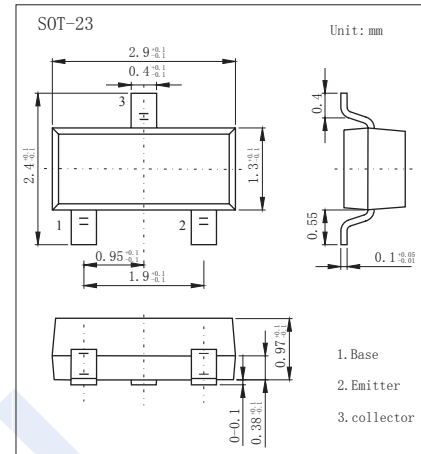


## PNP Transistors

### 2SA1815-HF

#### ■ Features

- High power gain : PG=25dB (f=100MHz).
- High cutoff frequency ; f<sub>T</sub>=750MHz typ.
- Low collector-to-emitter saturation voltage.
- Complementary pair with the 2SC4432-HF.
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



#### ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V <sub>CB0</sub>	-15	V
Collector - Emitter Voltage	V <sub>CEO</sub>	-12	
Emitter - Base Voltage	V <sub>EB0</sub>	-3	
Collector Current - Continuous	I <sub>c</sub>	-50	mA
Collector Power Dissipation	P <sub>c</sub>	250	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature range	T <sub>stg</sub>	-55 to 150	

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CB0</sub>	I <sub>c</sub> = -100 μA, I <sub>E</sub> =0	-15			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>c</sub> = -1 mA, I <sub>B</sub> =0	-12			
Emitter - base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> = -100 μA, I <sub>c</sub> =0	-3			
Collector-base cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = -12 V, I <sub>E</sub> =0			-100	nA
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> = -2V, I <sub>c</sub> =0			-100	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =-10mA, I <sub>B</sub> =-1mA		-0.1	-0.3	V
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =-10mA, I <sub>B</sub> =-1mA			-1.2	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = -10V, I <sub>c</sub> = -5mA	60		270	
Power Gain	PG	V <sub>CE</sub> = -10V, I <sub>c</sub> = -10mA, f=100MHz		25		dB
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f=1MHz		1.2	1.6	pF
Reverse Transfer Capacitance	C <sub>re</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f=1MHz		0.9		
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>c</sub> = -5mA		750		MHz

