

UNR421800A Datasheet



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DiGi Electronics Part Number	UNR421800A-DG
Manufacturer	Panasonic Electronic Components
Manufacturer Product Number	UNR421800A
Description	TRANS PREBIAS NPN 50V NS-B1
Detailed Description	Pre-Biased Bipolar Transistor (BJT) NPN - Pre-Biased 50 V 100 mA 150 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:

UNR421800A

Series:

-

Transistor Type:

NPN - Pre-Biased

Voltage - Collector Emitter Breakdown (Max):

50 V

Resistor - Emitter Base (R2):

5.1 kOhms

Vce Saturation (Max) @ Ib, Ic:

250mV @ 300µA, 10mA

Frequency - Transition:

150 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):

510 Ohms

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

20 @ 5mA, 10V

Current - Collector Cutoff (Max):

500nA

Power - Max:

300 mW

Package / Case:

3-SIP

Base Product Number:

UNR421

Environmental & Export classification

RoHS Status:

RoHS non-compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

1 (Unlimited)

HTSUS:

8541.21.0075

UNR421x Series (UN421x Series)

Silicon NPN epitaxial planar type

For digital circuits

■ Features

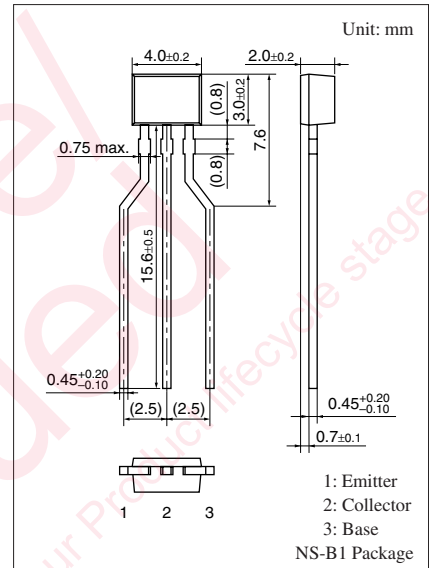
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts
- New S type package, allowing supply with the radial taping

■ Resistance by Part Number

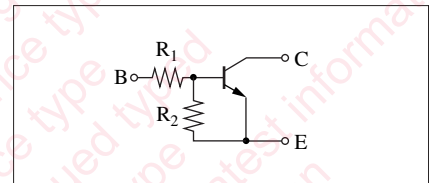
	(R ₁)	(R ₂)
• UNR4210 (UN4210)	47 kΩ	—
• UNR4211 (UN4211)	10 kΩ	10 kΩ
• UNR4212 (UN4212)	22 kΩ	22 kΩ
• UNR4213 (UN4213)	47 kΩ	47 kΩ
• UNR4214 (UN4214)	10 kΩ	47 kΩ
• UNR4215 (UN4215)	10 kΩ	—
• UNR4216 (UN4216)	4.7 kΩ	—
• UNR4217 (UN4217)	22 kΩ	—
• UNR4218 (UN4218)	0.51 kΩ	5.1 kΩ
• UNR4219 (UN4219)	1 kΩ	10 kΩ
• UNR421D (UN421D)	47 kΩ	10 kΩ
• UNR421E (UN421E)	47 kΩ	22 kΩ
• UNR421F (UN421F)	4.7 kΩ	10 kΩ
• UNR421K (UN421K)	10 kΩ	4.7 kΩ
• UNR421L (UN421L)	4.7 kΩ	4.7 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	300	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 $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

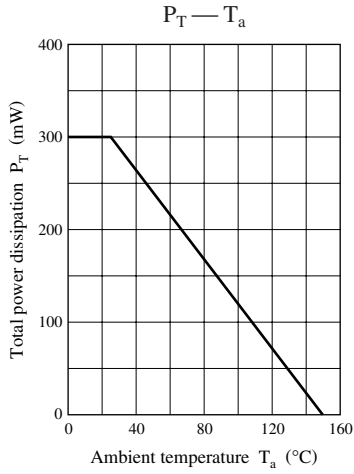
Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)		V_{CBO}	$I_C = 10 \mu\text{A}, I_E = 0$	50			V
Collector-emitter voltage (Base open)		V_{CEO}	$I_C = 2 \text{ mA}, I_B = 0$	50			V
Collector-base cutoff current (Emitter open)		I_{CBO}	$V_{CB} = 50 \text{ V}, I_E = 0$			0.1	μA
Collector-emitter cutoff current (Base open)		I_{CEO}	$V_{CE} = 50 \text{ V}, I_B = 0$			0.5	μA
Emitter-base cutoff current (Collector open)	UNR4210/4215/4216/4217	I_{EBO}	$V_{EB} = 6 \text{ V}, I_C = 0$			0.01	mA
	UNR4213					0.1	
	UNR4212/4214/421D/421E					0.2	
	UNR4211					0.5	
	UNR421F/421K					1.0	
	UNR4219					1.5	
	UNR4218/421L					2.0	
Forward current transfer ratio	UNR4218/421K/421L	h_{FE}	$V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$	20			—
	UNR4219/421D/421F			30			
	UNR4211			35			
	UNR4212/421E			60			
	UNR4213/4214			80			
	UNR4210*/4215*/4216*/4217*			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
	UNR4213/421K		$V_{CC} = 5 \text{ V}, V_B = 3.5 \text{ V}, R_L = 1 \text{ k}\Omega$				
	UNR421D		$V_{CC} = 5 \text{ V}, V_B = 10 \text{ V}, R_L = 1 \text{ k}\Omega$				
	UNR421E		$V_{CC} = 5 \text{ V}, V_B = 6 \text{ V}, R_L = 1 \text{ k}\Omega$				
Transition frequency		f_T	$V_{CB} = 10 \text{ V}, I_E = -2 \text{ mA}, f = 200 \text{ MHz}$		150		MHz
Input resistance	UNR4218	R_1		-30%	0.51	+30%	k Ω
	UNR4219				1.0		
	UNR4216/421F/421L				4.7		
	UNR4211/4214/4215/421K				10		
	UNR4212/4217				22		
	UNR4210/4213/421D/421E				47		
Resistance ratio	UNR4218/4219	R_1/R_2		0.08	0.10	0.12	—
	UNR4214			0.17	0.21	0.25	
	UNR421F			0.37	0.47	0.57	
	UNR4211/4212/4213/421L			0.8	1.0	1.2	
	UNR421K			1.70	2.13	2.60	
	UNR421E			1.70	2.14	2.60	
	UNR421D			3.7	4.7	5.7	

