

# UNR411F00A Datasheet



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DiGi Electronics Part Number	UNR411F00A-DG
Manufacturer	<a href="#">Panasonic Electronic Components</a>
Manufacturer Product Number	UNR411F00A
Description	TRANS PREBIAS PNP 50V NS-B1
Detailed Description	Pre-Biased Bipolar Transistor (BJT) PNP - Pre-Biased 50 V 100 mA 80 MHz 300 mW Through Hole NS-B1



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DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

UNR411F00A

Series:

-

Transistor Type:

PNP - Pre-Biased

Voltage - Collector Emitter Breakdown (Max):

50 V

Resistor - Emitter Base (R2):

10 kOhms

Vce Saturation (Max) @ Ib, Ic:

250mV @ 300µA, 10mA

Frequency - Transition:

80 MHz

Mounting Type:

Through Hole

Supplier Device Package:

NS-B1

Manufacturer:

Panasonic Electronic Components

Product Status:

Obsolete

Current - Collector (Ic) (Max):

100 mA

Resistor - Base (R1):

4.7 kOhms

DC Current Gain (hFE) (Min) @ Ic, Vce:

30 @ 5mA, 10V

Current - Collector Cutoff (Max):

500nA

Power - Max:

300 mW

Package / Case:

3-SIP

Base Product Number:

UNR411

## Environmental & Export classification

Moisture Sensitivity Level (MSL):

1 (Unlimited)

HTSUS:

8541.21.0095

ECCN:

EAR99

# UNR411x Series (UN411x Series)

## Silicon PNP epitaxial planar type

For digital circuits

### ■ Features

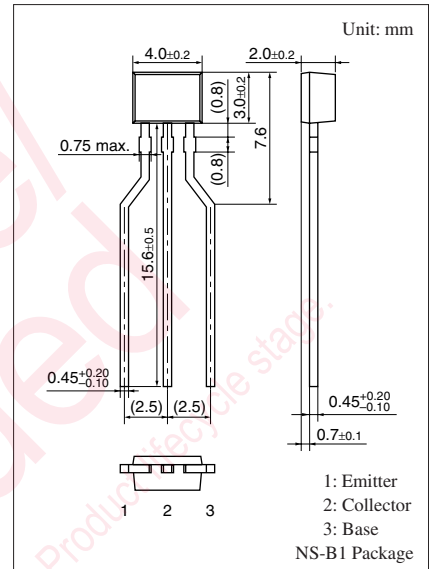
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts
- New S type package, allowing supply with the radial taping

### ■ Resistance by Part Number

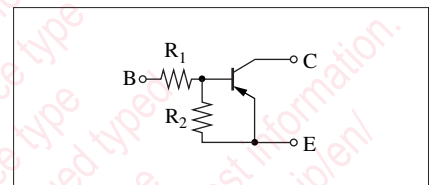
	(R <sub>1</sub> )	(R <sub>2</sub> )
• UNR4110 (UN4110)	47 kΩ	—
• UNR4111 (UN4111)	10 kΩ	10 kΩ
• UNR4112 (UN4112)	22 kΩ	22 kΩ
• UNR4113 (UN4113)	47 kΩ	47 kΩ
• UNR4114 (UN4114)	10 kΩ	47 kΩ
• UNR4115 (UN4115)	10 kΩ	—
• UNR4116 (UN4116)	4.7 kΩ	—
• UNR4117 (UN4117)	22 kΩ	—
• UNR4118 (UN4118)	0.51 kΩ	5.1 kΩ
• UNR4119 (UN4119)	1 kΩ	10 kΩ
• UNR411D (UN411D)	47 kΩ	10 kΩ
• UNR411E (UN411E)	47 kΩ	22 kΩ
• UNR411F (UN411F)	4.7 kΩ	10 kΩ
• UNR411H (UN411H)	2.2 kΩ	10 kΩ
• UNR411L (UN411L)	4.7 kΩ	4.7 kΩ
• UNR411M	2.2 kΩ	47 kΩ
• UNR411N	4.7 kΩ	47 kΩ

### ■ Absolute Maximum Ratings T<sub>a</sub> = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	-50	V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	-50	V
Collector current	I <sub>C</sub>	-100	mA
Total power dissipation	P <sub>T</sub>	300	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C



### Internal Connection



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

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = -10 \mu\text{A}, I_E = 0$	-50			V	
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -2 \text{mA}, I_B = 0$	-50			V	
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = -50 \text{V}, I_E = 0$			-0.1	$\mu\text{A}$	
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = -50 \text{V}, I_B = 0$			-0.5	$\mu\text{A}$	
Emitter-base cutoff current (Collector open)	UNR4110/4115/4116/4117	$I_{EBO}$				-0.01	
	UNR4113					-0.1	
	UNR4112/4114/411D/411E/411M/411N					-0.2	
	UNR4111					-0.5	
	UNR411F/411H					-1.0	
	UNR4119					-1.5	
	UNR4118/411L					-2.0	
Forward current transfer ratio	UNR4118/411L	$h_{FE}$	$V_{CE} = -10 \text{V}, I_C = -5 \text{mA}$			20	
	UNR4119/411D/411F/411H					30	
	UNR4111					35	
	UNR4112/411E					60	
	UNR4113/4114/411M					80	
	UNR411N					80	400
	UNR4110*/4115*/4116*/4117*					160	460
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10 \text{mA}, I_B = -0.3 \text{mA}$			-0.25	V	
Output voltage high-level	$V_{OH}$	$V_{CC} = -5 \text{V}, V_B = -0.5 \text{V}, R_L = 1 \text{k}\Omega$	-4.9			V	
Output voltage low-level	$V_{OL}$	$V_{CC} = -5 \text{V}, V_B = -2.5 \text{V}, R_L = 1 \text{k}\Omega$				-0.2	
						$V_{CC} = -5 \text{V}, V_B = -3.5 \text{V}, R_L = 1 \text{k}\Omega$	
						$V_{CC} = -5 \text{V}, V_B = -10 \text{V}, R_L = 1 \text{k}\Omega$	
						$V_{CC} = -5 \text{V}, V_B = -6 \text{V}, R_L = 1 \text{k}\Omega$	
Transition frequency	$f_T$	$V_{CB} = -10 \text{V}, I_E = 1 \text{mA}, f = 200 \text{MHz}$		80		MHz	
Input resistance	UNR4118	$R_1$		-30%	0.51	+30%	k $\Omega$
	UNR4119						
	UNR411H/411M						
	UNR4116/411F/411L/411N						
	UNR4111/4114/4115						
	UNR4112/4117						
	UNR4110/4113/411D/411E						

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

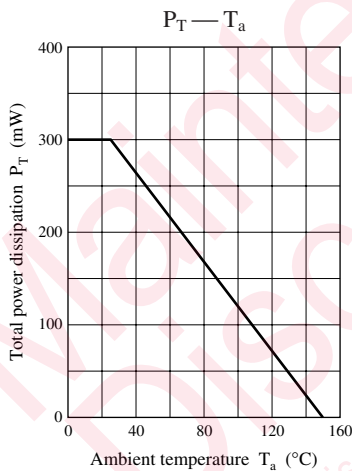
Rank	Q	R	S	No-rank
$h_{FE}$	160 to 260	210 to 340	290 to 460	160 to 460

