



**SOT-23 Plastic-Encapsulate Transistors**

**2SA812** TRANSISTOR (PNP)

SOT-23



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

**FEATURES**

- Complementary to 2SC1623
- High DC Current Gain:  $h_{FE}=200$  TYP. ( $V_{CE}=-6V, I_C=-1mA$ )
- High Voltage:  $V_{ceo}=-50V$

**MAXIMUM RATINGS ( $T_A=25^{\circ}C$  unless otherwise noted)**

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector- Base Voltage	-60	V
$V_{CEO}$	Collector-Emitter Voltage	-50	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-100	mA
$P_C$	Collector Power Dissipation	200	mW
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}C$

**ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}C$  unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-60V, I_E=0$			-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5V, I_C=0$			-0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=-6V, I_C=-1mA$	90		600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100mA, I_B=-10mA$			-0.3	V
Base-emitter voltage	$V_{BE}$	$I_C=-1mA, V_{CE}=-6V$	-0.58		-0.68	V
Transition frequency	$f_T$	$V_{CE}=-6V, I_C=-10mA$		180		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-10V, I_E=0, f=1MHz$		4.5		pF

**CLASSIFICATION OF  $h_{FE}$**

Rank	M4	M5	M6	M7
Range	90-180	135-270	200-400	300-600
Marking	M4	M5	M6	M7

# Typical Characteristics

2SA812

