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# 2SA893, 2SA893A

Silicon PNP Epitaxial

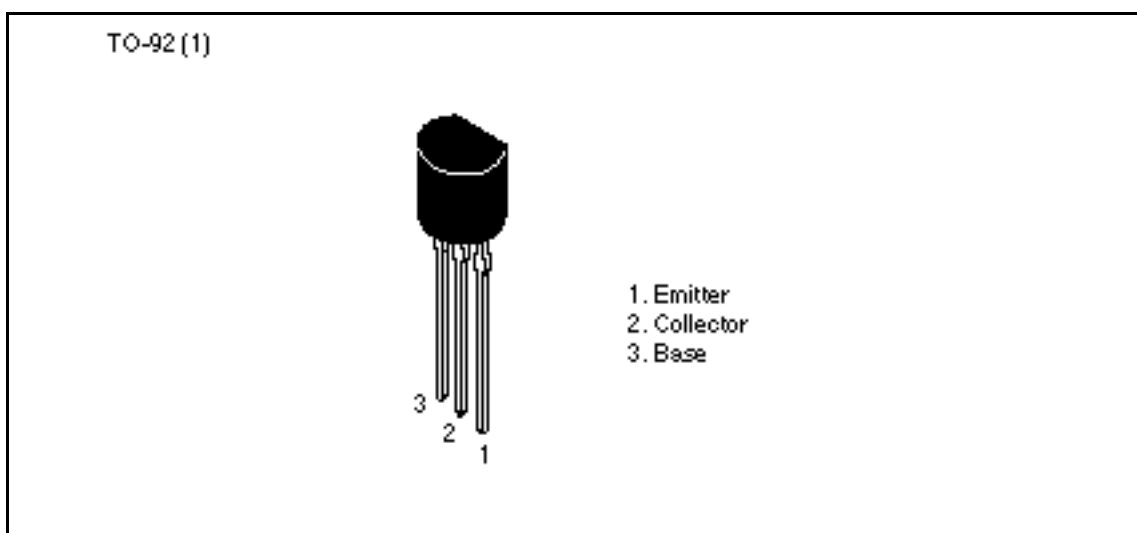
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## Application

- Low frequency high voltage amplifier
- Complementary pair with 2SC1890/A

## Outline



## 2SA893, 2SA893A

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SA893	2SA893A	Unit
Collector to base voltage	$V_{CBO}$	-90	-120	V
Collector to emitter voltage	$V_{CEO}$	-90	-120	V
Emitter to base voltage	$V_{EBO}$	-5	-5	V
Collector current	$I_C$	-50	-50	mA
Collector power dissipation	$P_C$	300	300	mW
Junction temperature	$T_j$	150	150	°C
Storage temperature	$T_{stg}$	-55 to +150	-55 to +150	°C

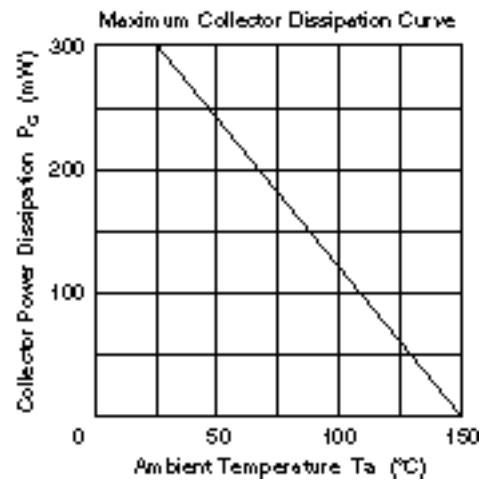
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SA893			2SA893A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-90	—	—	-120	—	—	V	$I_C = -1 \text{ mA}$ , $R_{BE} =$
Collector cutoff current	$I_{CBO}$	—	—	-0.5	—	—	—	μA	$V_{CB} = -75 \text{ V}$ , $I_E = 0$
		—	—	—	—	—	-0.5	μA	$V_{CB} = -100 \text{ V}$ , $I_E = 0$
DC current transfer ratio	$h_{FE}^{*1}$	250	—	800	250	—	800		$V_{CE} = -12 \text{ V}$ , $I_C = -2 \text{ mA}$
Base to emitter voltage	$V_{BE}$	—	—	-0.75	—	—	-0.75	V	$V_{CE} = -12 \text{ V}$ , $I_C = -2 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.5	—	—	-0.5	V	$I_C = -10 \text{ mA}$ , $I_B = -1 \text{ mA}$
Gain bandwidth product	$f_T$	—	120	—	—	120	—	MHz	$V_{CE} = -12 \text{ V}$ , $I_C = -2 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	1.8	—	—	1.8	—	pF	$V_{CB} = -25 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$
Noise figure	NF	—	2	10	—	2	10	dB	$V_{CE} = -6 \text{ V}$ , $I_C = -50 \text{ μA}$ , $R_g = 50 \text{ k}$ , $f = 1 \text{ kHz}$

Note: 1. The 2SA893/A is grouped by  $h_{FE}$  as follows.

D	E
250 to 500	400 to 800

See characteristic curves of 2SA872 and 2SA872A



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## 2SA893, 2SA893A

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