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

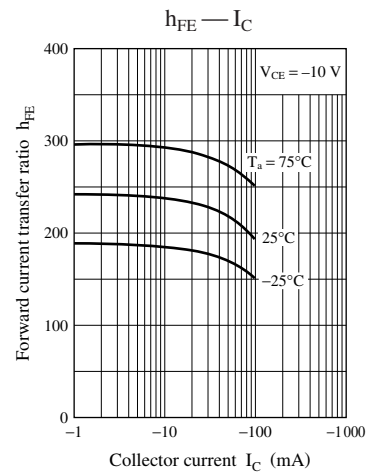
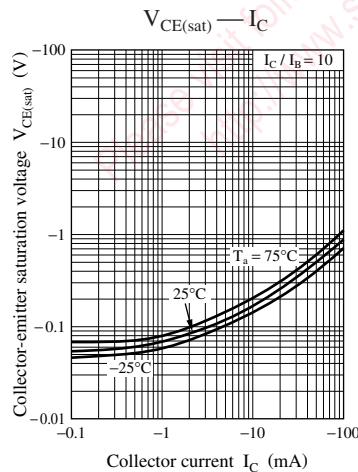
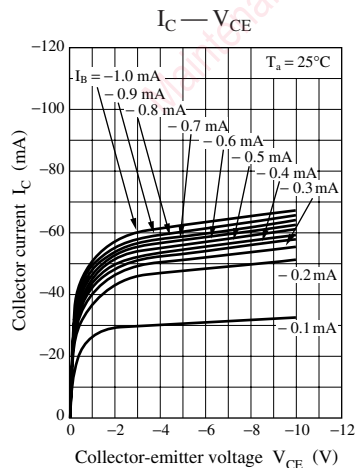
Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Resistance ratio	UNR411M	$R_1/R_2$			0.047		—
	UNR411N				0.1		
	UNR4118/4119			0.08	0.10	0.12	
	UNR4114			0.17	0.21	0.25	
	UNR411H			0.17	0.22	0.27	
	UNR411F			0.37	0.47	0.57	
	UNR4111/4112/4113/411L			0.8	1.0	1.2	
	UNR411E			1.70	2.14	2.60	
	UNR411D		3.7	4.7	5.7		

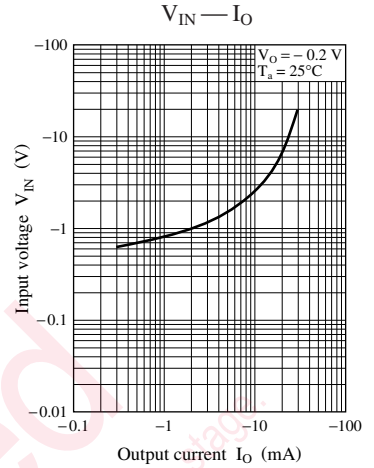
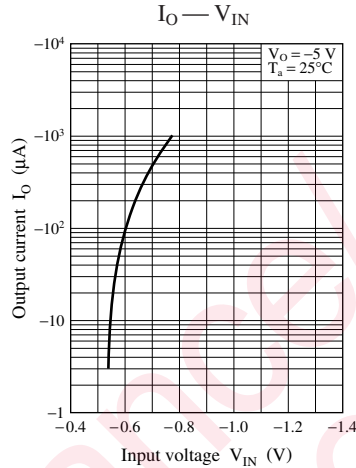
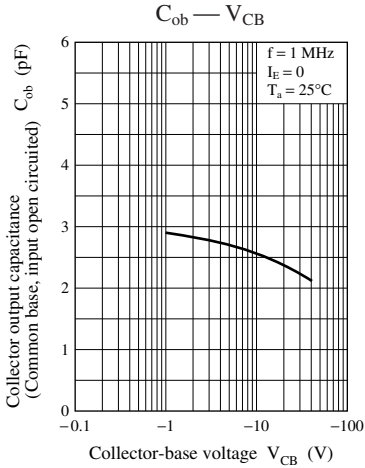
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

Common characteristics chart

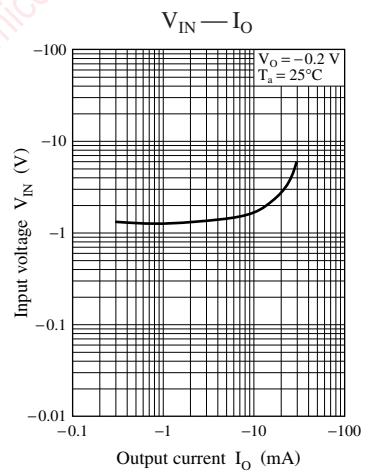
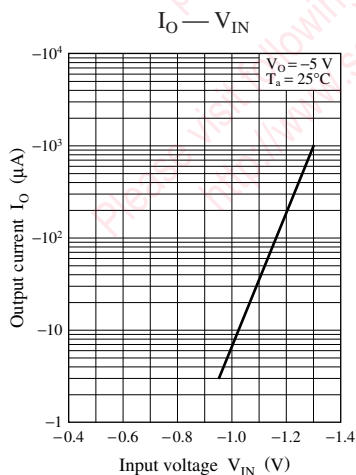
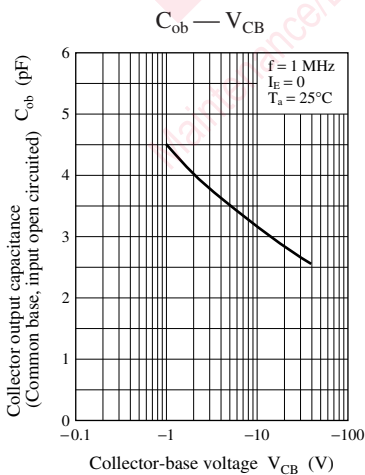
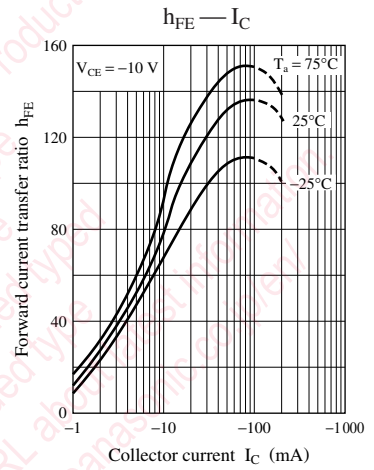
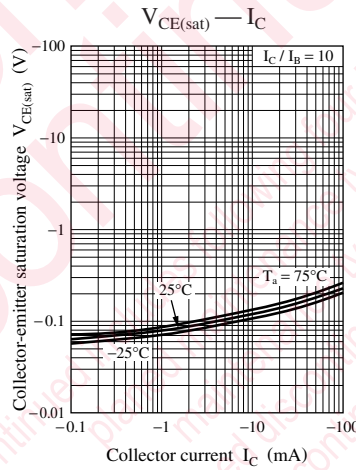
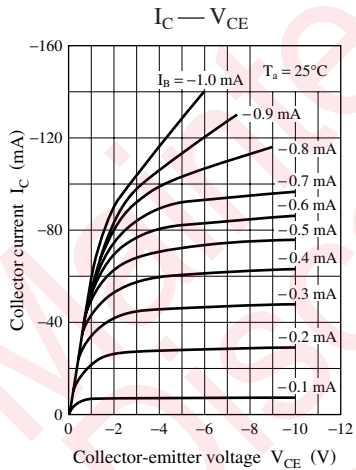