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

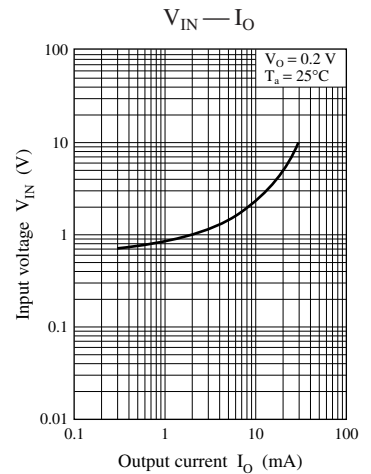
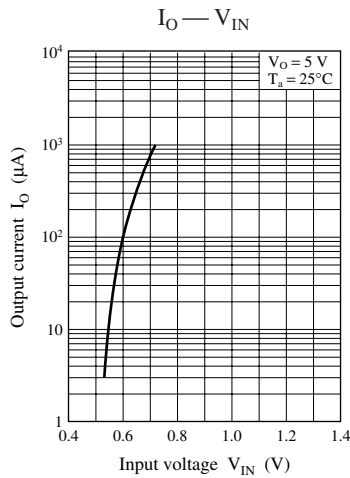
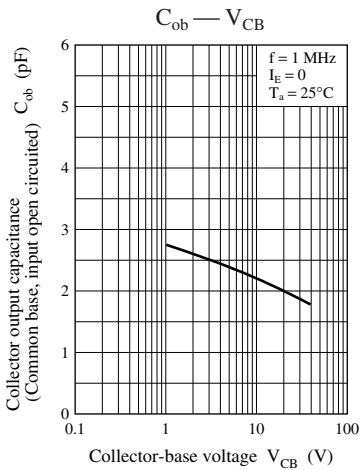
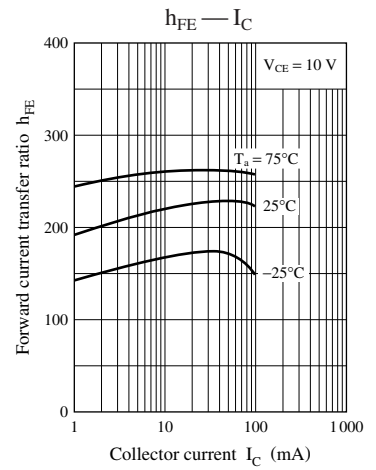
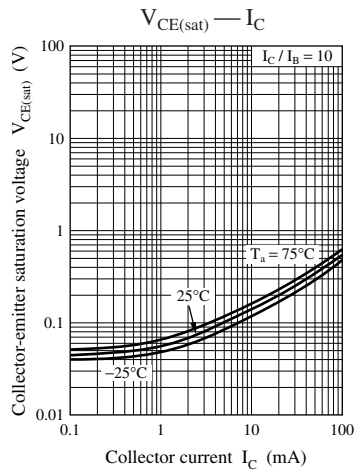
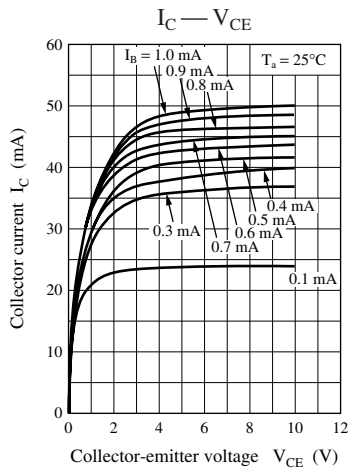
2. *: Rank classification

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

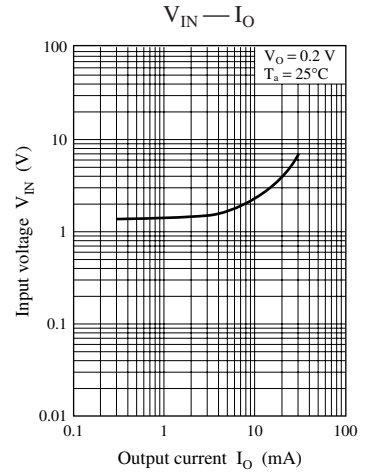
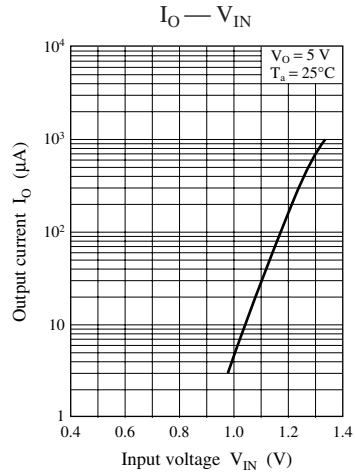
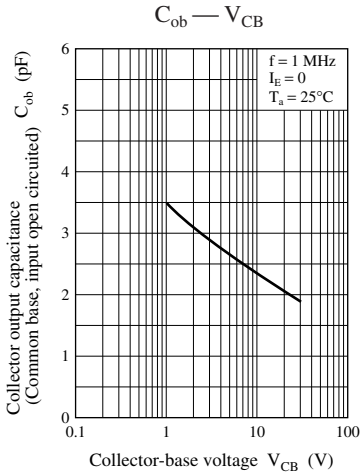
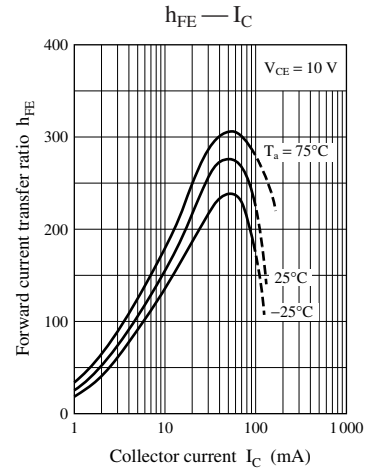
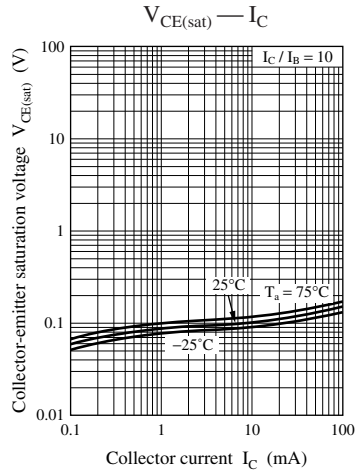
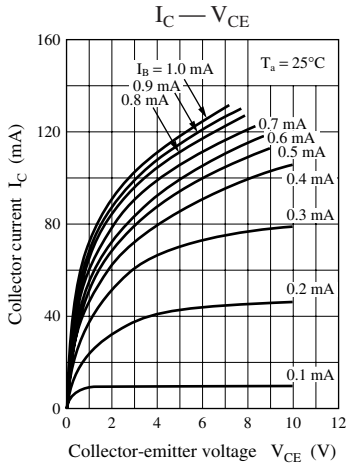
Common characteristics chart



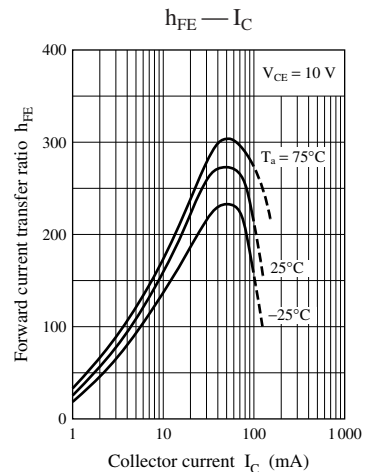
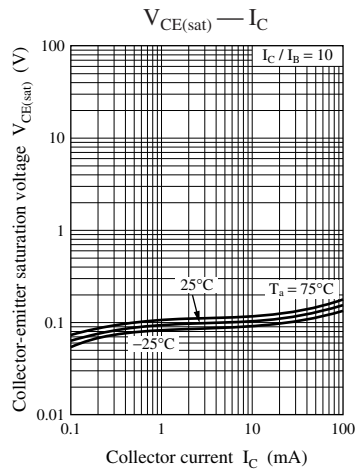
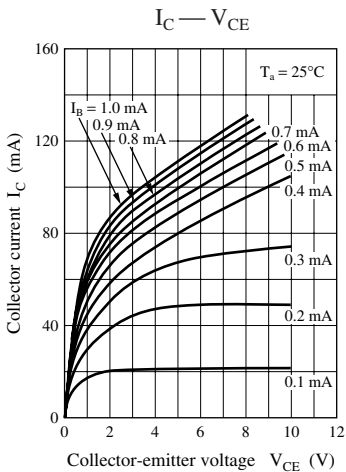
Characteristics charts of UNR4210

