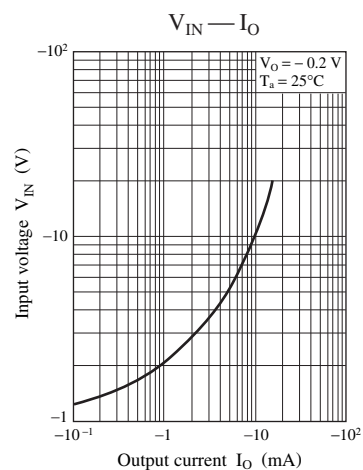
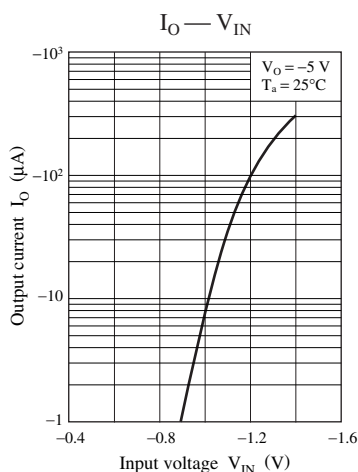
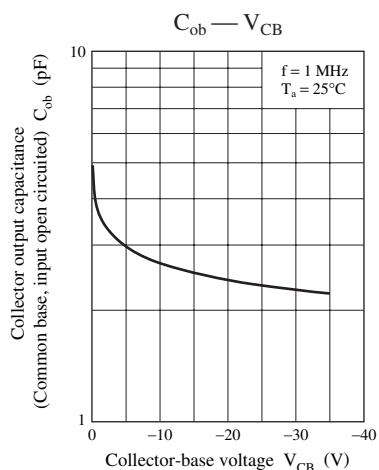
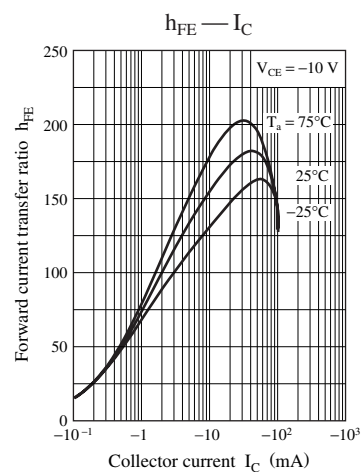
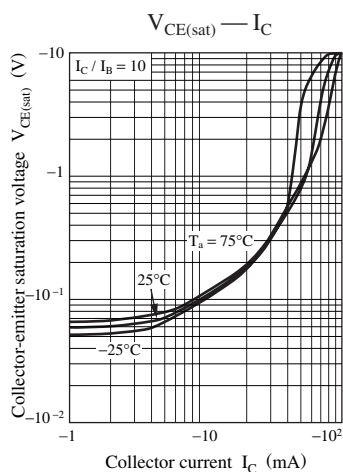
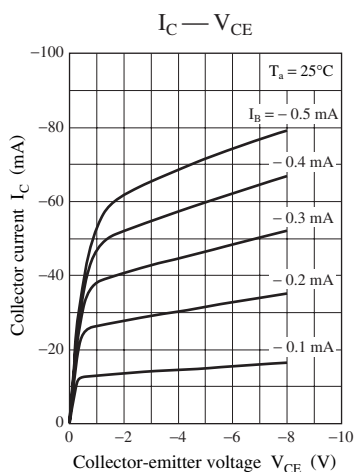