Characteristics charts of UNR4110

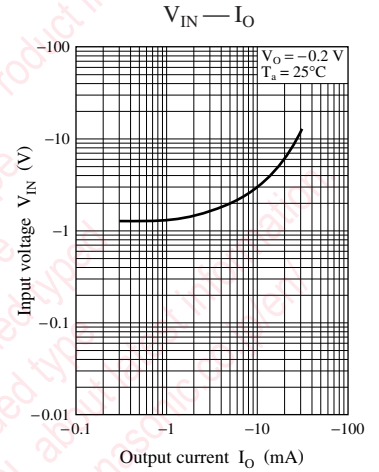
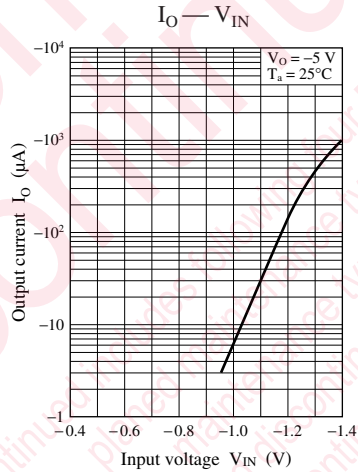
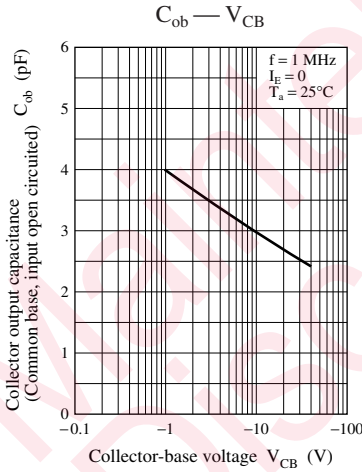
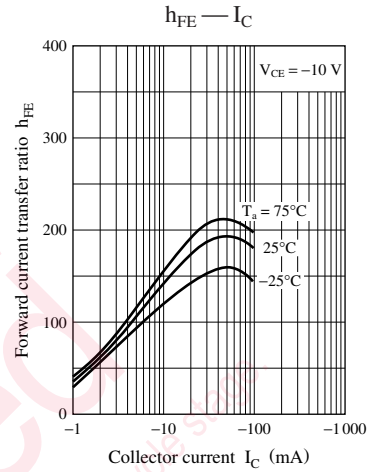
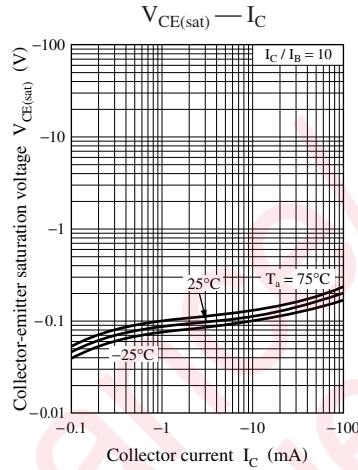
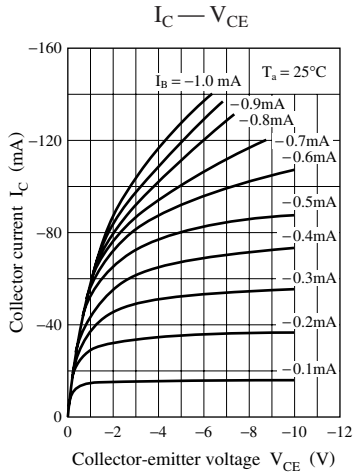




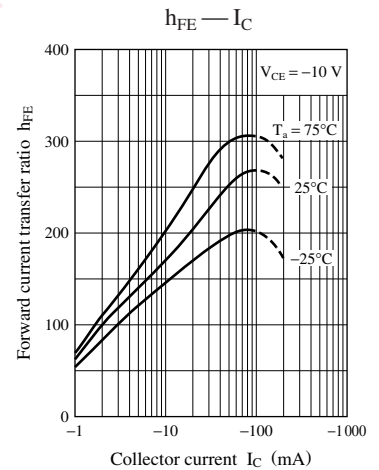
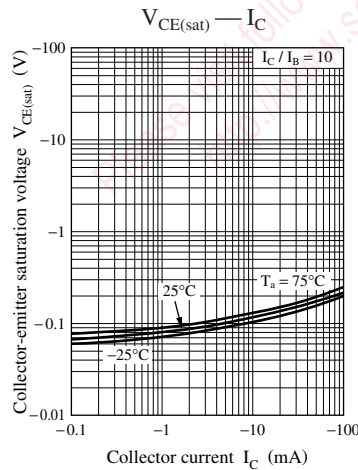
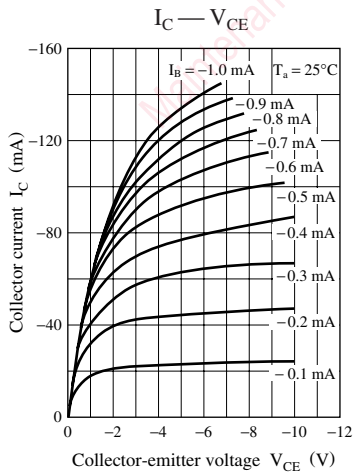
Characteristics charts of UNR4111

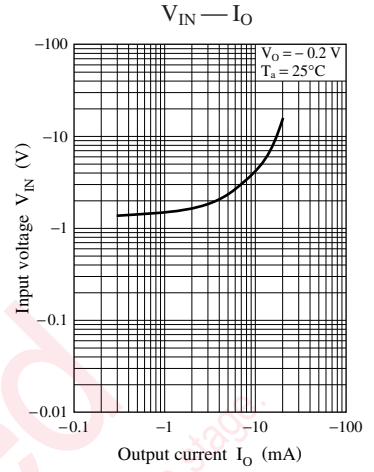
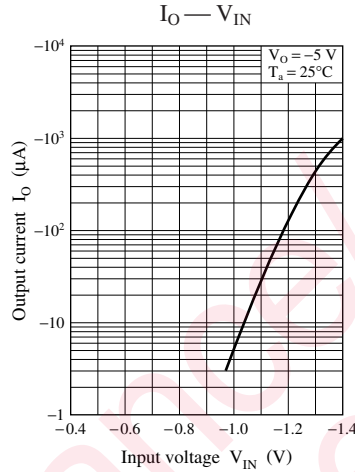
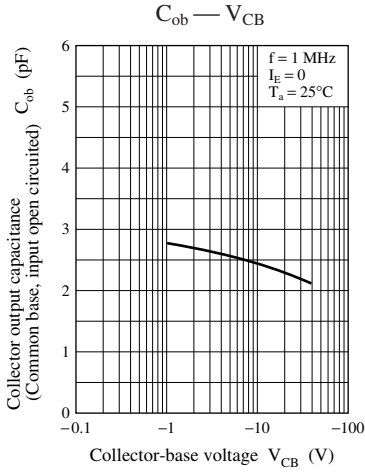


Characteristics charts of UNR4112

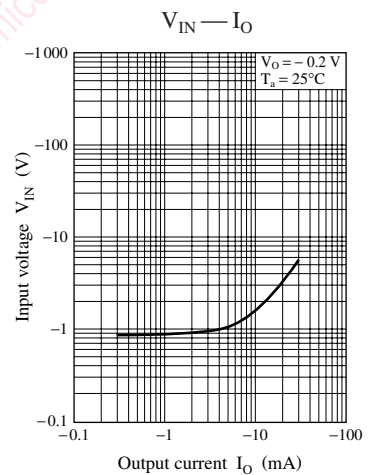
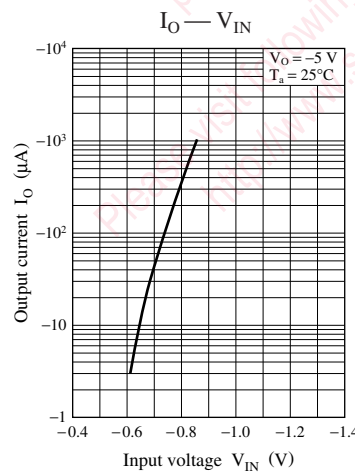
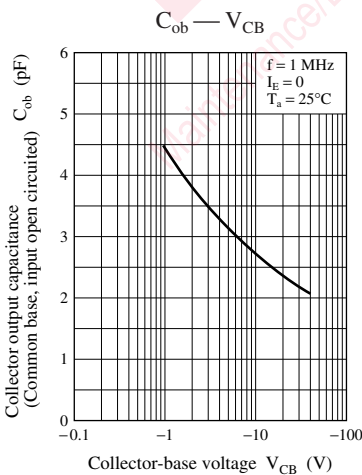
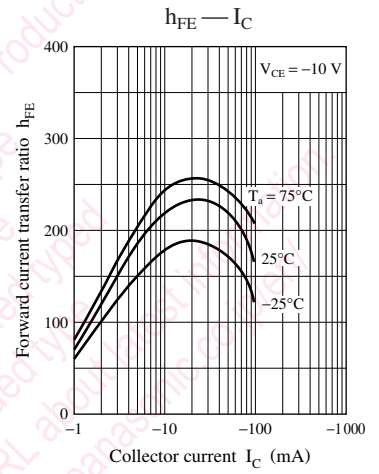
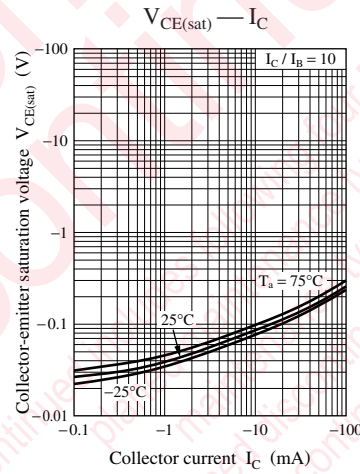
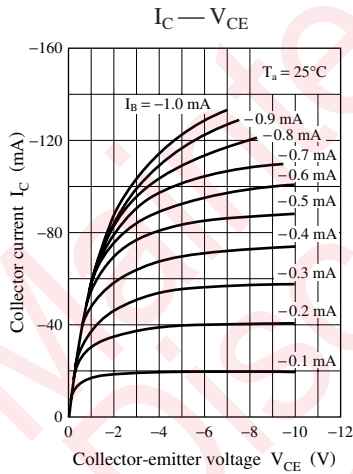


