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# 2SD1490

Silicon NPN Epitaxial

# HITACHI

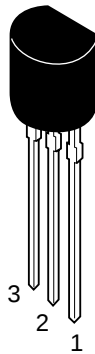
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## Application

- Low frequency power amplifier
- Complementary pair with 2SB1059

## Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

# 2SD1490

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

| Item                         | Symbol    | Ratings     | Unit |
|------------------------------|-----------|-------------|------|
| Collector to base voltage    | $V_{CBO}$ | 70          | V    |
| Collector to emitter voltage | $V_{CEO}$ | 50          | V    |
| Emitter to base voltage      | $V_{EBO}$ | 6           | V    |
| Collector current            | $I_C$     | 1           | A    |
| Collector power dissipation  | $P_C$     | 0.75        | W    |
| Junction temperature         | $T_j$     | 150         | °C   |
| Storage temperature          | $T_{stg}$ | -55 to +150 | °C   |

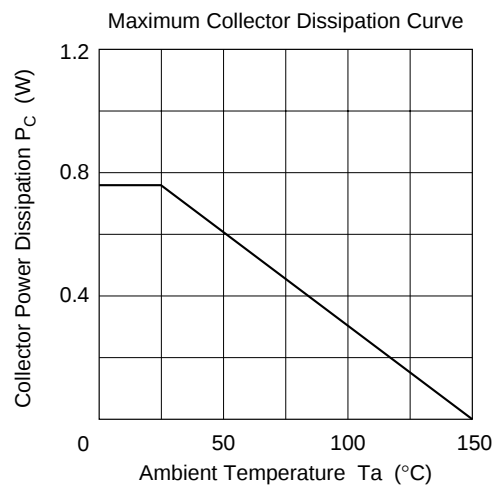
## Electrical Characteristics (Ta = 25°C)

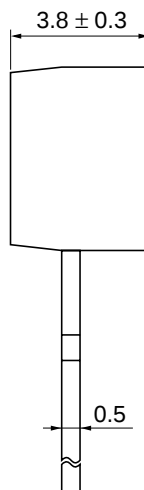
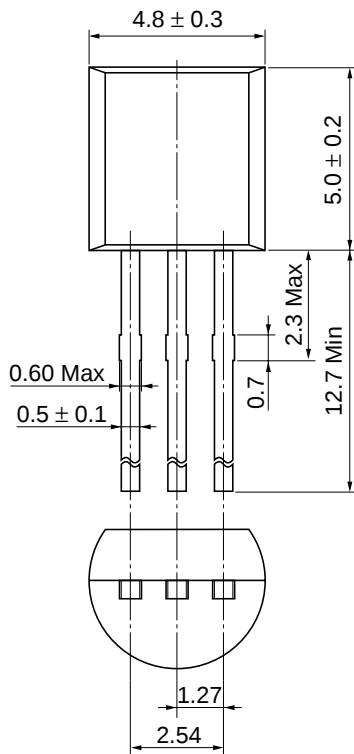
| Item                                    | Symbol        | Min | Typ | Max | Unit          | Test conditions                                         |
|-----------------------------------------|---------------|-----|-----|-----|---------------|---------------------------------------------------------|
| Collector to base breakdown voltage     | $V_{(BR)CBO}$ | 70  | —   | —   | V             | $I_C = 10\text{ }\mu\text{A}$ , $I_E = 0$               |
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$ | 50  | —   | —   | V             | $I_C = 1\text{ mA}$ , $R_{BE} = \infty$                 |
| Emitter to base breakdown voltage       | $V_{(BR)EBO}$ | 6   | —   | —   | V             | $I_E = 10\text{ }\mu\text{A}$ , $I_C = 0$               |
| Collector cutoff current                | $I_{CBO}$     | —   | —   | 1   | $\mu\text{A}$ | $V_{CB} = 80\text{ V}$ , $I_E = 0$                      |
| Emitter cutoff current                  | $I_{EBO}$     | —   | —   | 0.2 | $\mu\text{A}$ | $V_{EB} = 6\text{ V}$ , $I_C = 0$                       |
| DC current transfer ratio               | $h_{FE}^{*1}$ | 100 | —   | 500 |               | $V_{CE} = 2\text{ V}$ , $I_C = 0.1\text{ A}$            |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | —   | —   | 0.3 | V             | $I_C = 1\text{ A}$ , $I_B = 0.1\text{ A}$               |
| Gain bandwidth product                  | $f_T$         | —   | 80  | —   | MHz           | $V_{CE} = 2\text{ V}$ , $I_C = 10\text{ mA}$            |
| Collector output capacitance            | $C_{ob}$      | —   | 20  | —   | pF            | $V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$ |

Note: 1. The 2SD1490 is grouped by  $h_{FE}$  as follows.

| B          | C          | D          |
|------------|------------|------------|
| 100 to 200 | 160 to 320 | 250 to 500 |

See characteristic curves of 2SD789.





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

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