Characteristics charts of UNR9119J

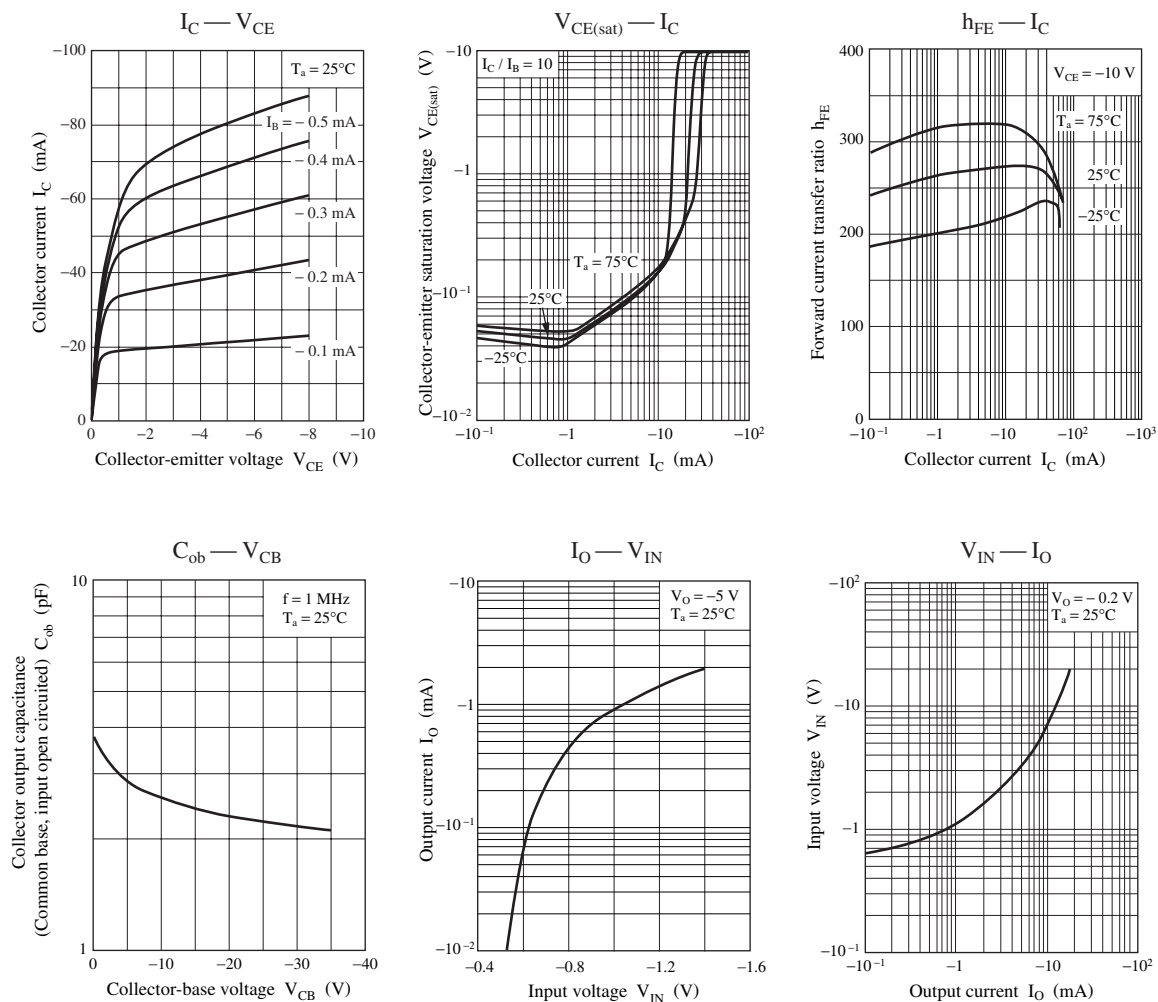




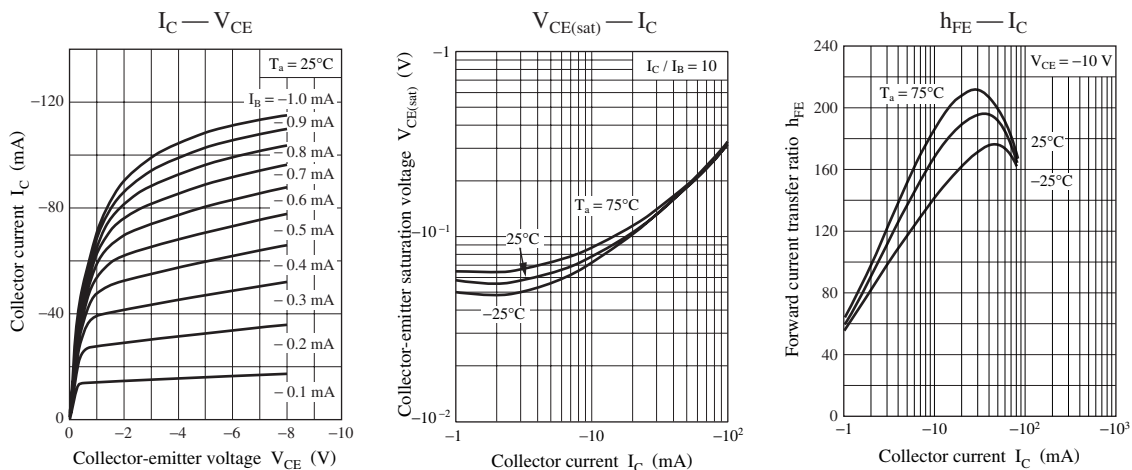
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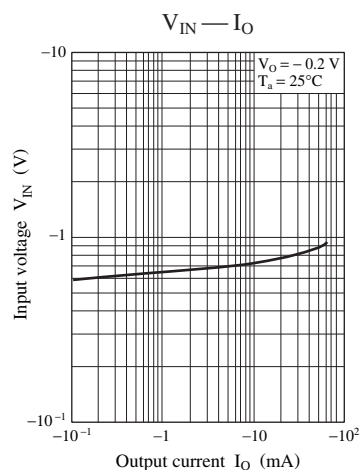
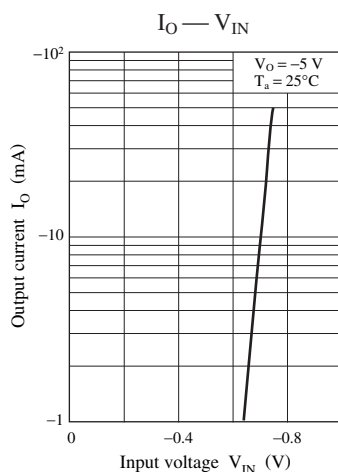
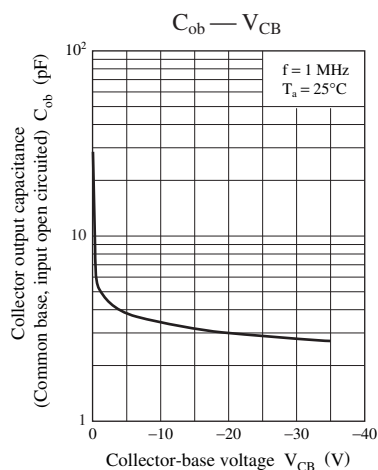