Characteristics charts of UNR4113



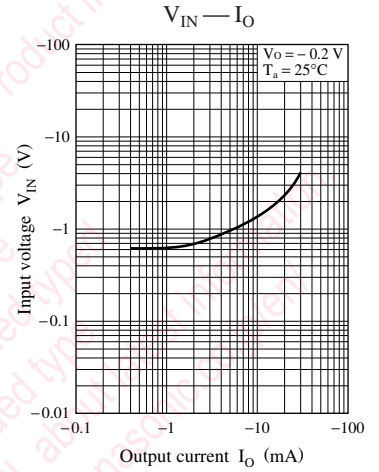
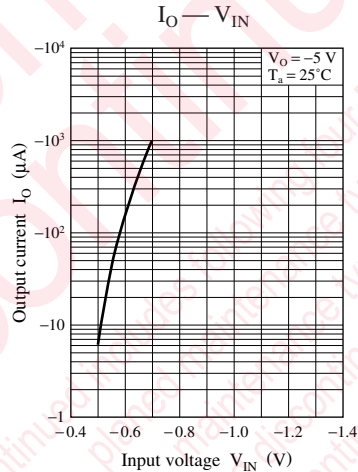
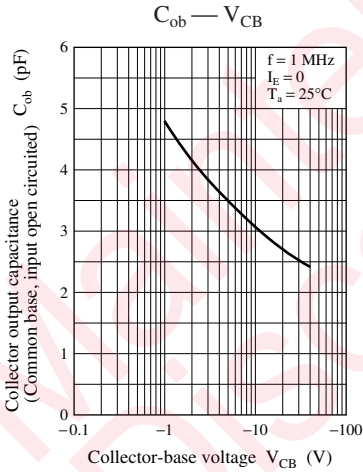
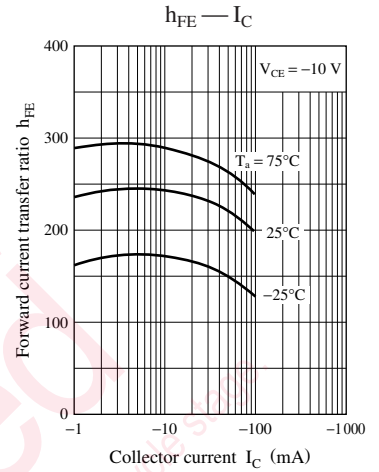
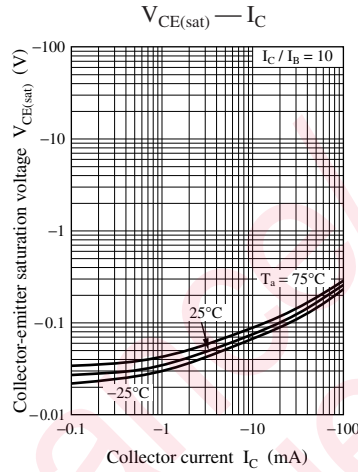
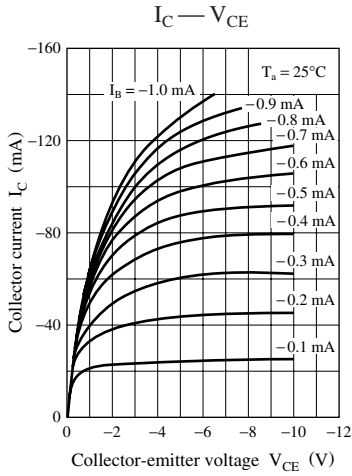


Characteristics charts of UNR4114

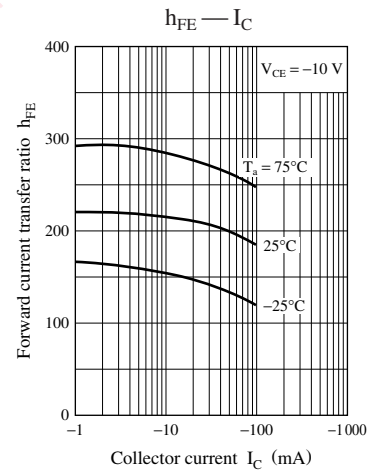
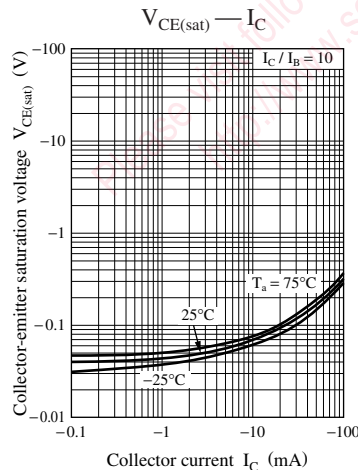
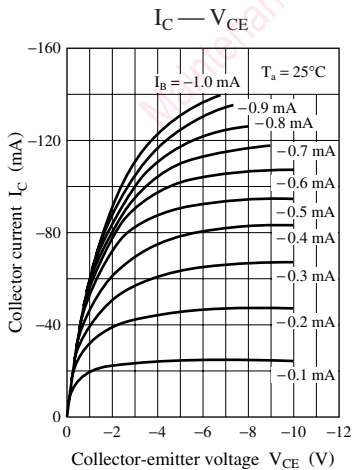


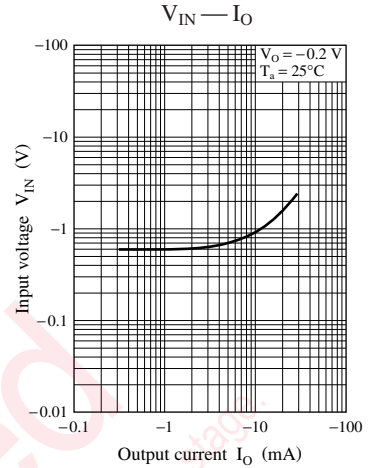
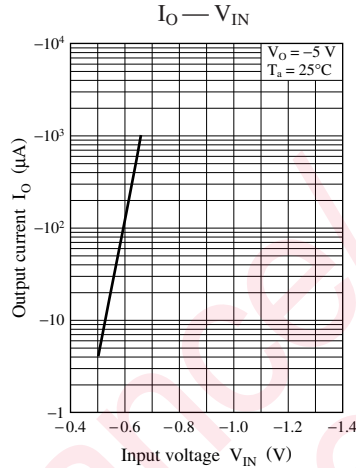
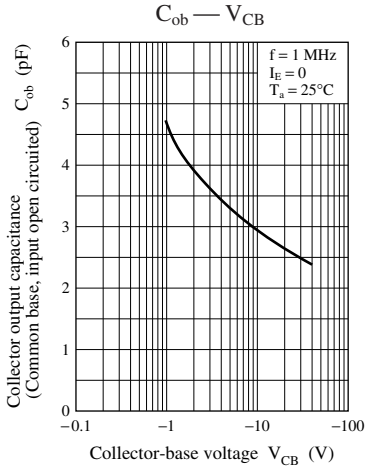


