

### 2SA933AS TRANSISTOR (PNP)

#### FEATURES

Power dissipation

$$P_{CM} : 0.2 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

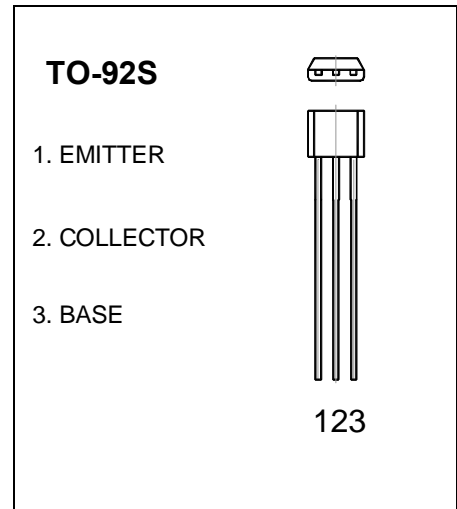
$$I_{CM} : -0.15 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : -60 \text{ V}$$

Operating and storage junction temperature range

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



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu\text{A}, I_E = 0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1 \text{ mA}, I_B = 0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -50\mu\text{A}, I_C = 0$	-6			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -60\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -6\text{V}, I_C = 0$			-0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = -6 \text{ V}, I_C = -0.1 \text{ A}$	120		560	
Collector-emitter saturation voltage	$V_{CEsat}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-0.5	V
Transition frequency	$f_T$	$V_{CE} = -12\text{V}, I_C = -2\text{mA}$ $F = 30\text{MHz}$	120			MHz

#### CLASSIFICATION OF $h_{FE}$

Rank	Q	R	S
Range	120-270	180-390	270-560