Characteristics charts of UNR911BJ

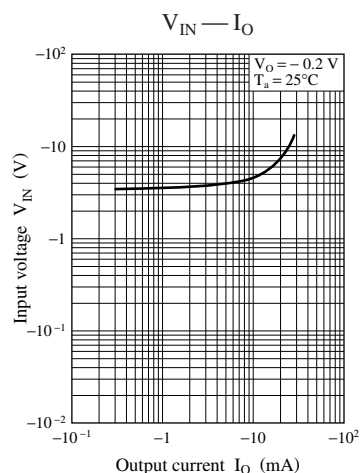
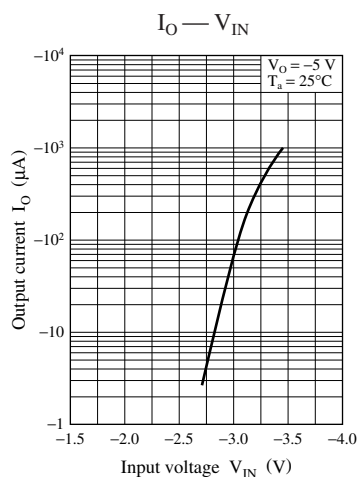
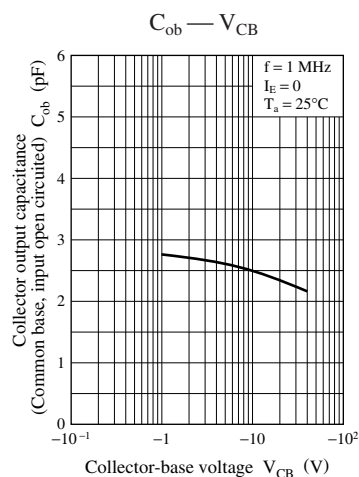
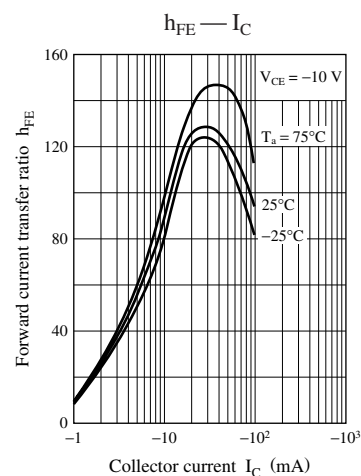
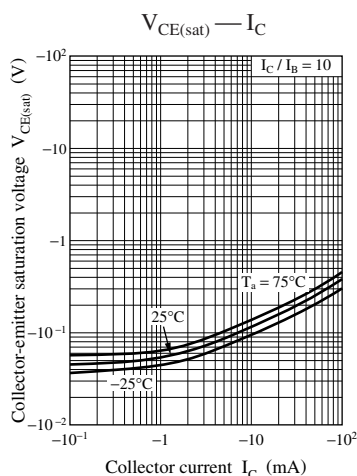
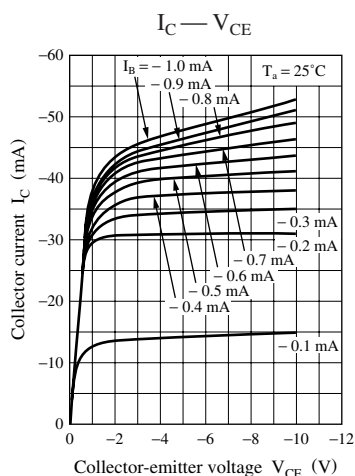