Characteristics charts of UNR4115

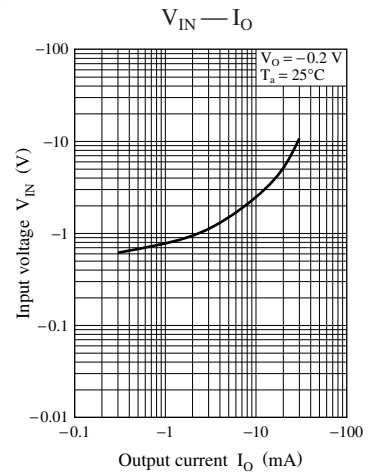
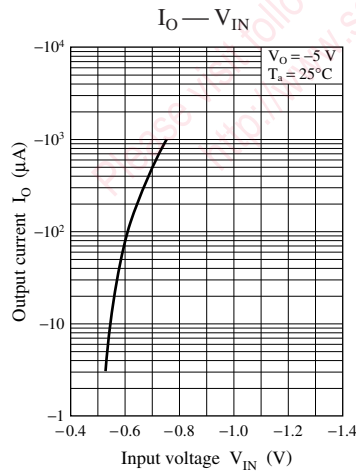
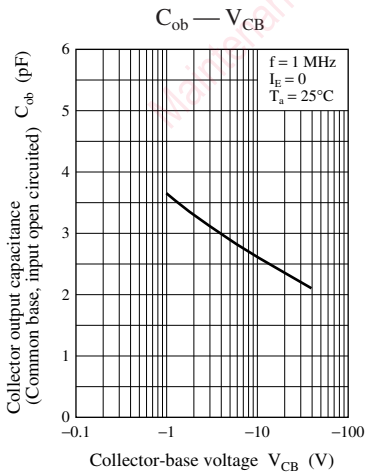
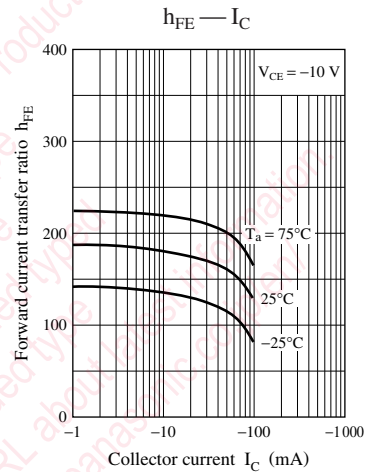
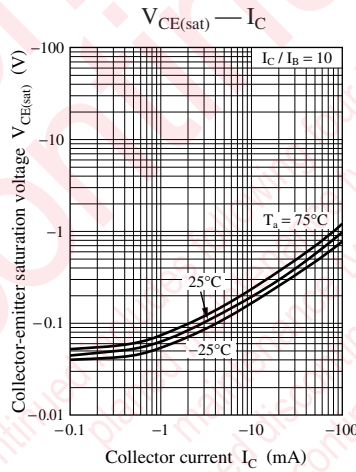
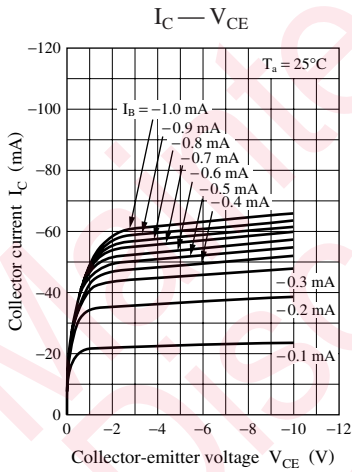


Characteristics charts of UNR4116

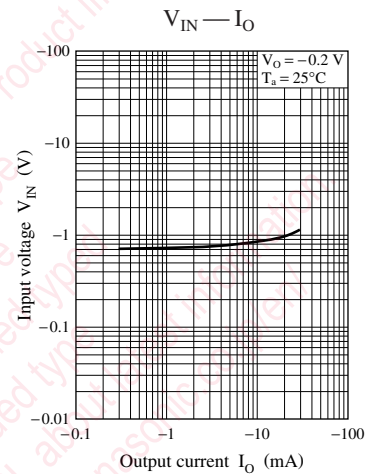
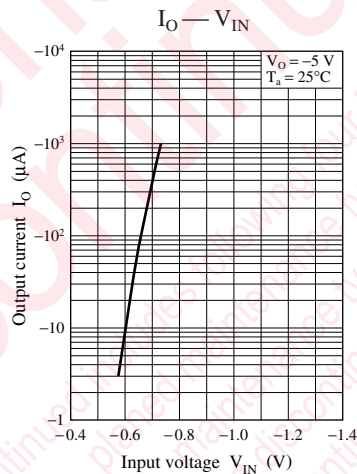
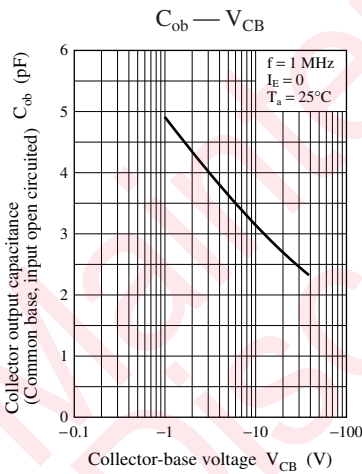
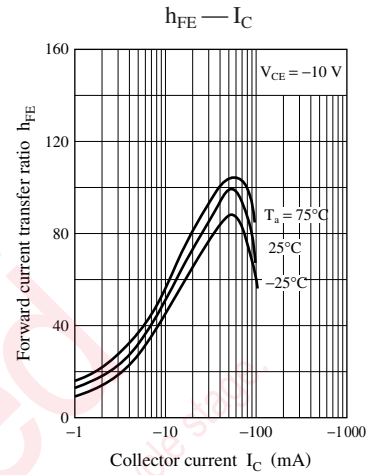
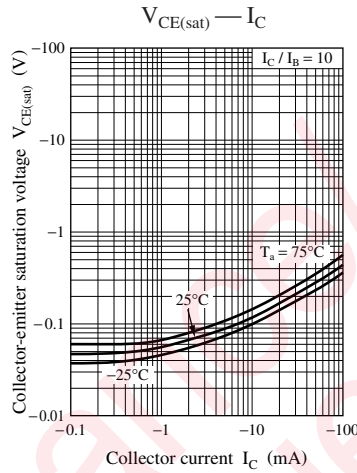
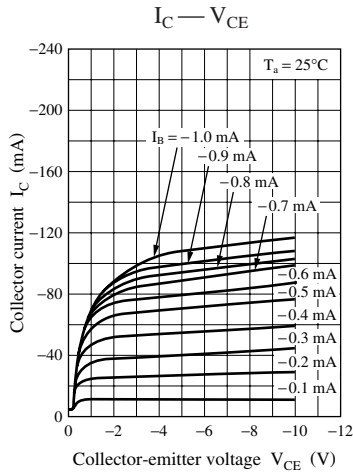




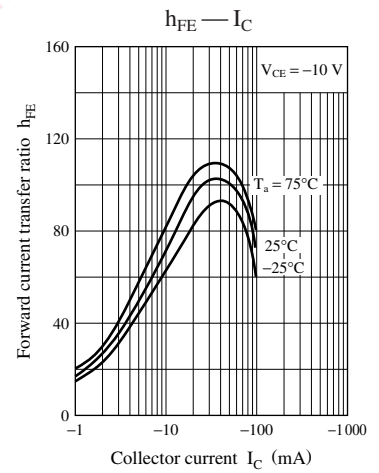
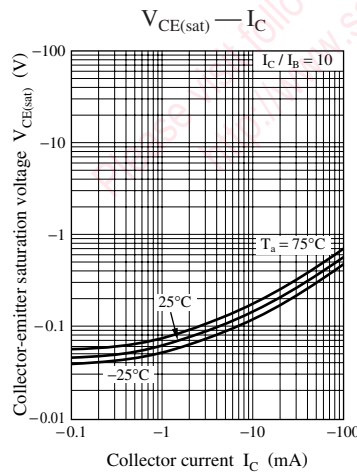
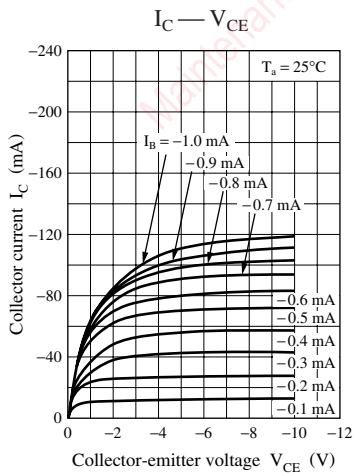
**Characteristics charts of UNR4117**

