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# 2SC1890, 2SC1890A

Silicon NPN Epitaxial

# HITACHI

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## Application

- Low frequency high voltage amplifier
- Complementary pair with 2SA893/A

## Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

# 2SC1890, 2SC1890A

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

Item	Symbol	Ratings			Unit
		2SC1890	2SC1890A		
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

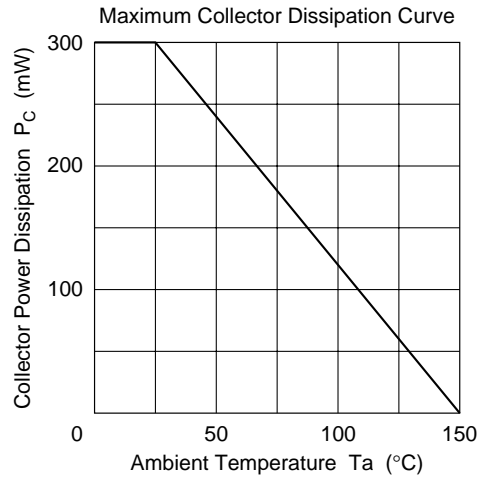
## Electrical Characteristics (Ta = 25°C)

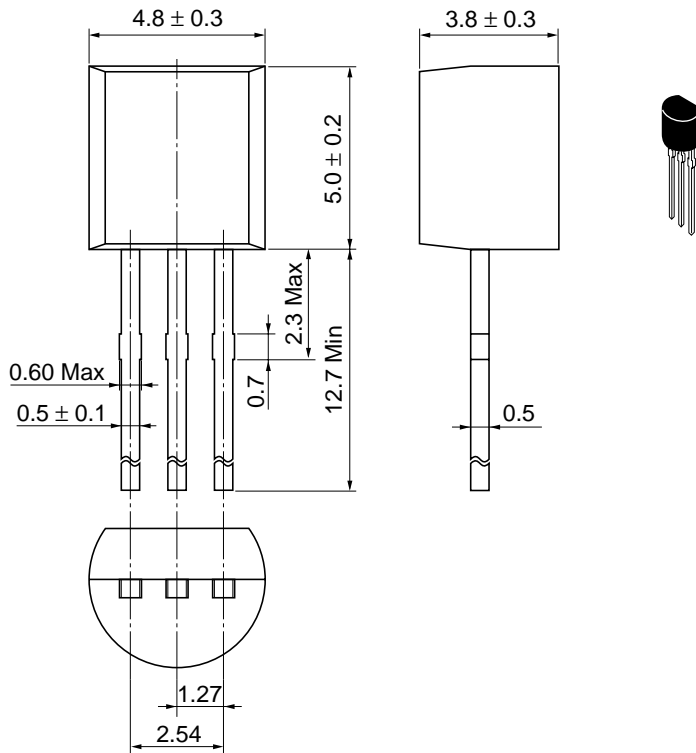
Item	Symbol	2SC1890			2SC1890A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	90	—	—	120	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Collector cutoff current	$I_{CBO}$	—	—	0.5	—	—	—	$\mu\text{A}$	$V_{CB} = 75 \text{ V}, I_E = 0$
		—	—	—	—	—	0.5	$\mu\text{A}$	$V_{CB} = 100 \text{ V}, I_E = 0$
DC current transfer ratio	$h_{FE}^{*1}$	250	—	1200	250	—	1200		$V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$
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	$f_T$	—	200	—	—	200	—	MHz	$V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	1.6	—	—	1.6	—	pF	$V_{CB} = 25 \text{ V}, I_E = 0,$ $f = 1 \text{ MHz}$
Noise figure	NF	—	2	10	—	2	10	dB	$V_{CE} = 6 \text{ V}, I_C = 50 \mu\text{A},$ $R_g = 50 \text{ k}\Omega, f = 1 \text{ kHz}$

Note: 1. The 2SC1890/A is grouped by  $h_{FE}$  as follows.

D	E	F
250 to 500	400 to 800	600 to 1200

See characteristic curves of 2SC1775 and 2SC1775A.





Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.25 g

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