Characteristics charts of UNR911CJ

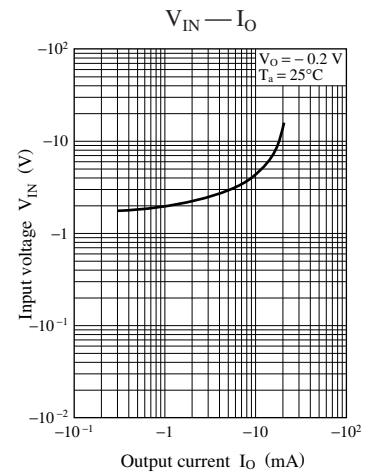
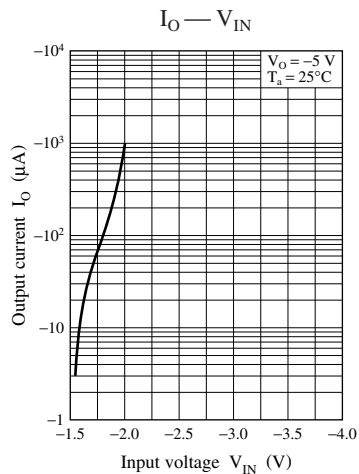
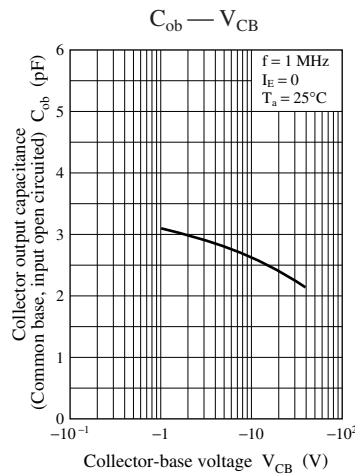
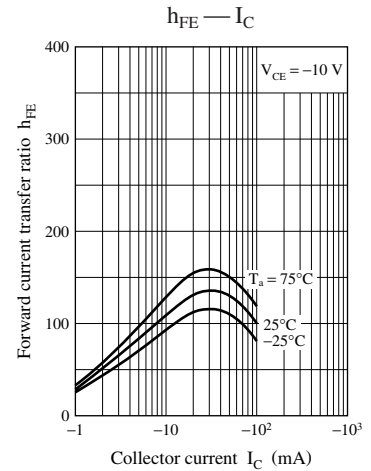
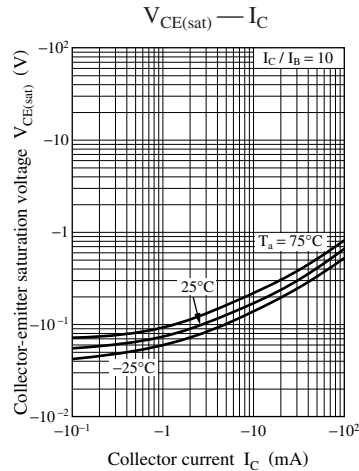
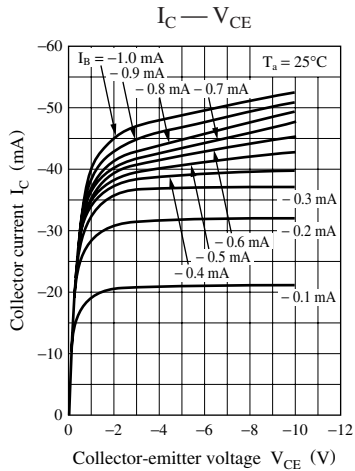




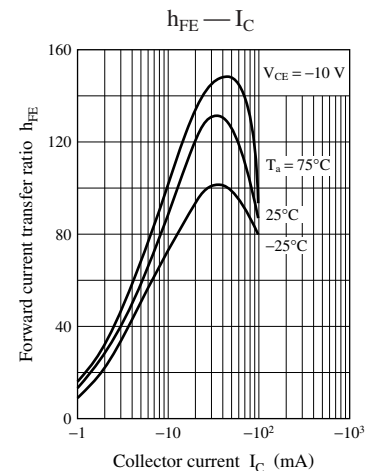
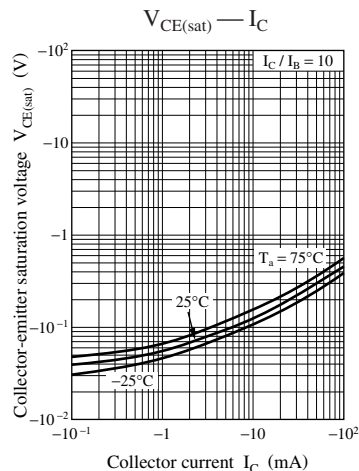
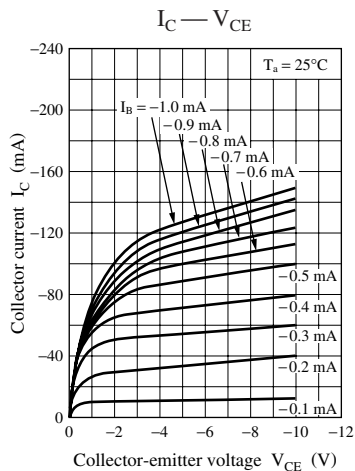
Characteristics charts of UNR911DJ

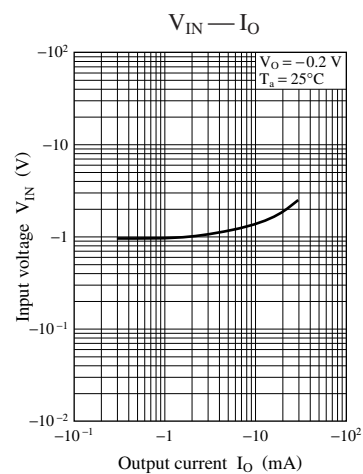
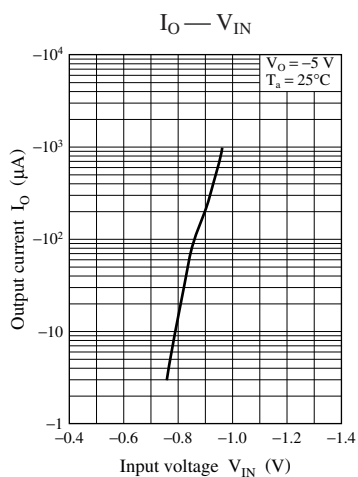
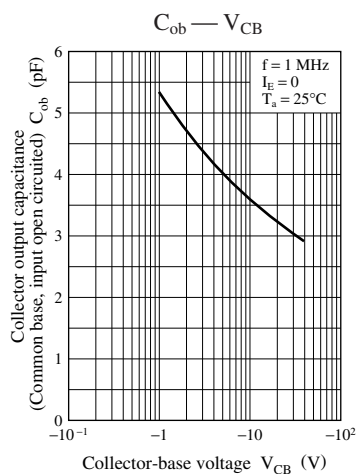