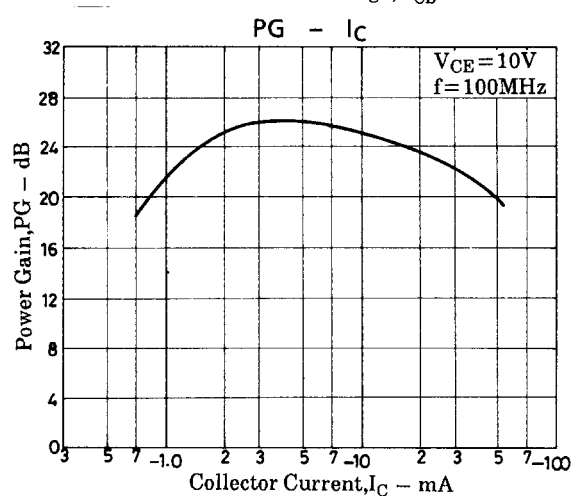
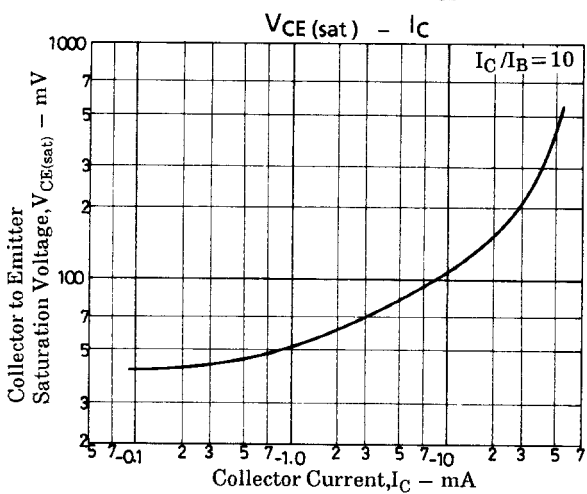
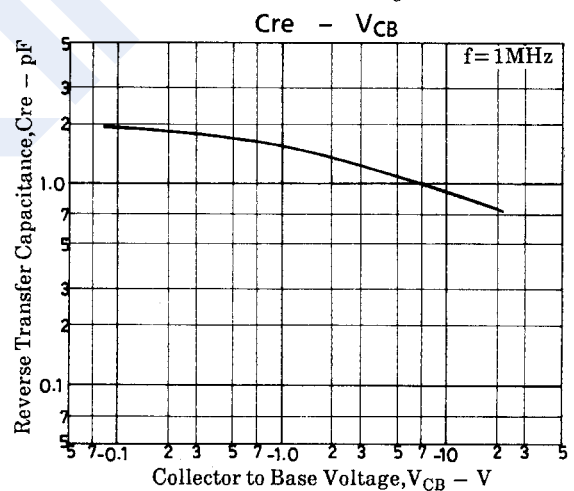
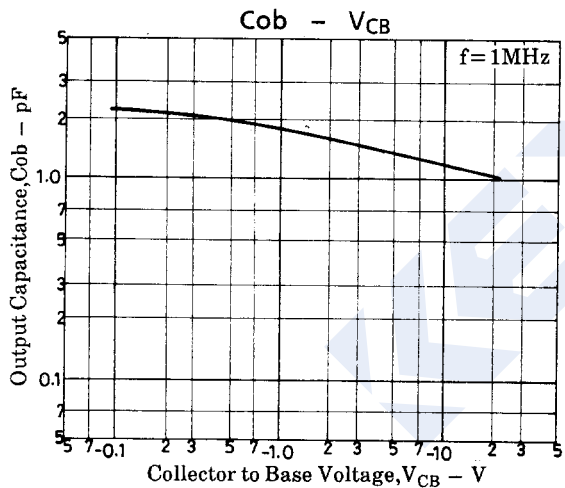
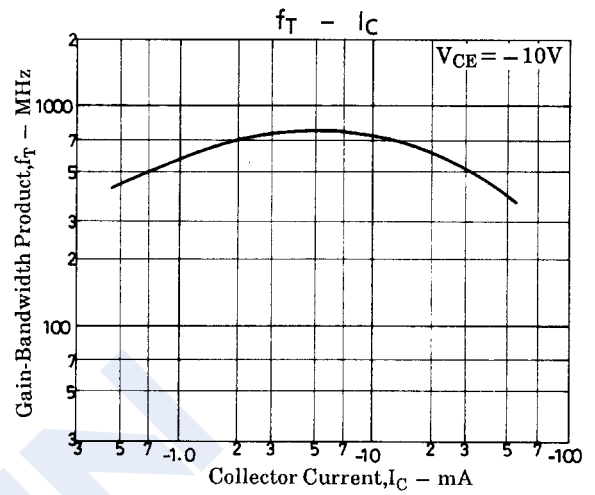
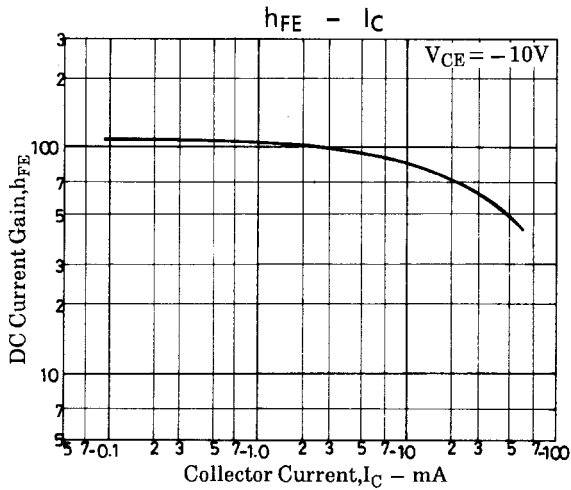
#### ■ Classification of h<sub>FE</sub>

Type	2SA1815-JS3-HF	2SA1815-JS4-HF	2SA1815-JS5-HF
Range	60-120	90-180	135-270
Marking	JS3 <sub>F</sub>	JS4 <sub>F</sub>	JS5 <sub>F</sub>

### PNP Transistors

### 2SA1815-HF

■ Typical Characteristics



## PNP Transistors

### 2SA1815-HF

#### ■ Typical Characteristics