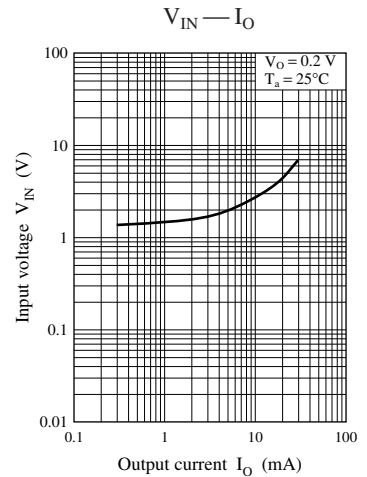
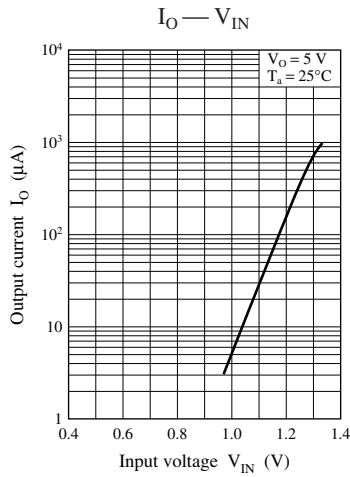
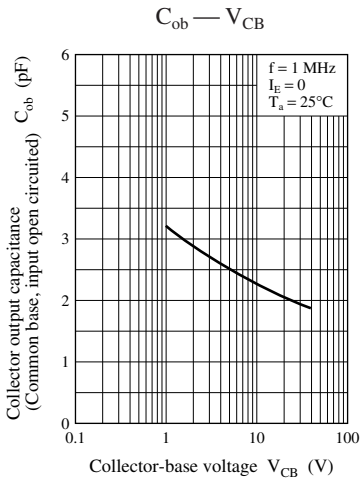


Characteristics charts of UNR4211

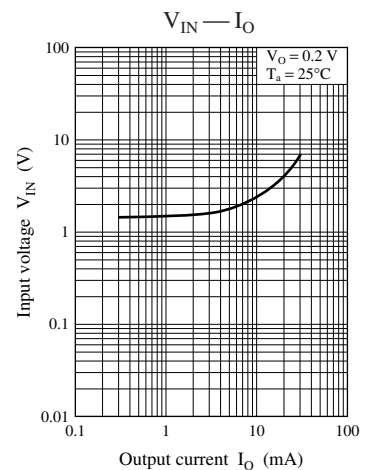
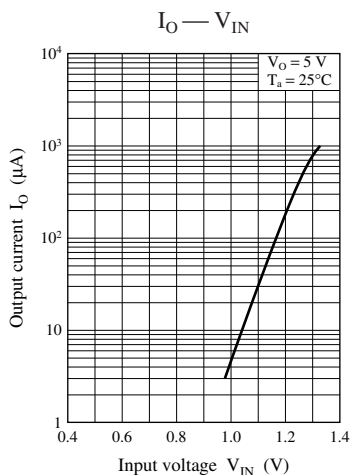
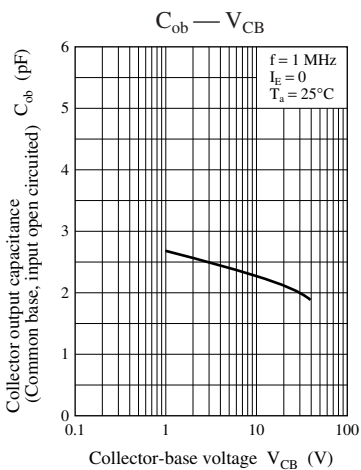
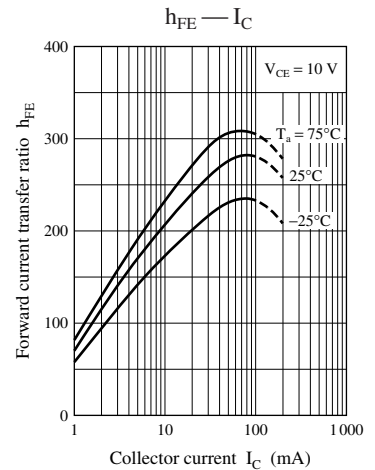
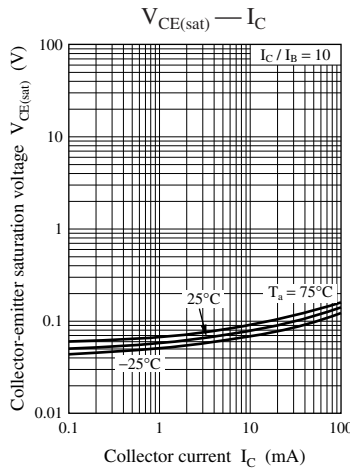
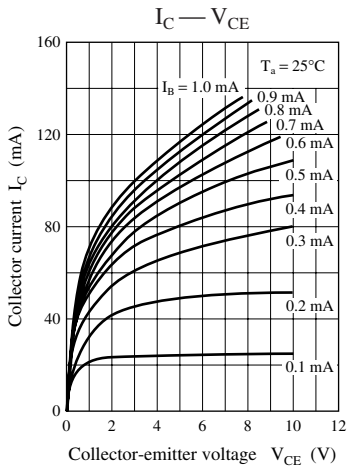