Characteristics charts of UNR911EJ

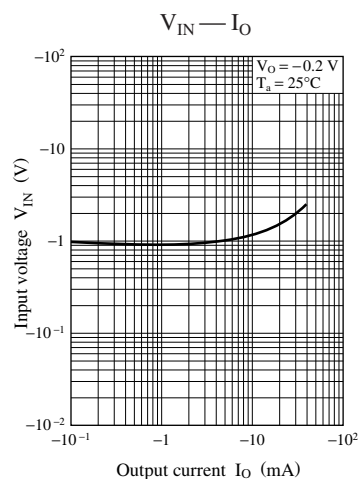
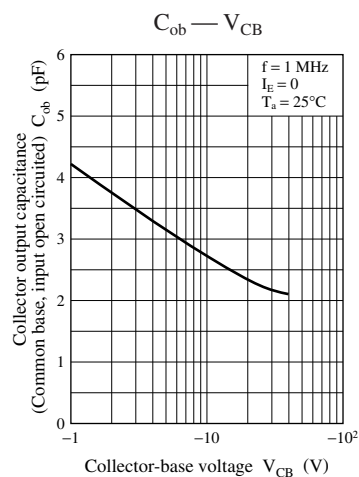
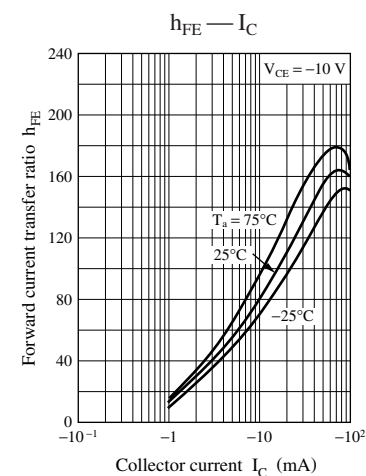
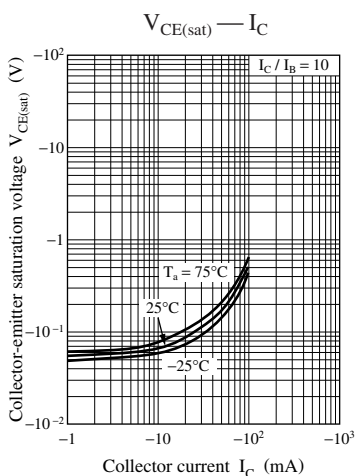
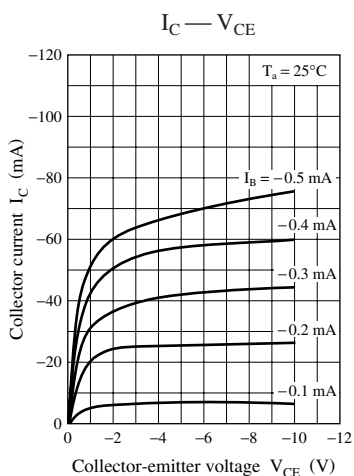