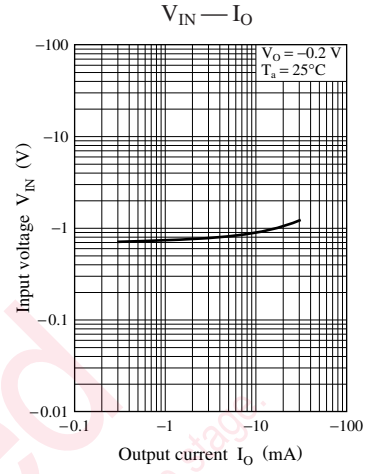
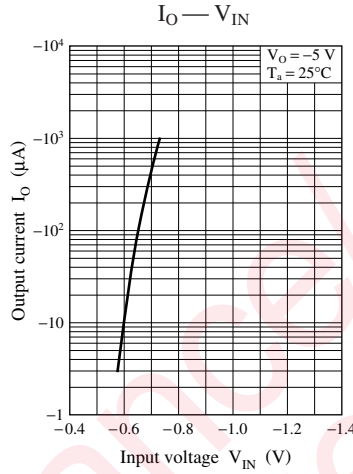
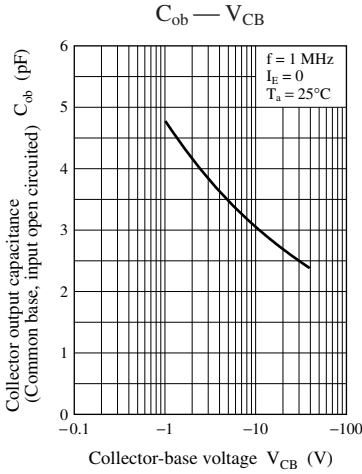


Characteristics charts of UNR4118

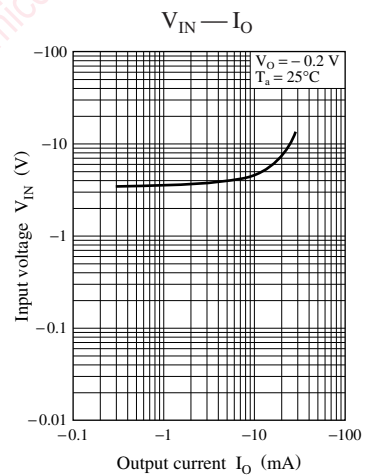
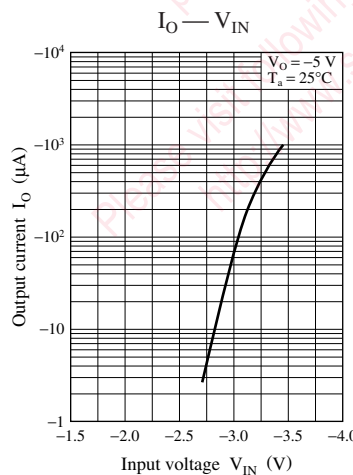
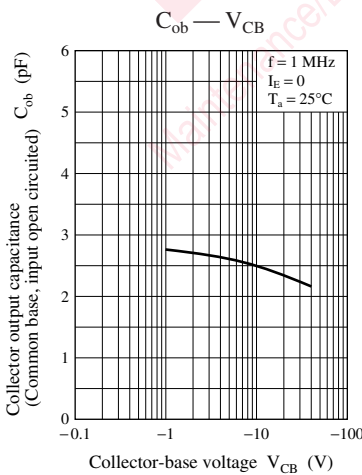
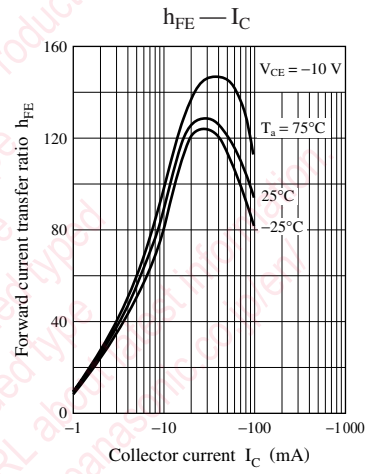
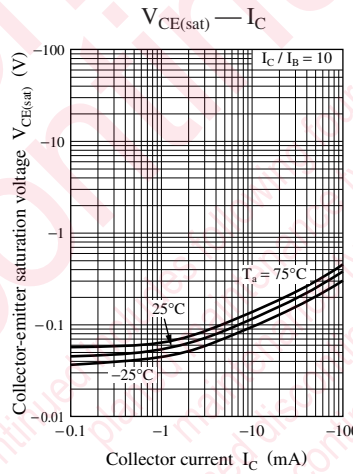
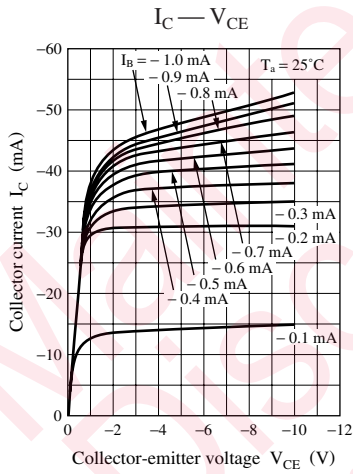


Characteristics charts of UNR4119

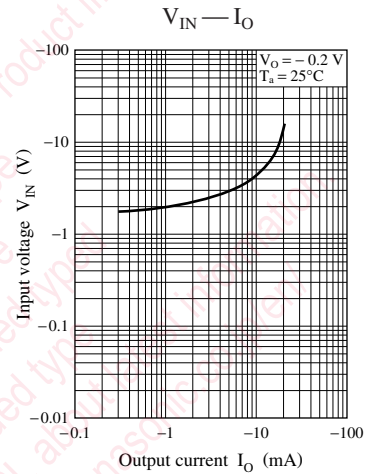
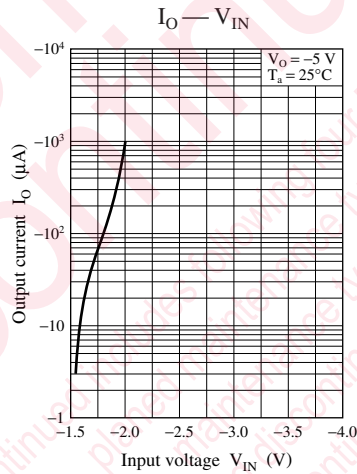
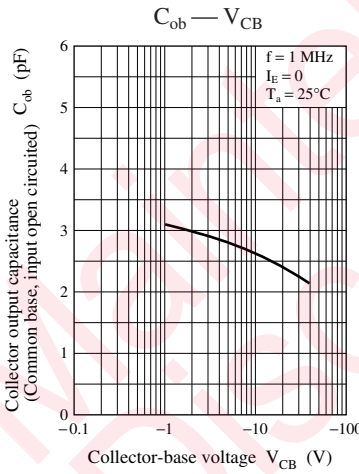
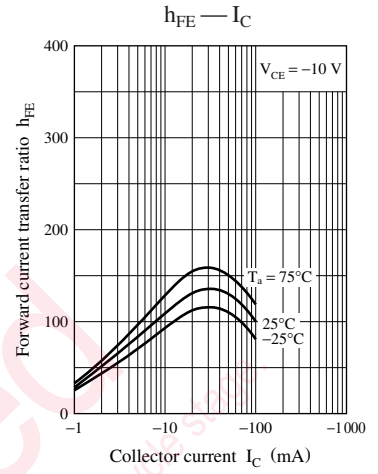
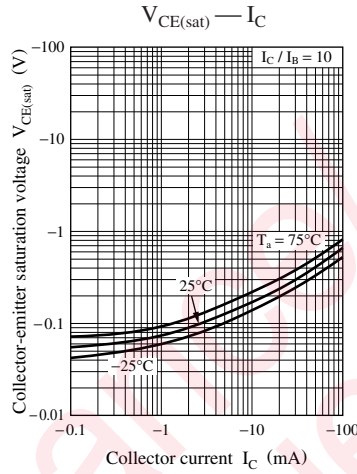
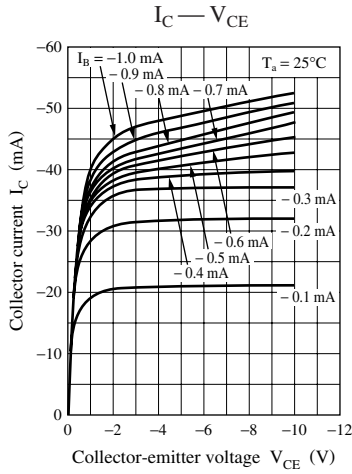