Characteristics charts of UNR4212

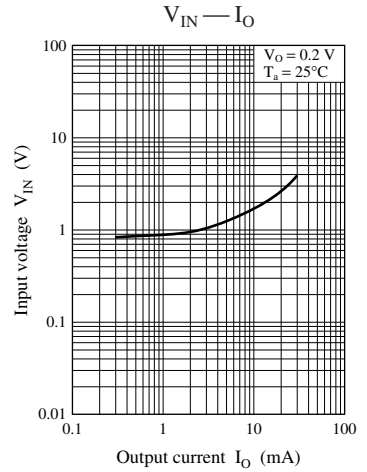
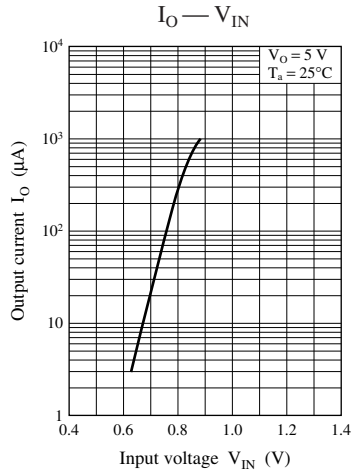
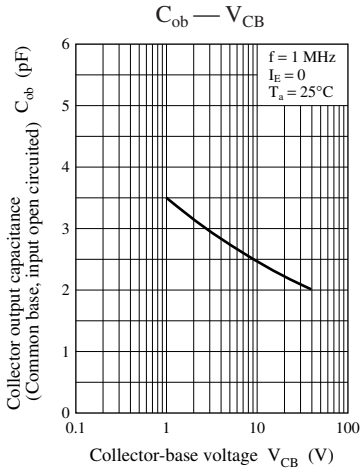
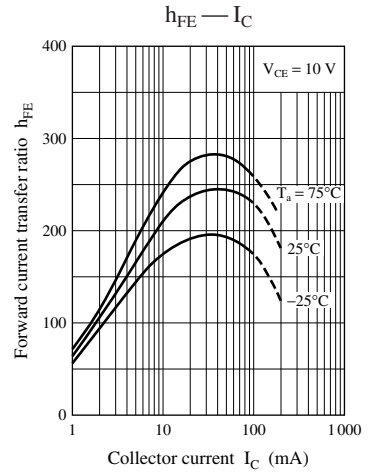
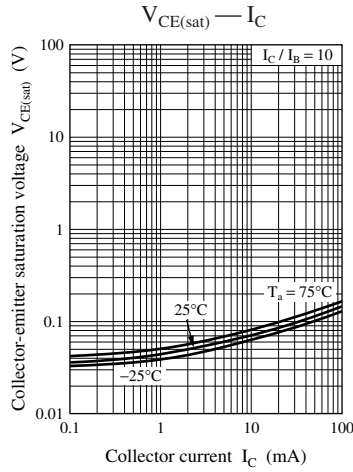
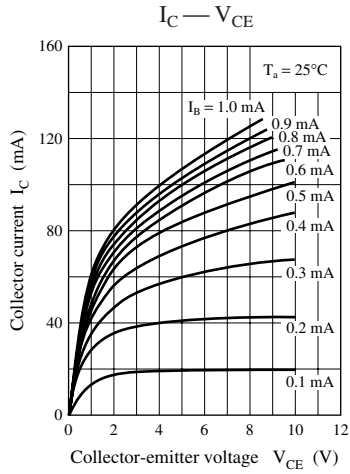




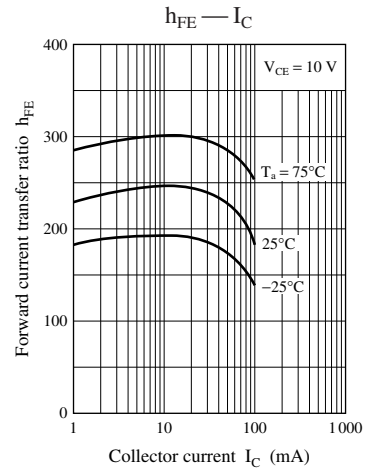
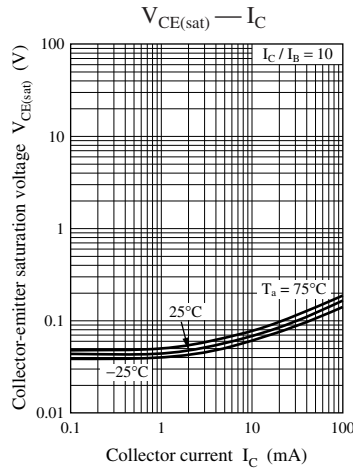
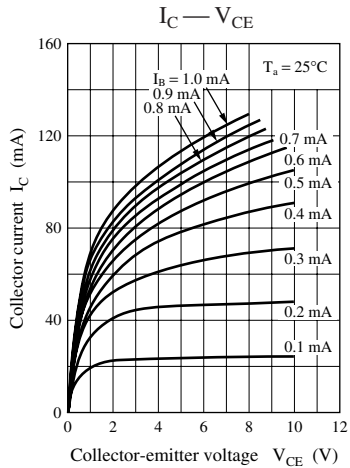
Characteristics charts of UNR4213

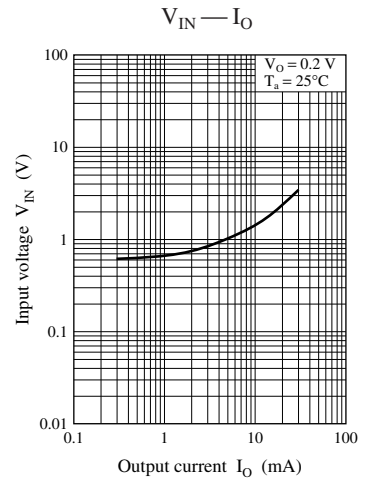
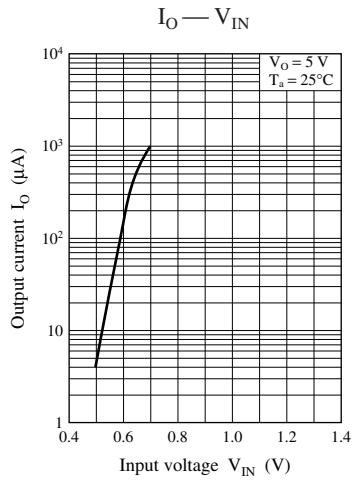
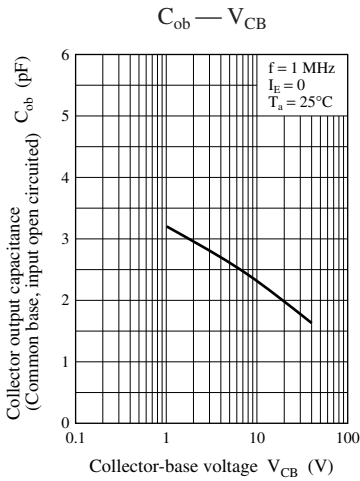