Characteristics charts of UNR911FJ

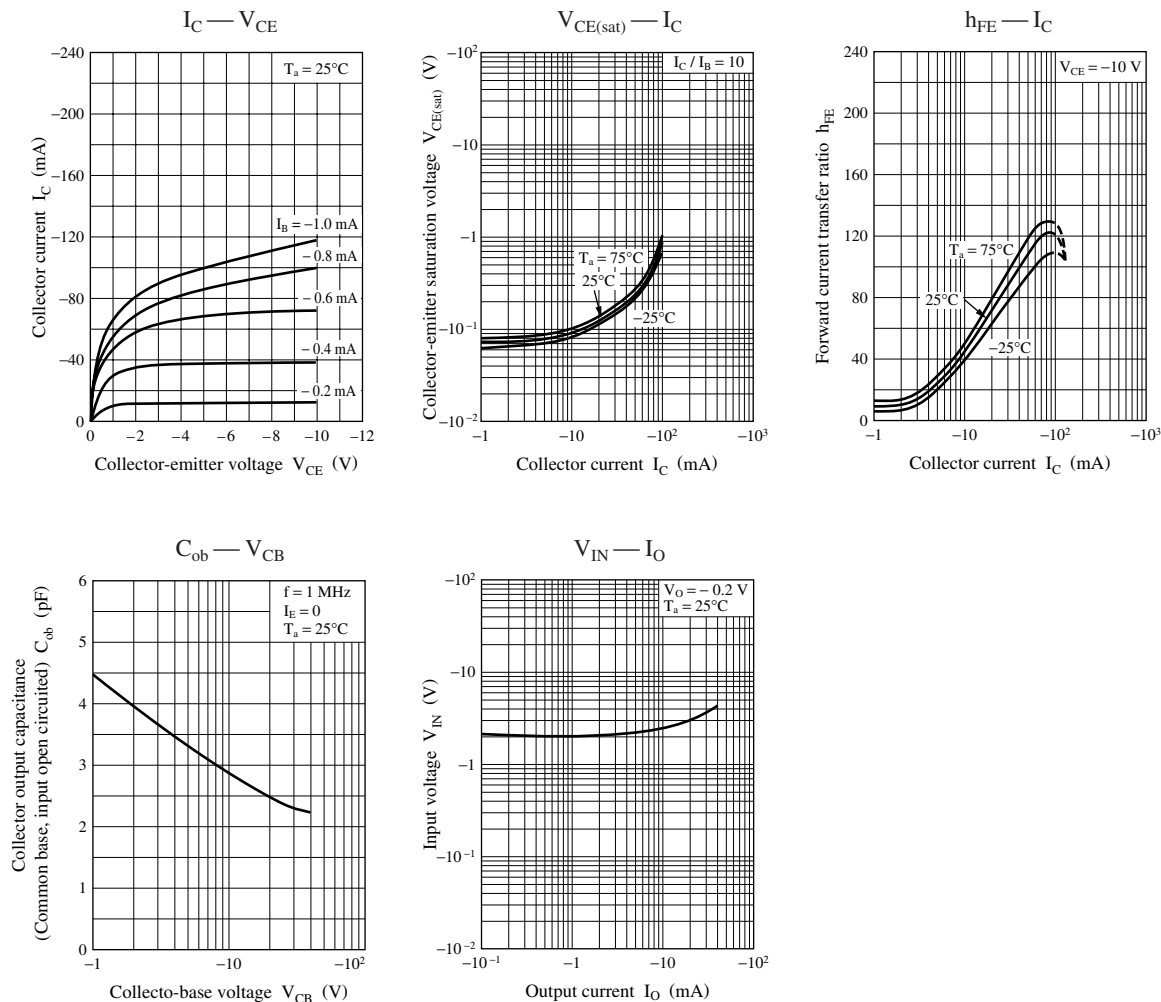




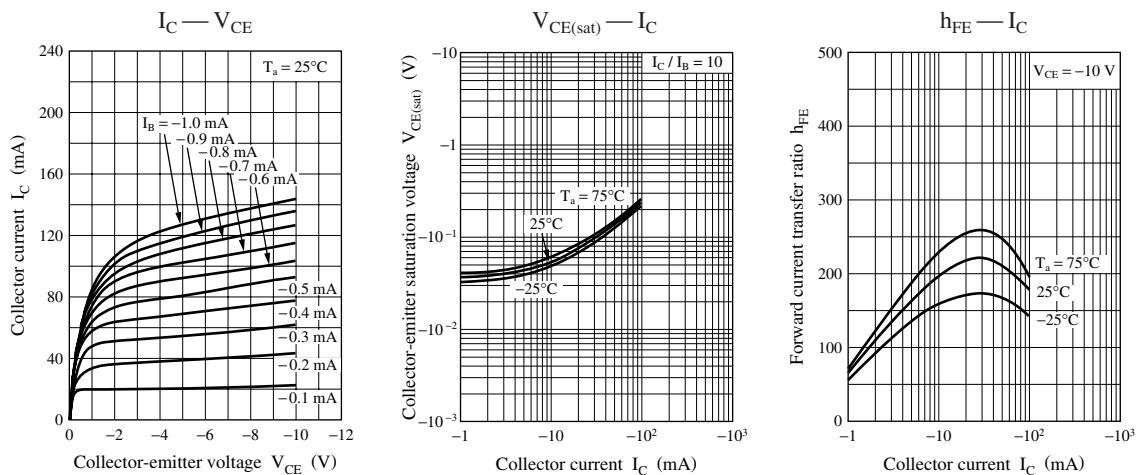
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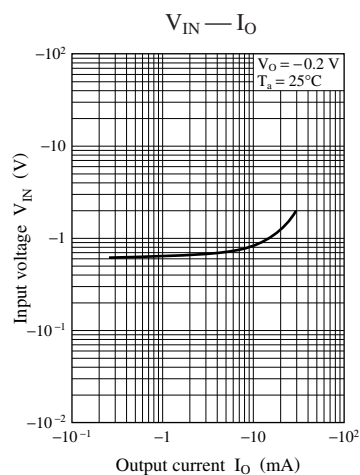
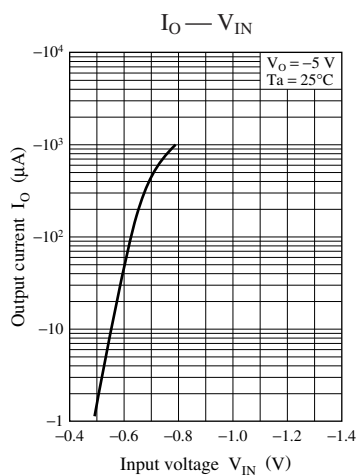
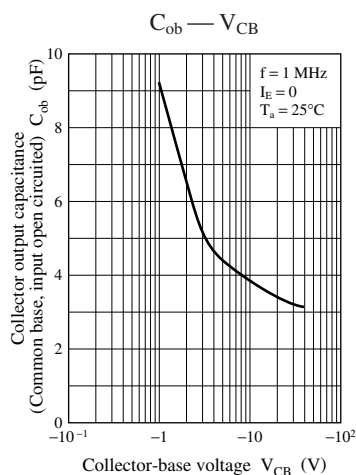


