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# 2SC1890, 2SC1890A

Silicon NPN Epitaxial

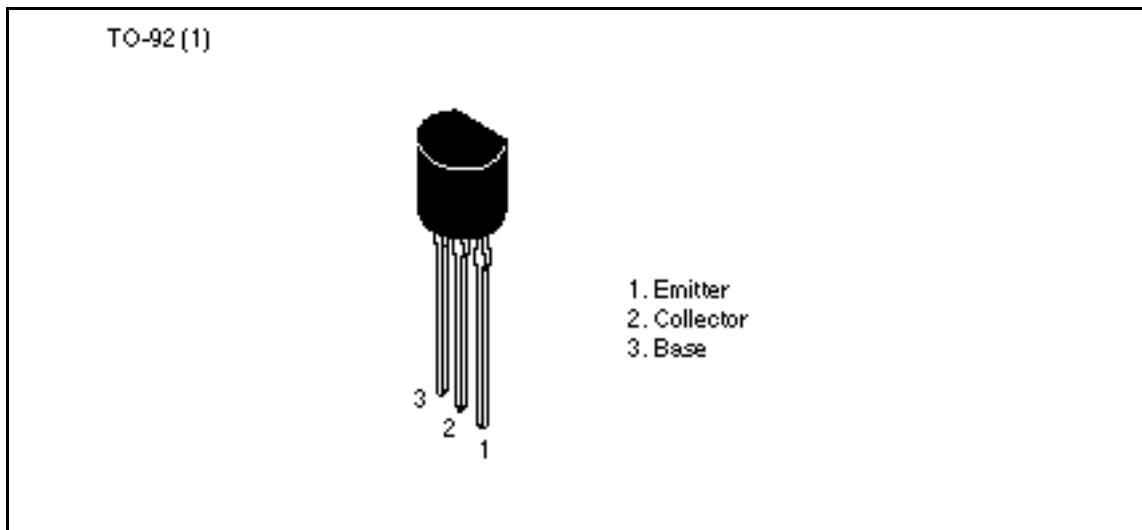
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## Application

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

## Outline



## 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

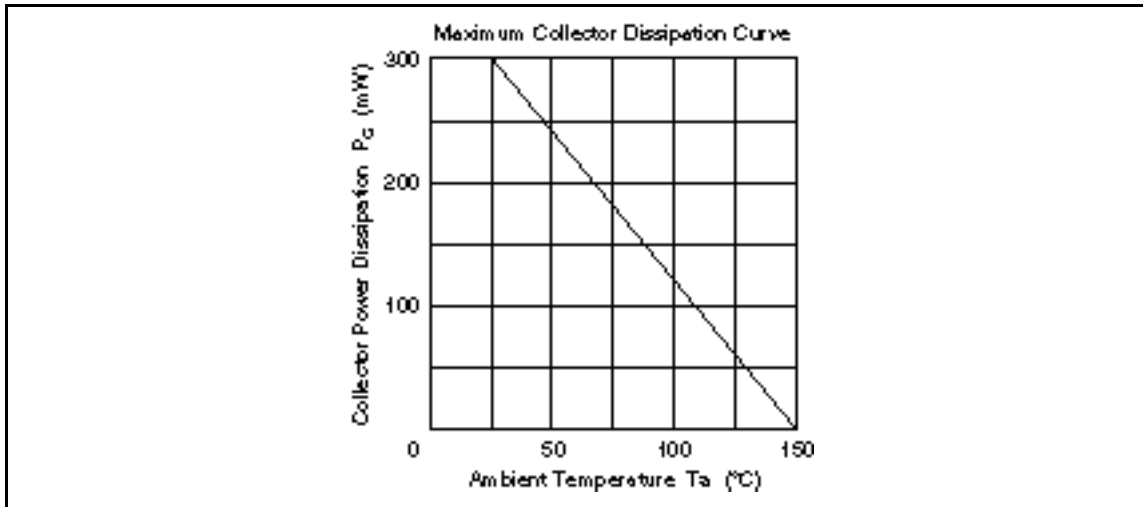
### Electrical Characteristics (Ta = 25°C)

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	—	—	—	$\mu\text{A}$	$V_{CB} = 75 \text{ V}$ , $I_E = 0$
		—	—	—	—	—	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	$V_{CE} = 6 \text{ V}$ , $I_C = 50 \mu\text{A}$ , $R_g = 50 \text{ k}$ , $f = 1 \text{ kHz}$

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.



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## 2SC1890, 2SC1890A

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### Hitachi, Ltd.

Semiconductor & IC Div.  
Nippon Bldg., 2-5-2, Ohite-machi, Chiyoda-ku, Tokyo 100, Japan  
Tel: Tokyo (03) 3270-2111  
Fax: (03) 3270-5109

For further information write to:

Hitachi America, Ltd.  
Semiconductor & IC Div.  
2000 Sierra Point Parkway  
Brisbane, CA 94005-4835  
U.S.A.  
Tel: 415-589-8300  
Fax: 415-589-4207

Hitachi Europe GmbH  
Electronic Components Group  
Continental Europe  
Dannecker Straße 3  
D-85622 Feldkirchen  
München  
Tel: 089-9 24 80-0  
Fax: 089-9 29 30 00

Hitachi Europe Ltd.  
Electronic Components Div.  
Northern Europe Headquarters  
Whitebrook Park  
Lower Cookham Road  
Maidenhead  
Berkshire SL6 6YA  
United Kingdom  
Tel: 0628-885000  
Fax: 0628-778322

Hitachi Asia Pte. Ltd.  
45 Collyer Quay #20-00  
Hitachi Tower  
Singapore 0404  
Tel: 535-2100  
Fax: 535-1533

Hitachi Asia (Hong Kong) Ltd.  
Unit 705, North Tower,  
World Finance Centre  
Harbour City, Canton Road  
Tsim Sha Tsui, Kowloon  
Hong Kong  
Tel: 27359218  
Fax: 27308074

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