Characteristics charts of UNR4214

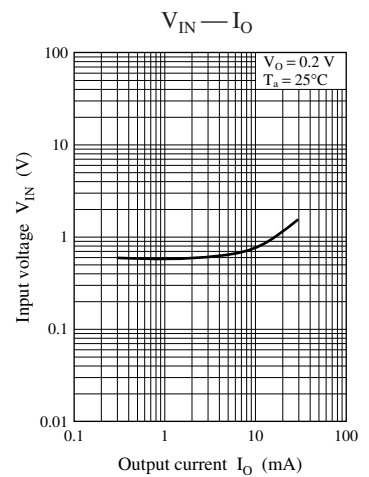
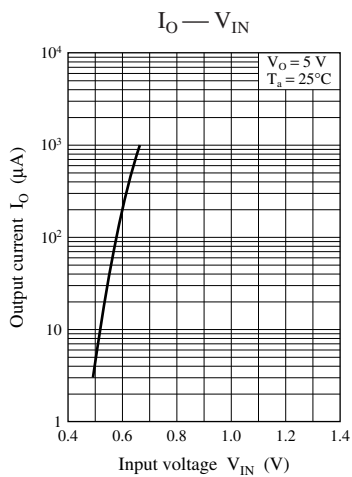
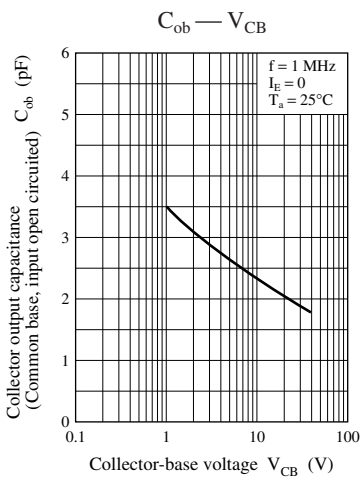
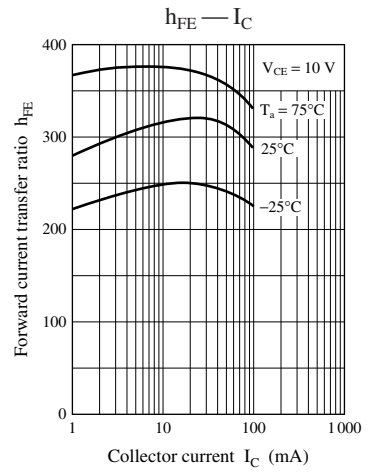
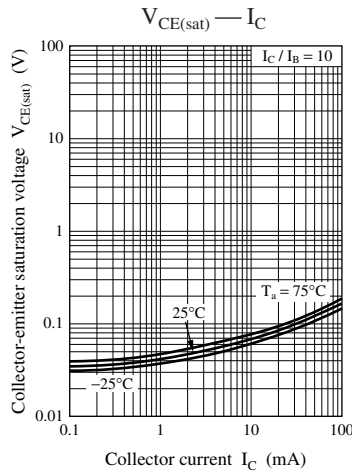
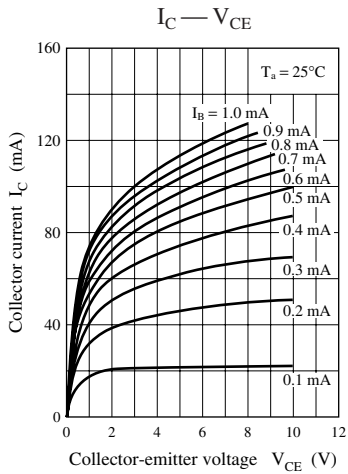


Characteristics charts of UNR4215

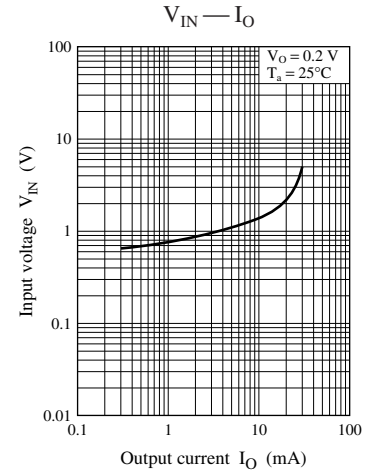
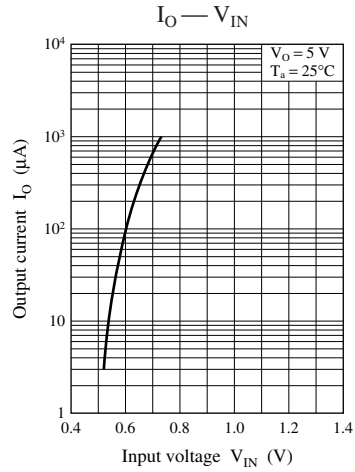
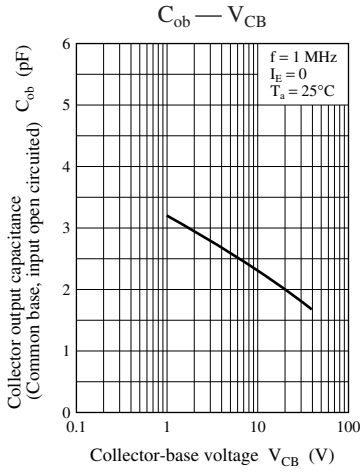
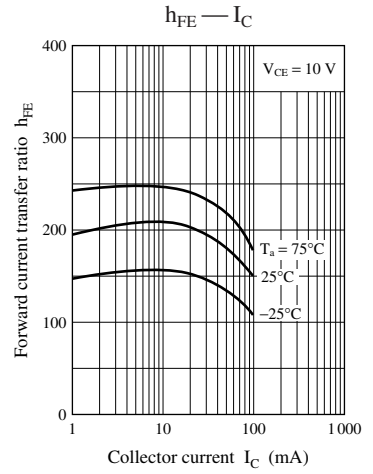
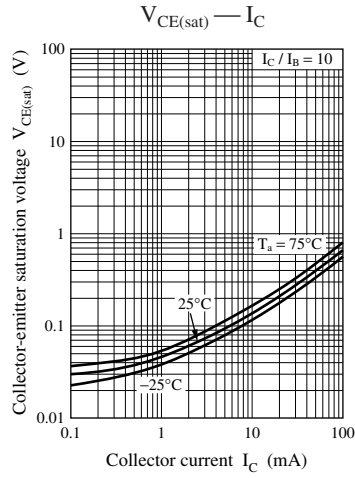
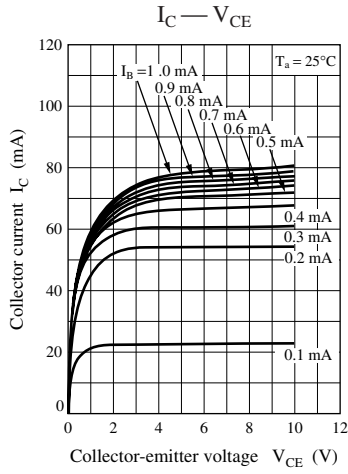




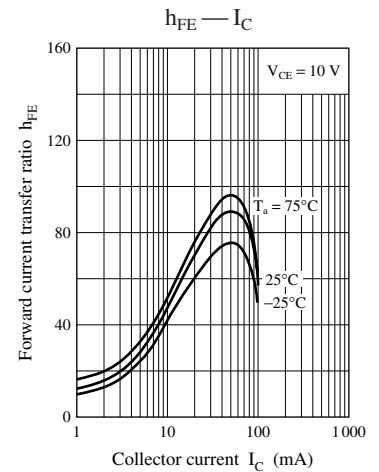
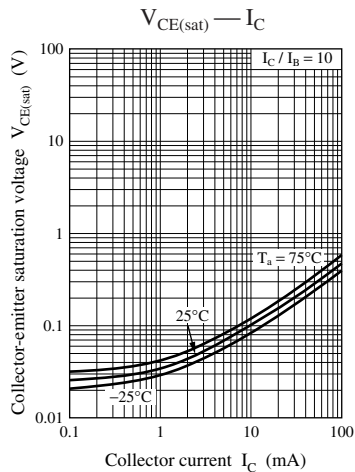
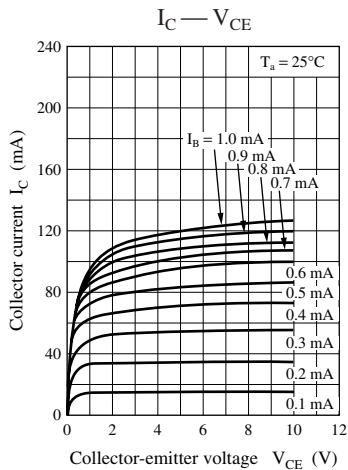
Characteristics charts of UNR4216