Characteristics charts of UNR911LJ

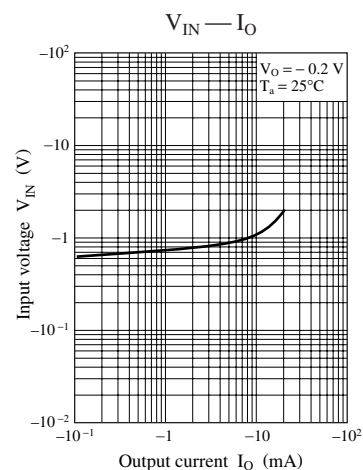
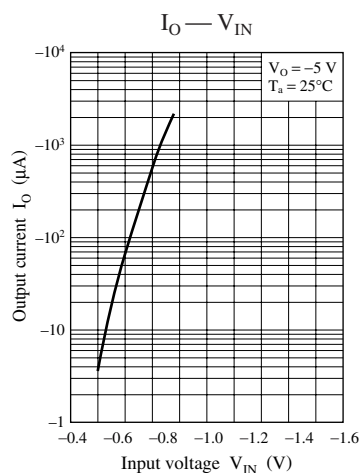
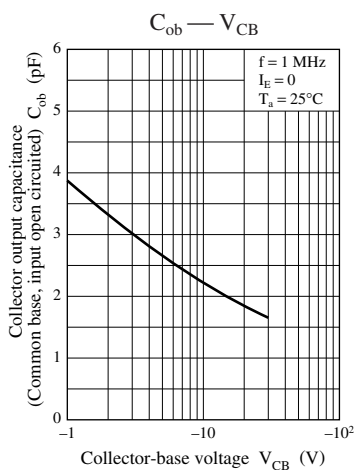
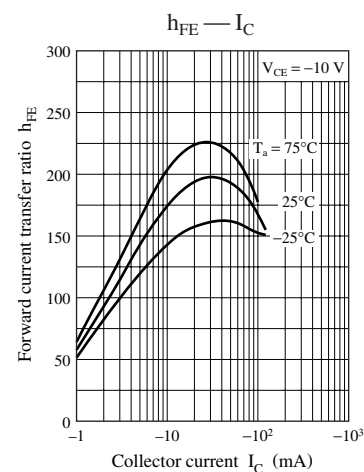
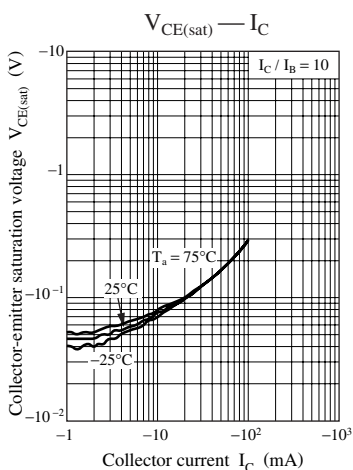
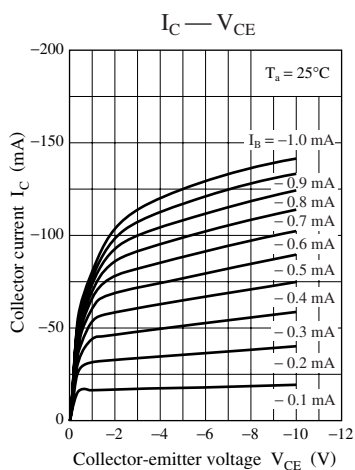


