



**TO-92 Plastic-Encapsulate Transistors**

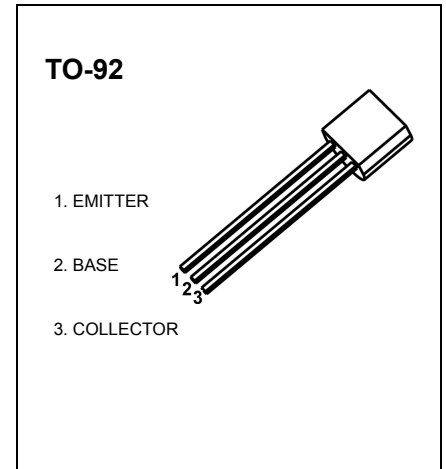
**S9012** TRANSISTOR (PNP)

**FEATURES**

- Complementary to S9013
- Excellent  $h_{FE}$  linearity

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

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-25	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-500	mA
$P_C$	Collector Power Dissipation	625	mW
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}C$



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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -40V, I_E = 0$			-0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -20V, I_B = 0$			-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = -1V, I_C = -50mA$	64		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500mA, I_B = -50mA$			-1.2	V
Transition frequency	$f_T$	$V_{CE} = -6V, I_C = -20mA$ $f = 30MHz$	150			MHz

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

Rank	D	E	F	G	H	I	J
Range	64-91	78-112	96-135	112-166	144-202	190-300	300-400

# Typical Characteristics

# S9012