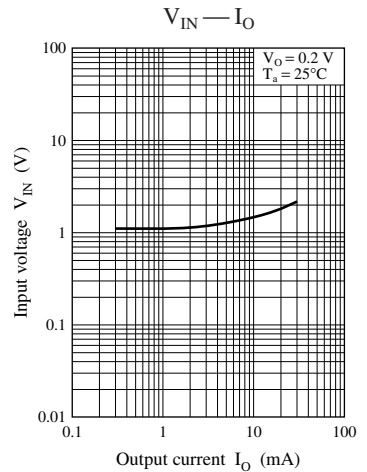
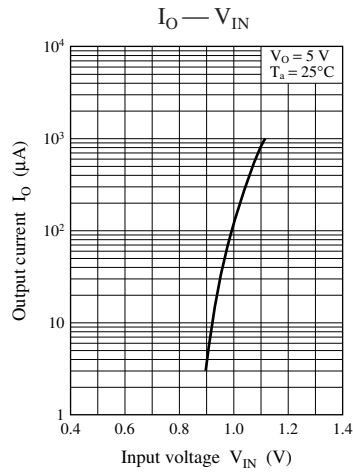
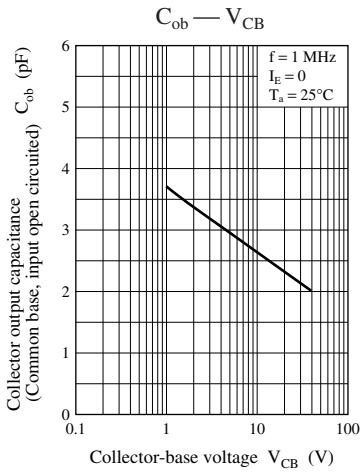


Characteristics charts of UNR4217

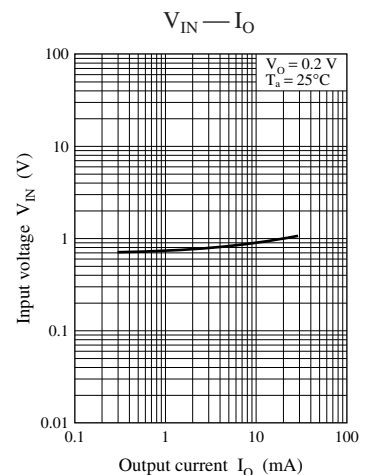
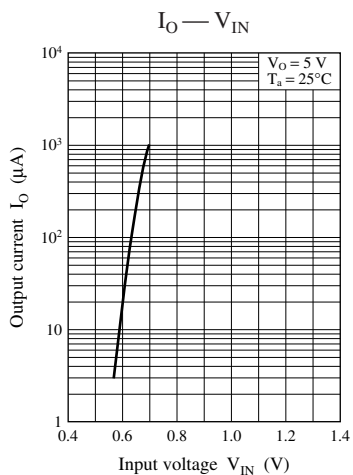
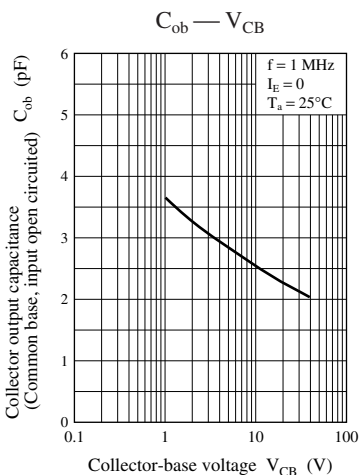
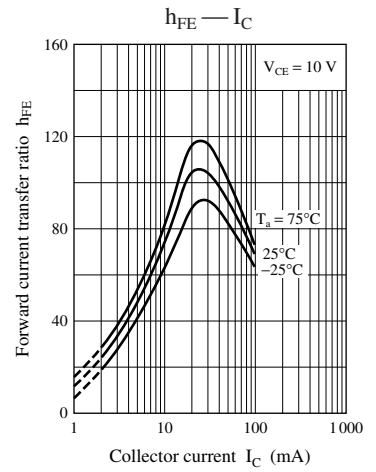
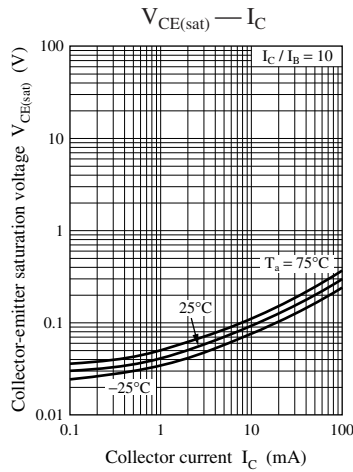
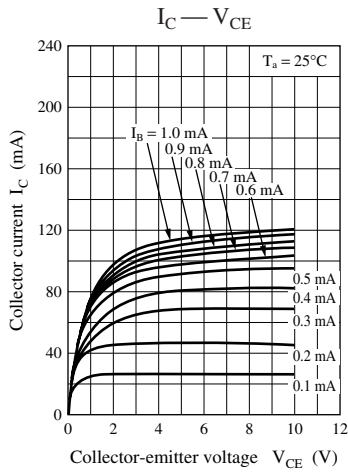


Characteristics charts of UNR4218

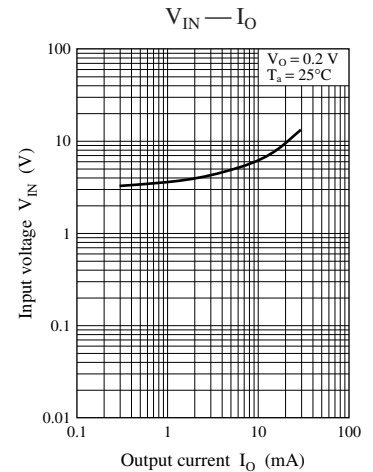
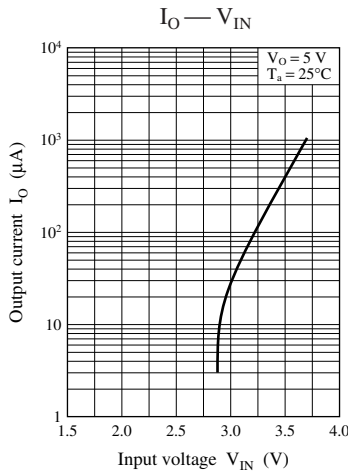
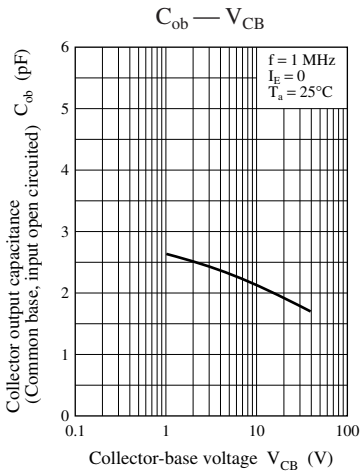
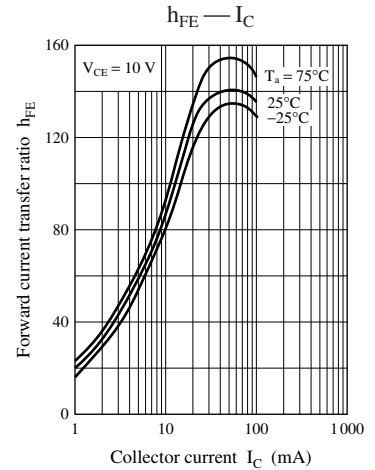
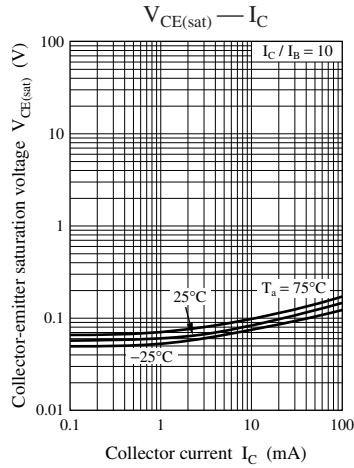
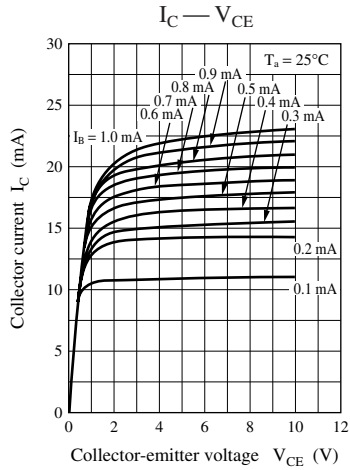




