

## TO-92S Plastic-Encapsulated Transistors

**2SA821S** TRANSISTOR (PNP)

### FEATURES

Power dissipation

$$P_D: 0.25 \text{ W (Tamb=25°C)}$$

Collector current

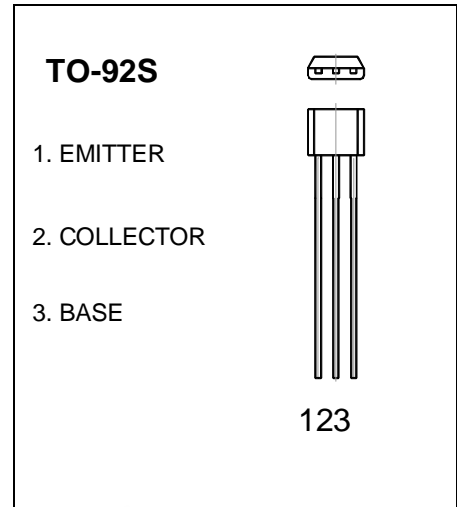
$$I_{CM}: -0.03 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : -210 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55°C \text{ to } +150°C$$



### ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu A, I_E = 0$	-210			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -0.1 \text{ mA}, I_B = 0$	-210			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -50\mu A, I_C = 0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -150V, I_E = 0$			-1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4.5 \text{ V}, I_C = 0$			-1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = -3 \text{ V}, I_C = -5 \text{ mA}$	56		270	
Collector-emitter saturation voltage	$V_{CEsat}$	$I_C = -2 \text{ mA}, I_B = -0.2 \text{ mA}$			-0.6	V
Transition frequency	$f_T$	$V_{CE} = -5 \text{ V}, I_C = -2 \text{ mA}$	30			MHz
Output capacitance	$C_{ob}$	$V_{CE} = -5 \text{ V}, I_E = 0, f = 1 \text{ MHz}$			12	pF

### CLASSIFICATION OF $h_{FE}$

Rank	N	P	Q
Range	56-120	82-180	120-270