

To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SC1890, 2SC1890A

Silicon NPN Epitaxial

RENESAS

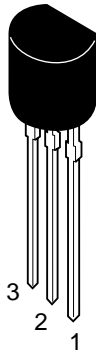
ADE-208-1057 (Z)
1st. Edition
Mar. 2001

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

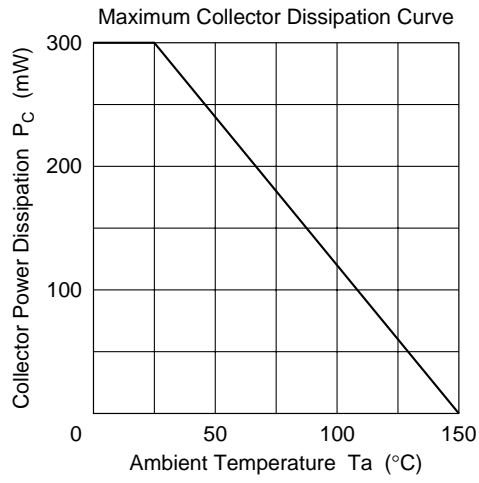
Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SC1890			2SC1890A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	90	—	—	120	—	—	V	$I_C = 1 \text{ mA}, R_{BE} =$
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	—	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	$V_{CE} = 6 \text{ V}, I_C = 50 \text{ μA},$ $R_g = 50 \text{ k}, f = 1 \text{ kHz}$

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

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

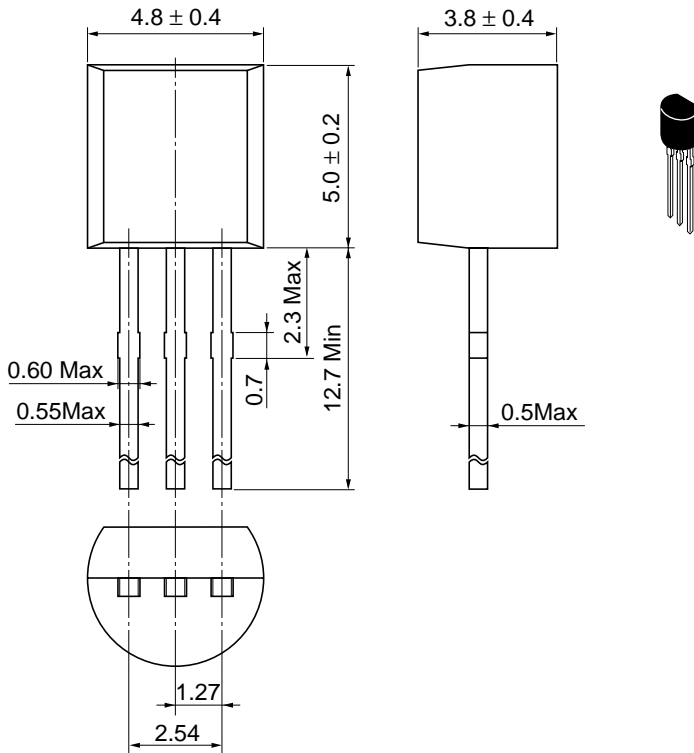
See characteristic curves of 2SC1775 and 2SC1775A.



Package Dimensions

As of January, 2001

Unit: mm



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

Cautions

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