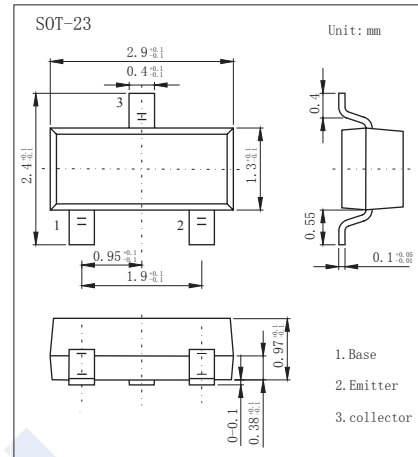


## PNP Transistors

### 2SA812-HF

#### ■ Features

- High DC Current Gain:  $h_{FE} = 200$  TYP. ( $V_{CE} = -6.0$  V,  $I_C = -1.0$  mA)
- High Voltage:  $V_{CEO} = -50$  V
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	-60	V
Collector to emitter voltage	$V_{CEO}$	-50	V
Emitter to base voltage	$V_{EBO}$	-5.0	V
Collector current (DC)	$I_C$	-100	mA
power dissipation	$P_C$	200	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -60$ V, $I_E = 0$ A			-0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -5.0$ V, $I_C = 0$ A			-0.1	$\mu\text{A}$
DC current gain *	$h_{FE}$	$V_{CE} = -6.0$ V, $I_C = -1.0$ mA	90	200	600	
Collector saturation voltage	$V_{CE(sat)}$	$I_C = -100$ mA, $I_B = -10$ mA		-0.18	-0.3	V
Base to emitter voltage	$V_{BE}$	$V_{CE} = 6.0$ V, $I_C = -1.0$ mA	-0.58	-0.62	-0.68	V
Output capacitance	$C_{ob}$	$V_{CE} = -10$ V, $I_E = 0$ A, $f = 1.0$ MHz		4.5		pF
Transition frequency	$f_T$	$V_{CE} = -6.0$ V, $I_E = 10$ mA		180		MHz

\* Pulsed:  $PW \leq 350$   $\mu\text{s}$ , Duty Cycle  $\leq 2\%$

#### ■ $h_{FE}$ Classification

Type	2SA812-M4-HF	2SA812-M5-HF	2SA812-M6-HF	2SA812-M7-HF
Range	90-180	135-270	200-400	300-600
Marking	M4 <sub>F</sub>	M5 <sub>F</sub>	M6 <sub>F</sub>	M7 <sub>F</sub>

# PNP Transistors

## 2SA812-HF

■ Typical Characteristics