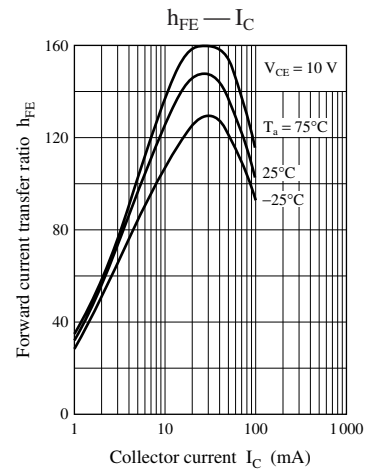
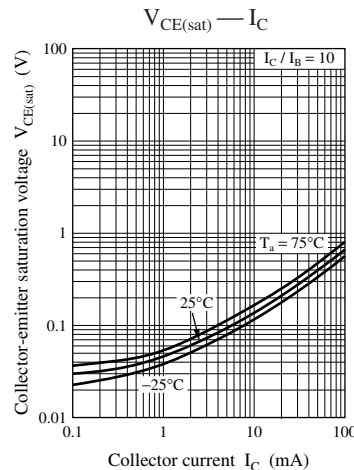
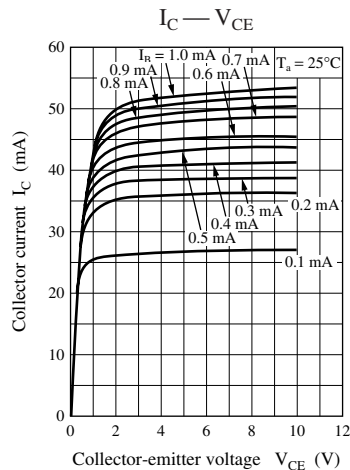
Characteristics charts of UNR4219

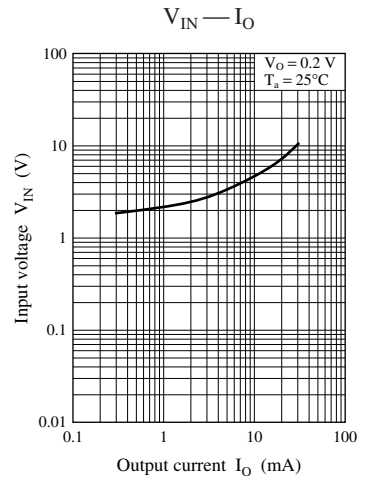
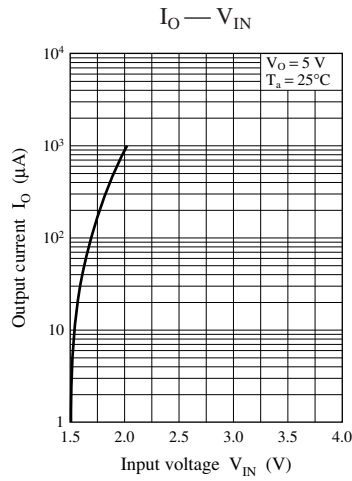
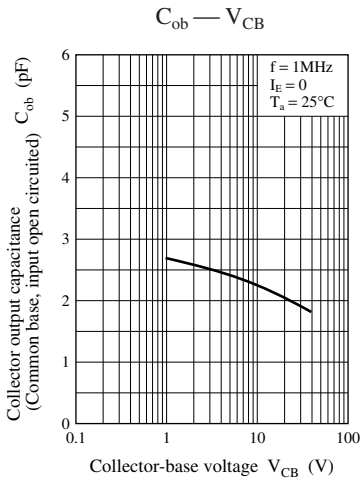


Characteristics charts of UNR421D

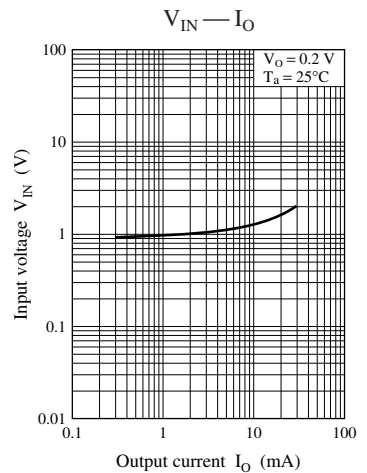
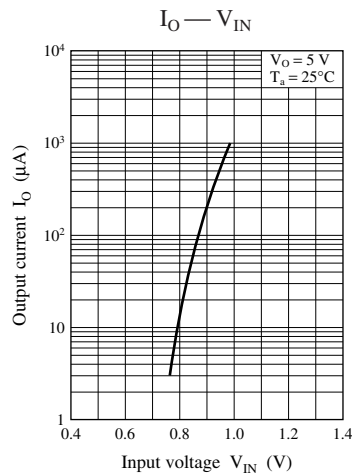
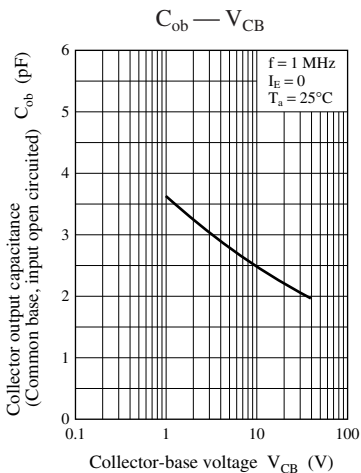
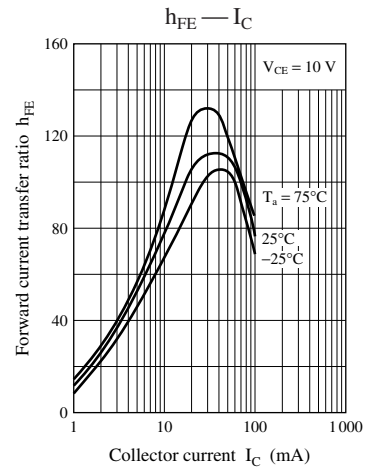
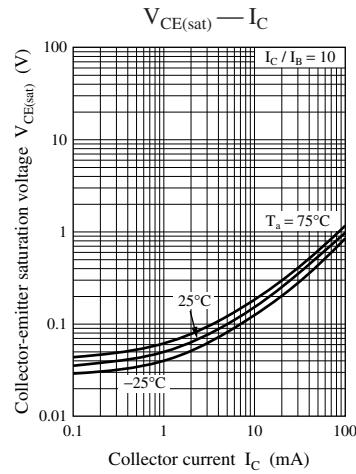
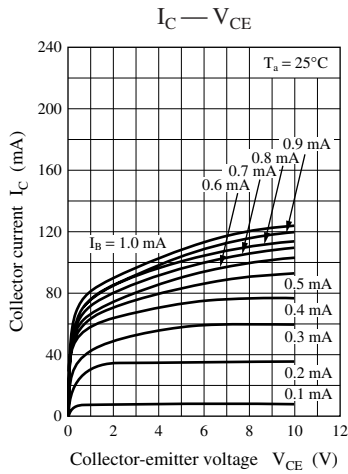


