

## TRANSISTOR (NPN)

### FEATURES

- Low current (max.50 mA)
- High voltage (max.300V)
- Telephony and professional communication equipment.

**MARKING: BF820:1V, BF822: 1X**

**MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)**

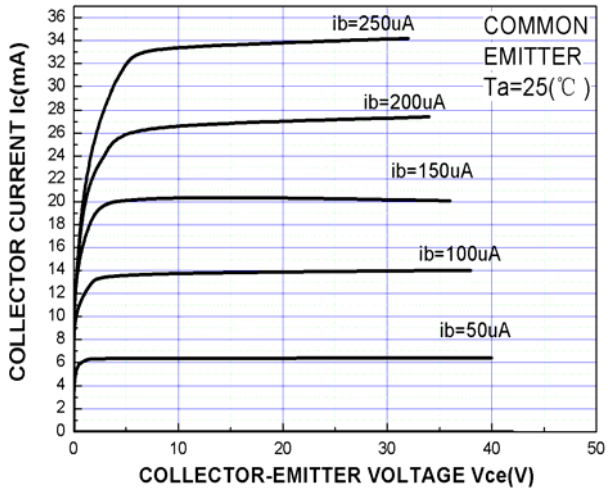
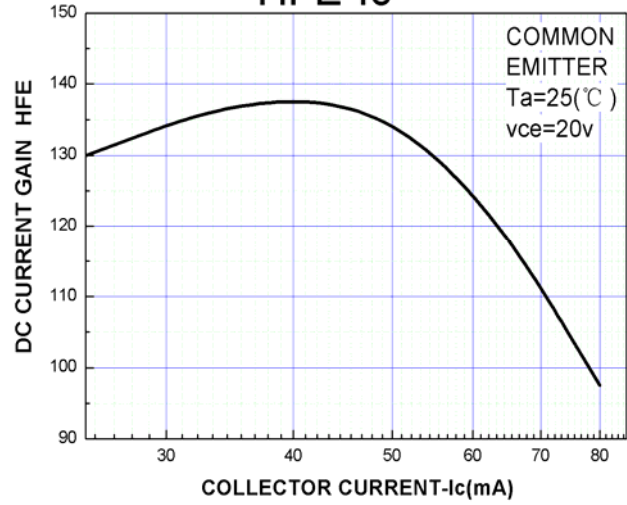
Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector-Base Voltage	BF820	300
		BF822	250
V <sub>CEO</sub>	Collector-Emitter Voltage	BF820	300
		BF822	250
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	50	mA
P <sub>C</sub>	Collector Power Dissipation	0.25	W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C



**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100μA, I <sub>E</sub> =0	BF820	300	V
			BF822	250	
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	BF820	300	V
			BF822	250	
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 100μA, I <sub>C</sub> =0	5		V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> =200V, I <sub>E</sub> =0		0.01	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> =0		0.05	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 20V, I <sub>C</sub> =25mA	50		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =30mA, I <sub>B</sub> = 5mA		0.6	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> = 10mA, f=100MHz	60		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =30V, I <sub>E</sub> =0, f=1MHz		1.6	pF

# Typical Characteristics

**Ic-Vce**

**HFE-Ic**

**Pc-Ta**