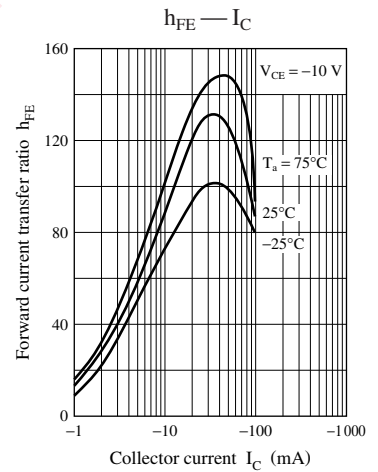
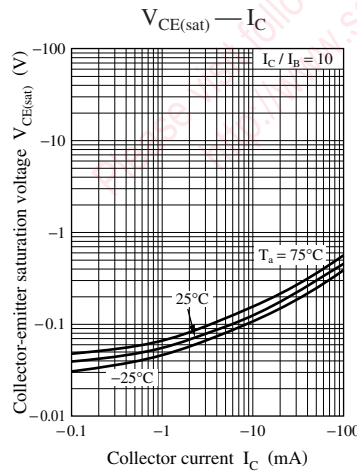
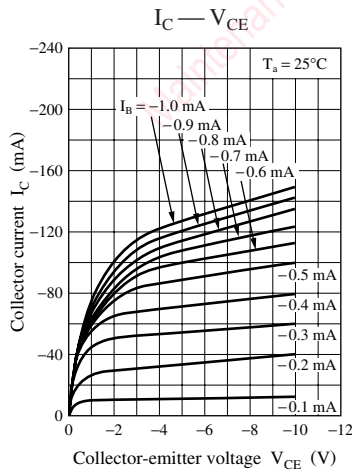
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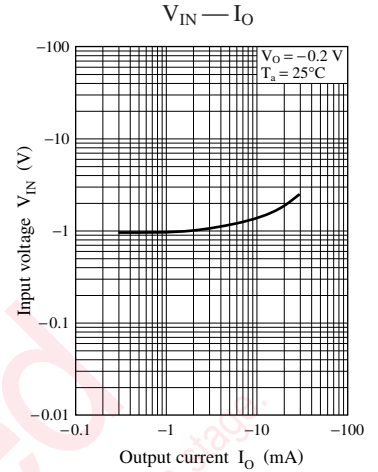
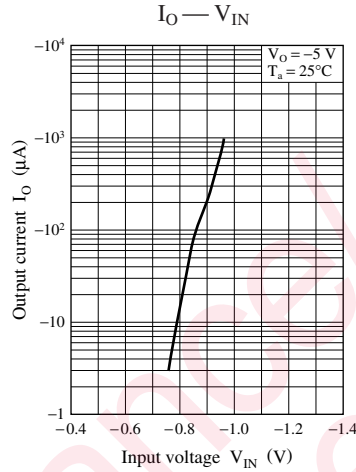
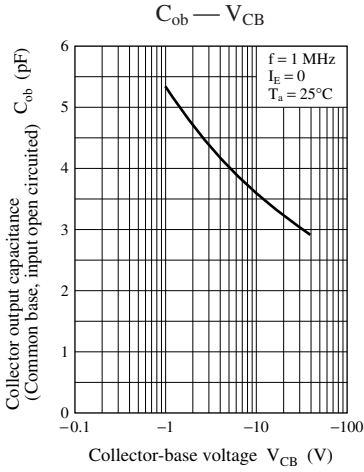


Characteristics charts of UNR411E

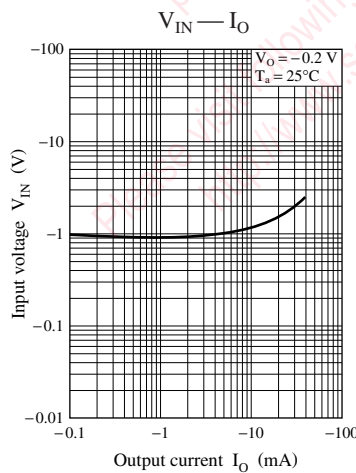
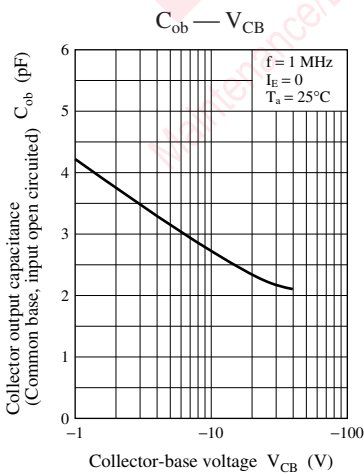
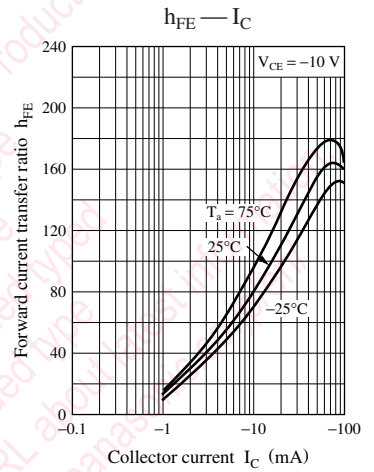
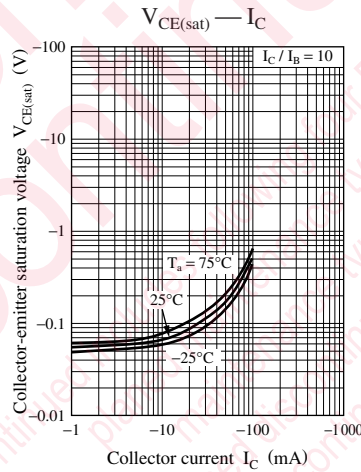
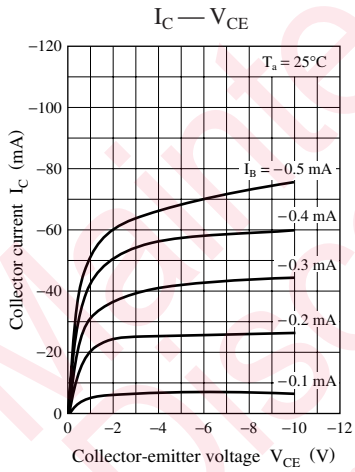


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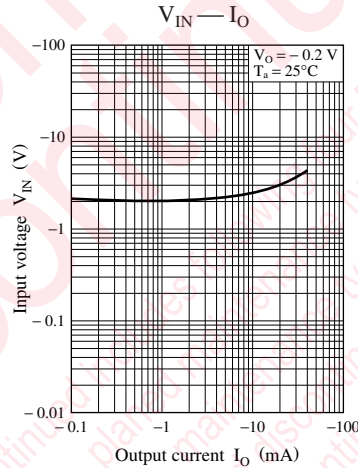
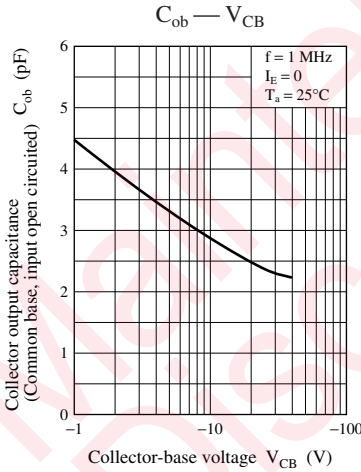
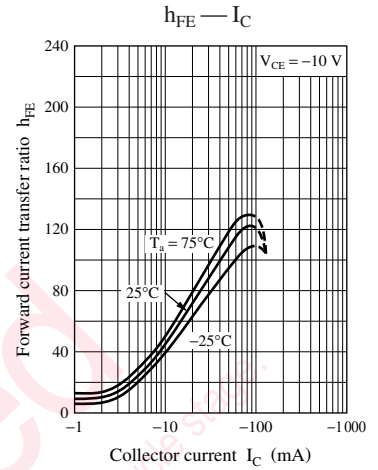
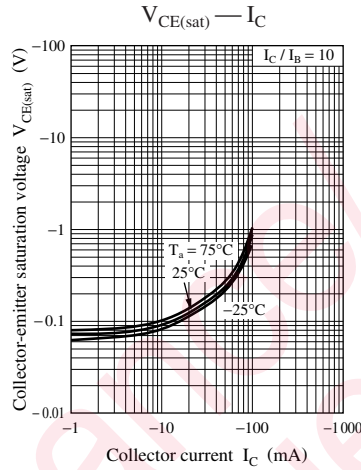
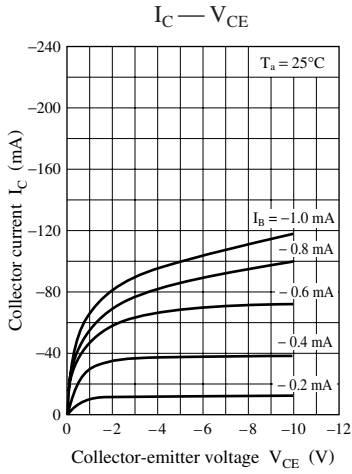