Characteristics charts of UNR421E

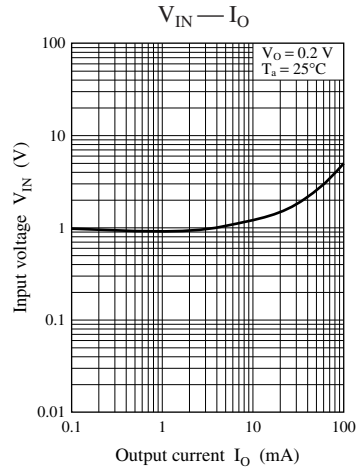
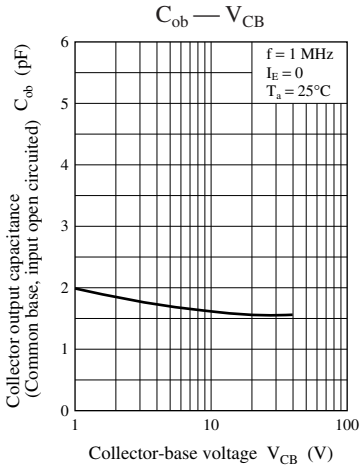
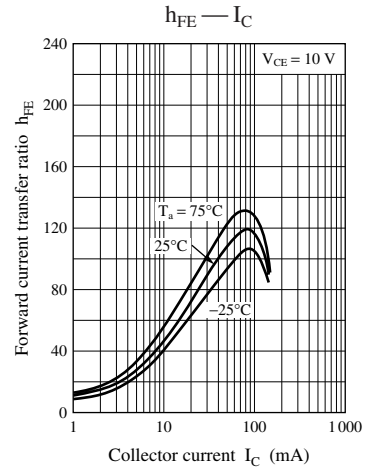
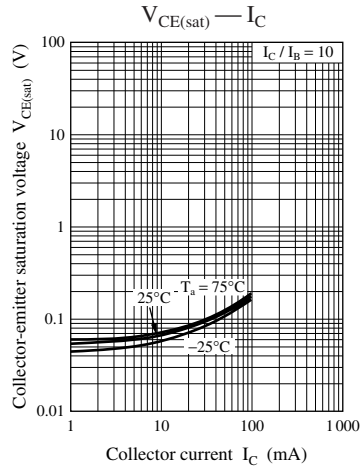
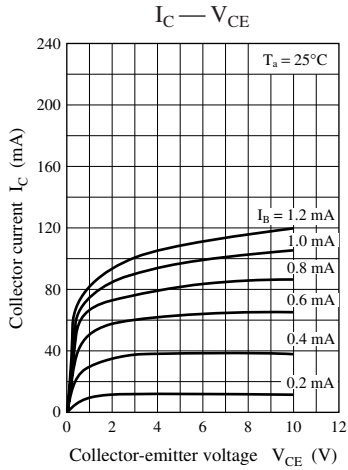




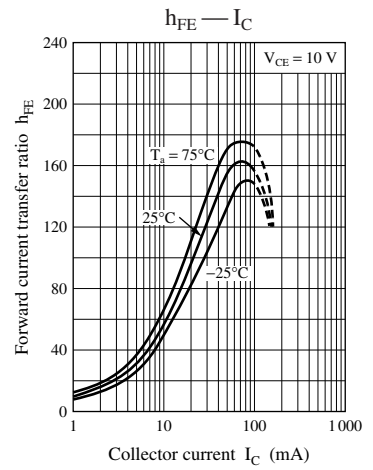
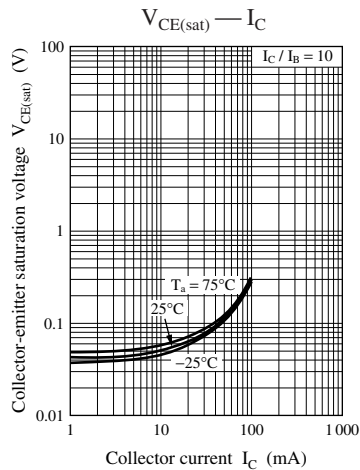
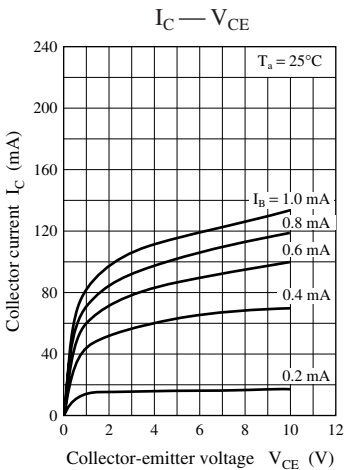
Characteristics charts of UNR421F

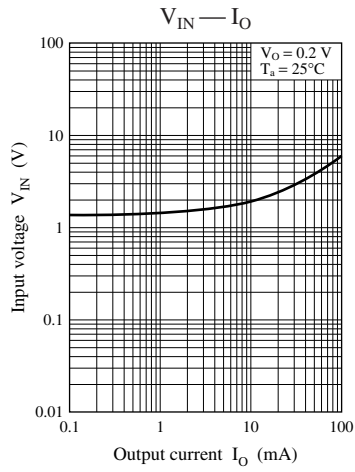
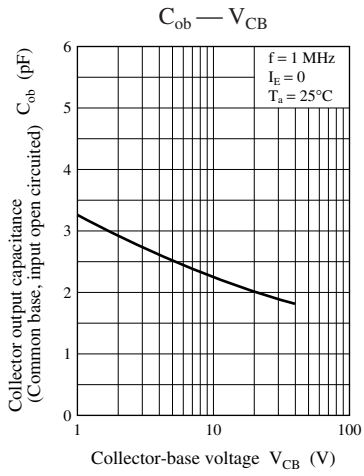


Characteristics charts of UNR421K



Characteristics charts of UNR421L





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