Characteristics charts of UNR911MJ

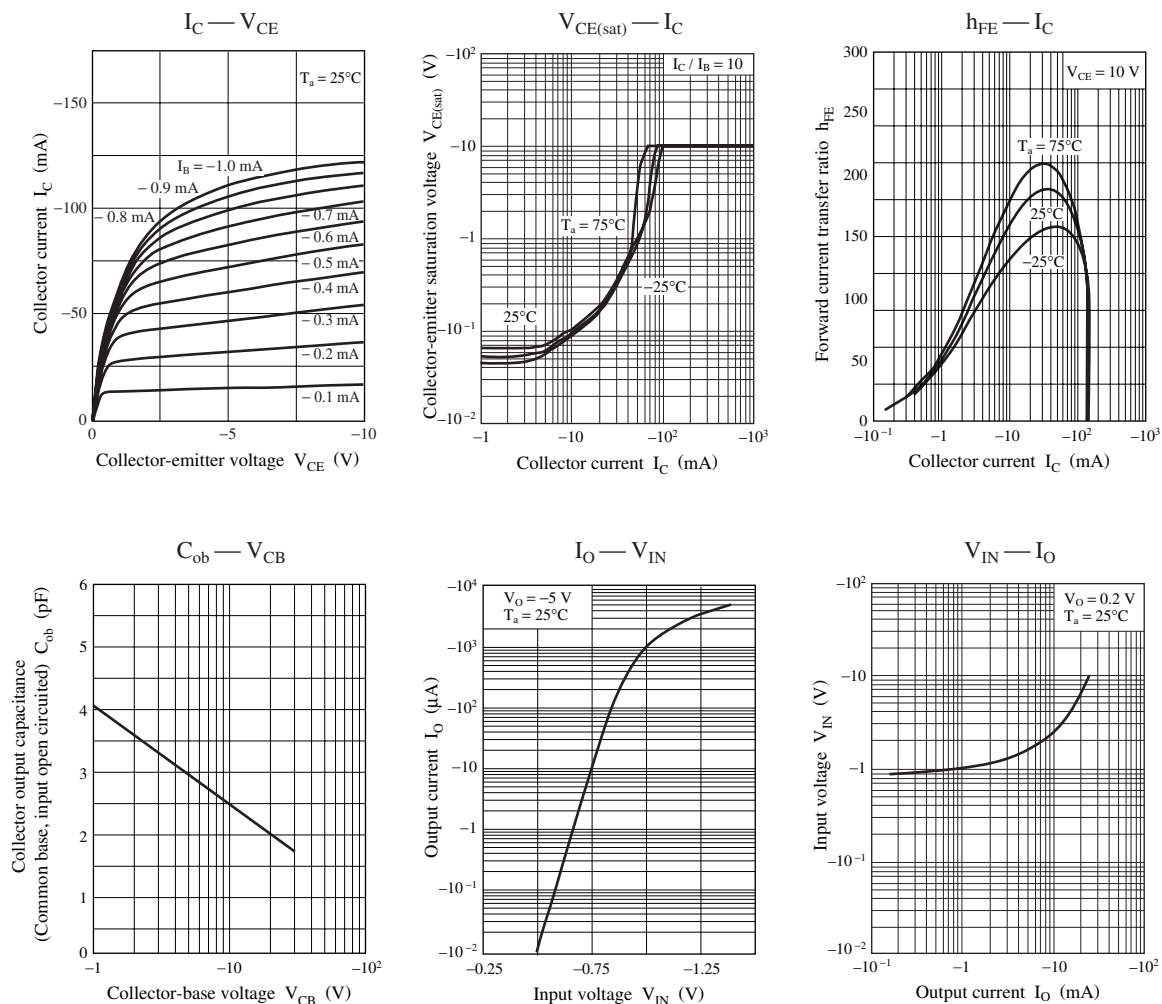




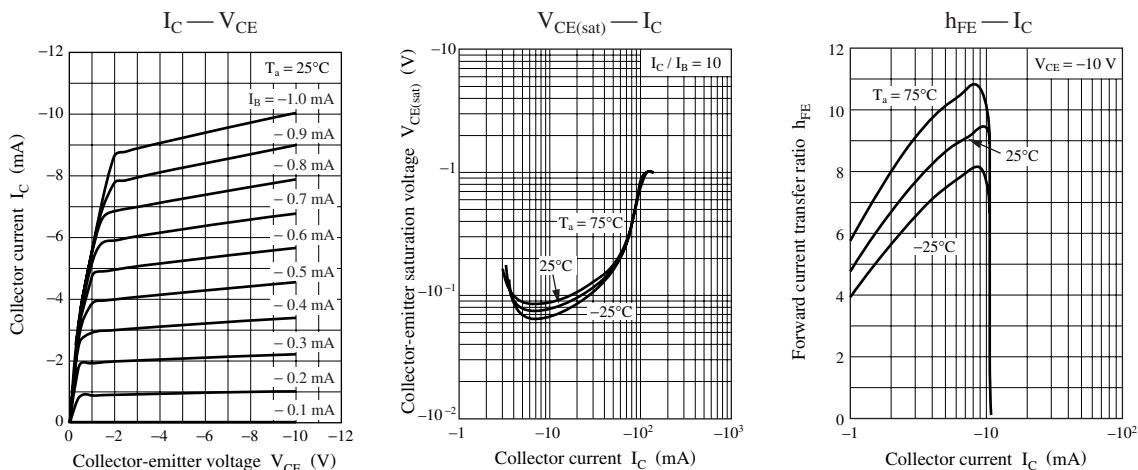
Characteristics charts of UNR911NJ

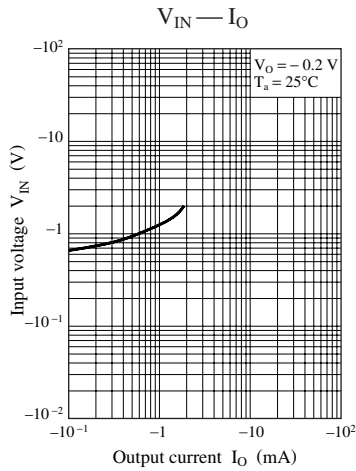
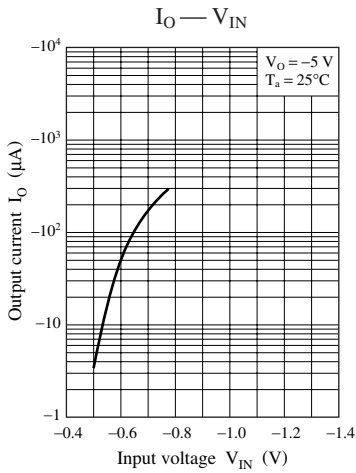


Characteristics charts of UNR911TJ



Characteristics charts of UNR911VJ





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