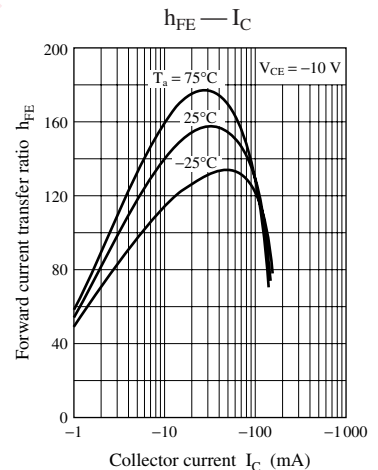
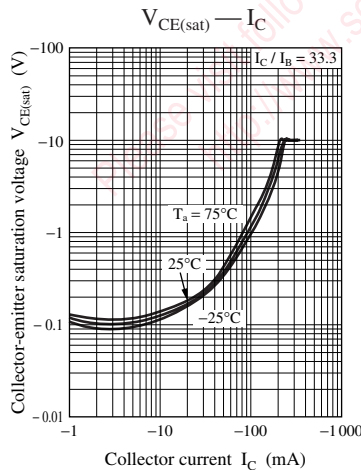
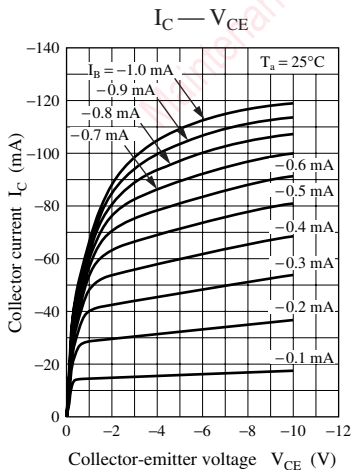
Characteristics charts of UNR411H

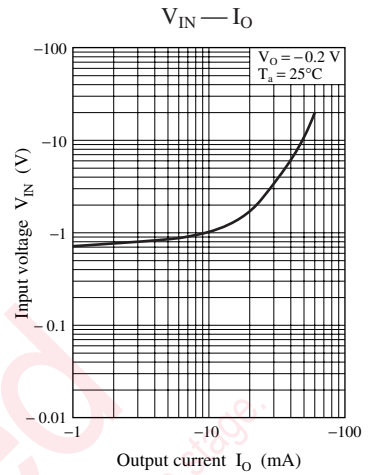
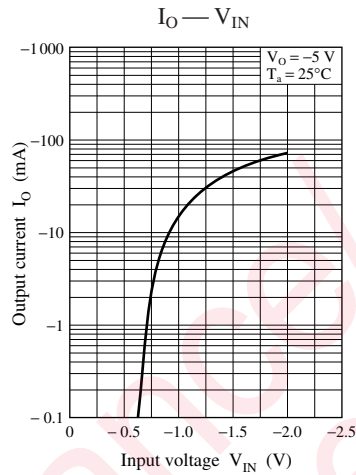
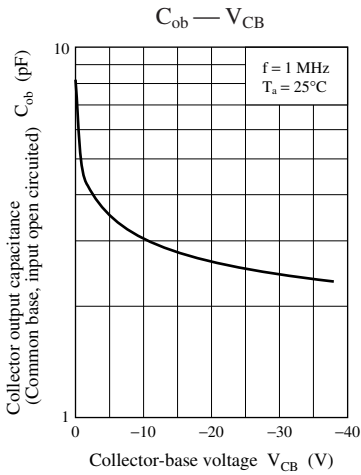


Characteristics charts of UNR411L

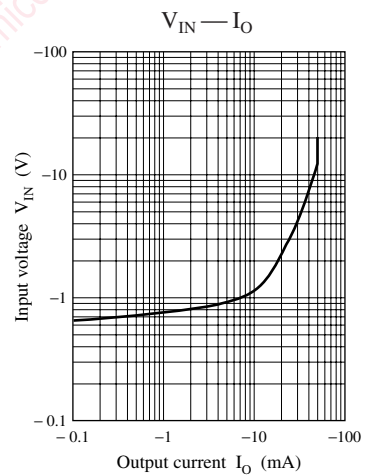
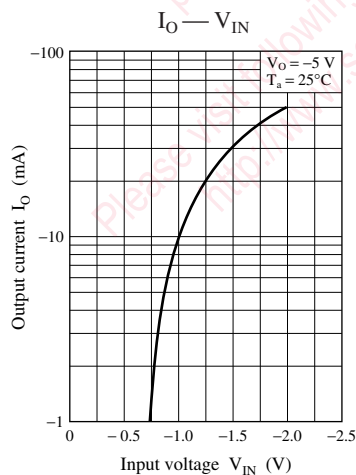
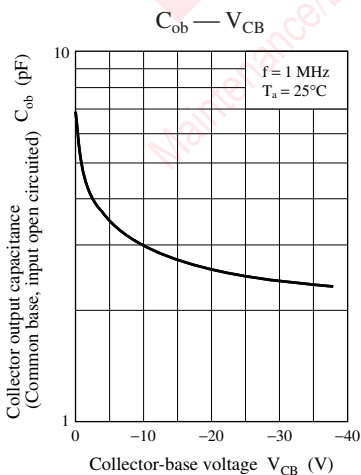
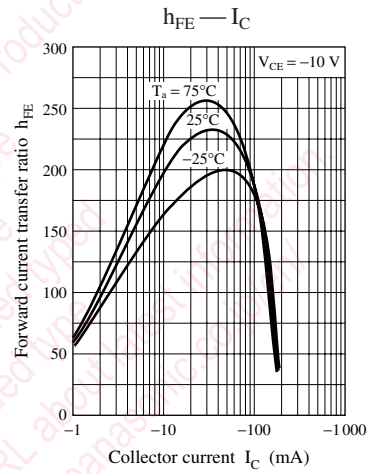
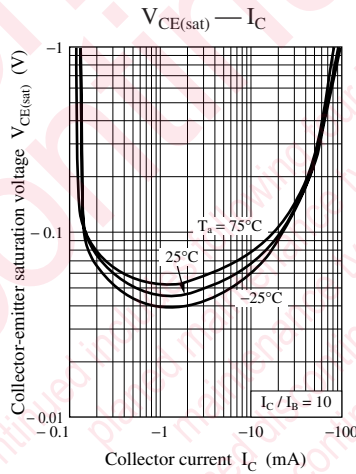
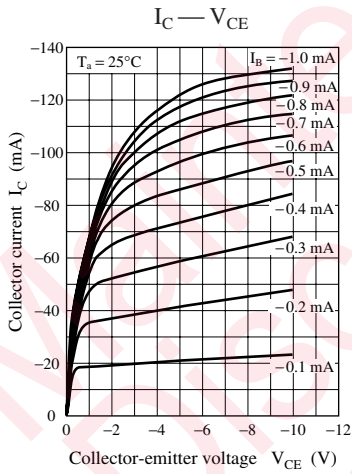


Characteristics charts of UNR411M





Characteristics charts of UNR411N





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