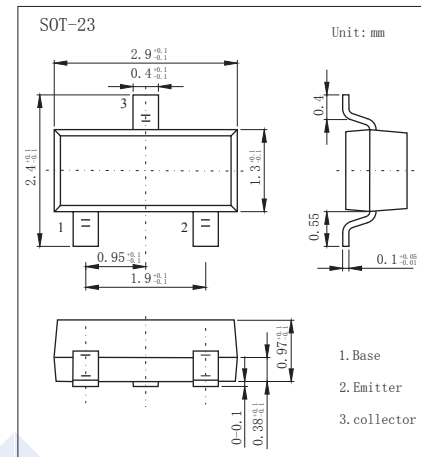


## PNP Transistors

### 2SA1257-HF

#### ■ Features

- High breakdown voltage.
- Small output capacitance.
- Very small-sized package permitting the 2SA1257-HF/  
2SC3143-HF applied sets to be made small and slim.
- 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>	-180	V
Collector-emitter voltage	V <sub>CEO</sub>	-160	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	I <sub>C</sub>	-80	mA
Collector current (pulse)	I <sub>CP</sub>	-150	mA
Collector dissipation	P <sub>C</sub>	200	mW
Junction temperature	T <sub>j</sub>	125	°C
Storage temperature	T <sub>stg</sub>	-55 to +125	°C

#### ■ 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	-180			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = -1 mA, R <sub>BE</sub> =∞	-160			
Emitter - base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = -100 μA, I <sub>C</sub> =0	-5			
Collector-base cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = -120 V, I <sub>E</sub> =0			-100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> =0			-100	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-30mA, I <sub>B</sub> =- 3mA			-0.7	V
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-30mA, I <sub>B</sub> =- 3mA			-1.2	
Base - emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> =-10mA			-1.5	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA	60		270	
Turn-on time	t <sub>on</sub>	See Test Circuit.		0.15		us
Storage time	t <sub>stg</sub>			0.95		
Fall time	t <sub>f</sub>			0.15		
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, f-1MHz		2.4	3.2	pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -10mA		130		MHz

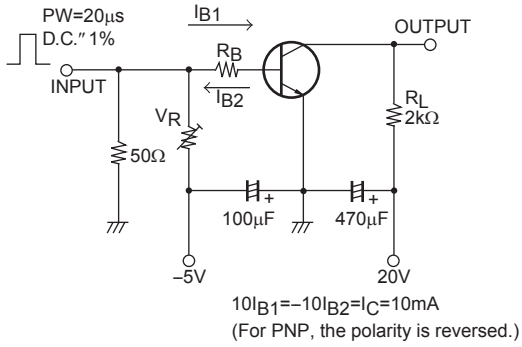
#### ■ Classification of h<sub>FE</sub>

Type	2SA1257-G3-HF	2SA1257-G4-HF	2SA1257-G5-HF
Range	60-120	90-180	135-270
Marking	G3 <sub>F</sub>	G4 <sub>F</sub>	G5 <sub>F</sub>

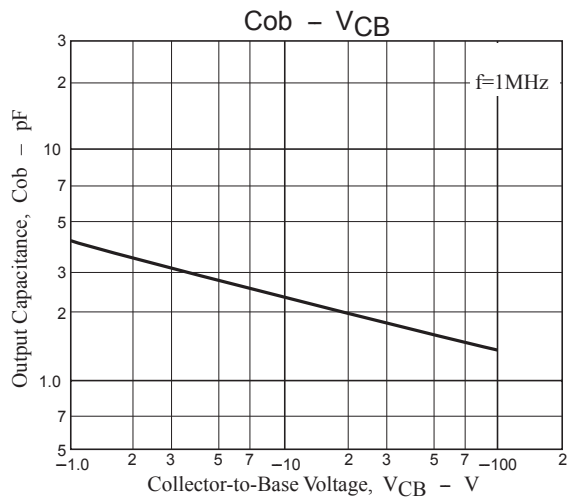
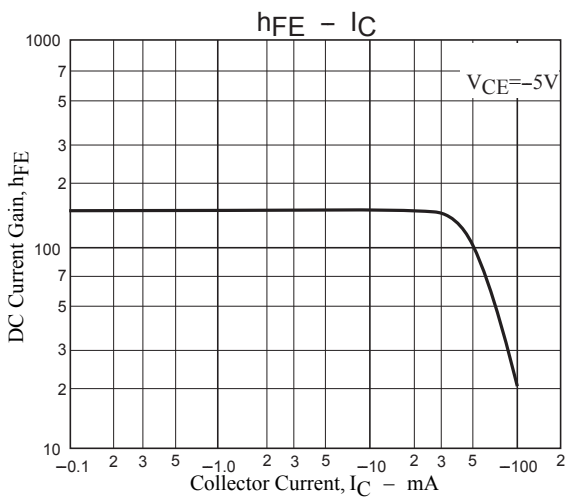
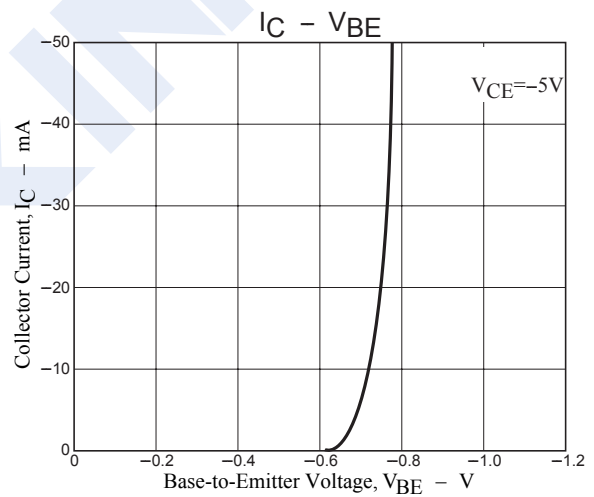
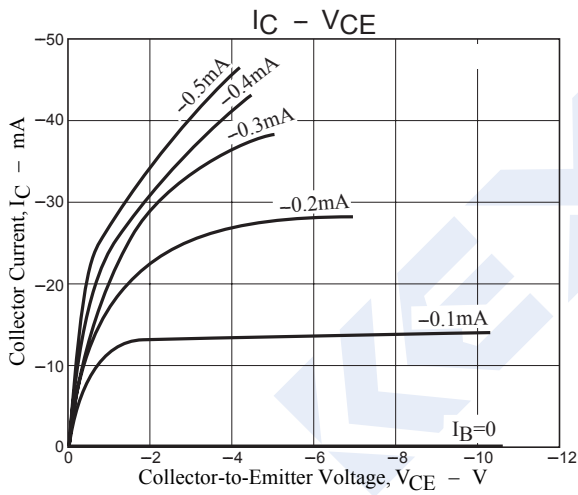
### PNP Transistors

### 2SA1257-HF

#### Switching Time Test Circuit



#### ■ Typical Characteristics



## PNP Transistors

## 2SA1257-HF

## ■ Typical Characteristics

