
2SA673A(K)

Silicon PNP Epitaxial

HITACHI

Application

- Low frequency amplifier
- Medium speed switching

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

2SA673A(K)

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|------------------------------|-----------|-------------|------|
| Collector to base voltage | V_{CBO} | -50 | V |
| Collector to emitter voltage | V_{CEO} | -50 | V |
| Emitter to base voltage | V_{EBO} | -4 | V |
| Collector current | I_C | -0.5 | A |
| Collector power dissipation | P_C | 0.4 | 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 | $V_{(BR)CBO}$ | -50 | — | — | V | $I_C = -10 \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | -50 | — | — | V | $I_C = -1 \text{ mA}, R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | -4 | — | — | V | $I_E = -10 \mu A, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | -0.5 | μA | $V_{CB} = -20 \text{ V}, I_E = 0$ |
| Emitter cutoff current | I_{EBO} | — | — | -0.5 | μA | $V_{EB} = -3 \text{ V}, I_C = 0$ |
| Base to emitter voltage | V_{BE} | — | -0.64 | — | V | $V_{EB} = -3 \text{ V}, I_C = -10 \text{ mA}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | -0.2 | -0.6 | V | $I_C = -150 \text{ mA}, I_B = -15 \text{ mA}^{*2}$ |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | — | -0.87 | — | V | $I_C = -150 \text{ mA}, I_B = -15 \text{ mA}^{*2}$ |
| DC current transfer ratio | h_{FE}^{*1} | 60 | — | 320 | | $V_{CE} = -3 \text{ V}, I_C = -10 \text{ mA}$ |
| | h_{FE} | 10 | — | — | | $V_{CE} = -3 \text{ V}, I_C = -500 \text{ mA}^{*2}$ |
| Gain bandwidth product | f_T | — | 120 | — | MHz | $V_{CE} = -3 \text{ V}, I_C = -10 \text{ mA}$ |
| Turn on time | t_{on} | — | 0.3 | — | μs | $V_{CC} = -10.3 \text{ V}$ |
| Turn off time | t_{off} | — | 0.6 | — | μs | $I_C = 10 \text{ mA}, I_{B1} = -10 \text{ mA}, I_{B2} = -10 \text{ mA}$ |
| Storage time | t_{stg} | — | 0.4 | — | μs | $V_{CC} = -5 \text{ V},$ $I_C = I_{B1} = I_{B2} = -20 \text{ mA}$ |

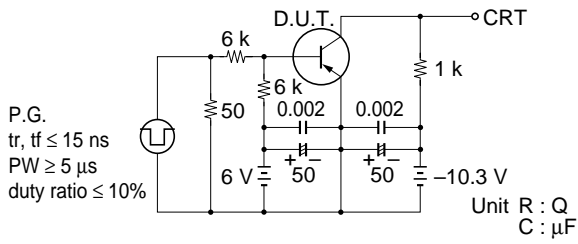
Notes: 1. The 2SA673A(K) is grouped by h_{FE} as follows.

2. Pulse test

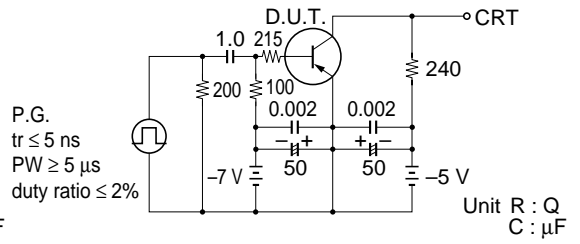
| B | C | D |
|-----------|------------|------------|
| 60 to 120 | 100 to 200 | 160 to 320 |

See 2SA673A except for the above – mentioned characteristic curves.

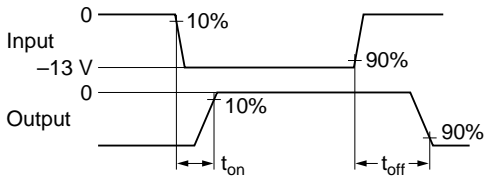
Switching Time Test Circuit
 t_{on} , t_{off} Test Circuit



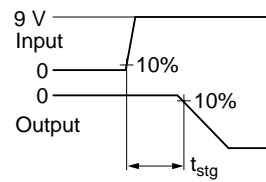
Switching Time Test Circuit
 t_{stg} Test Circuit

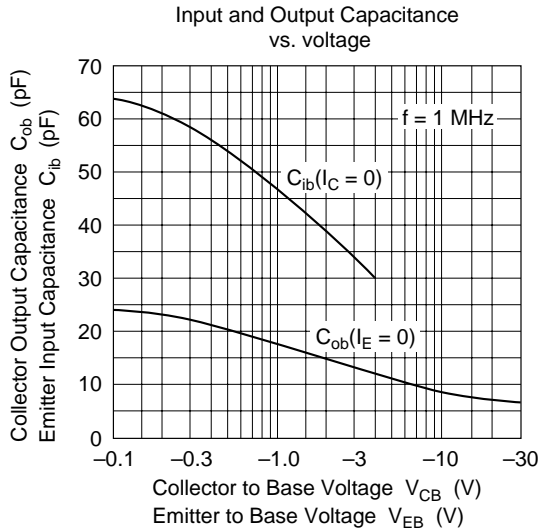
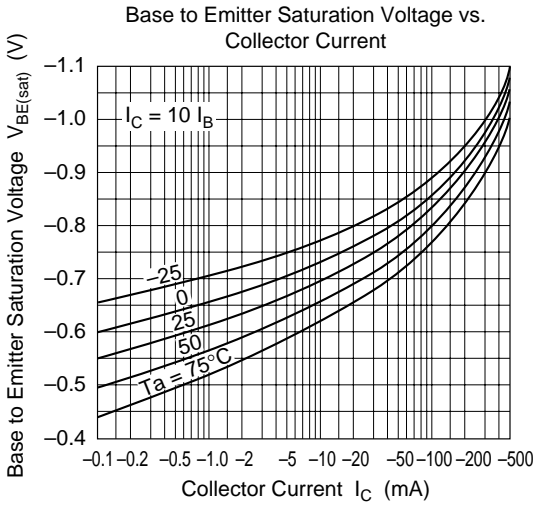
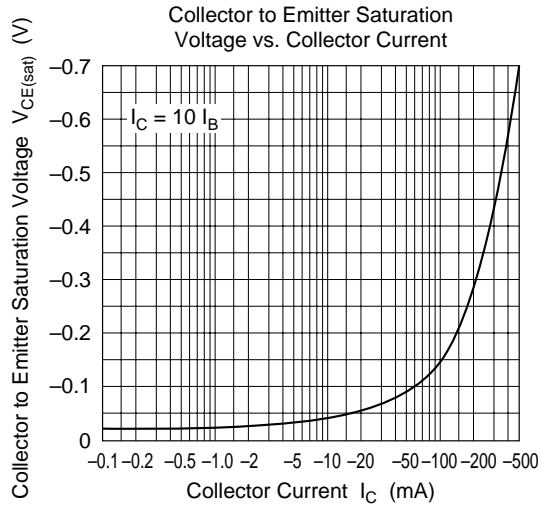
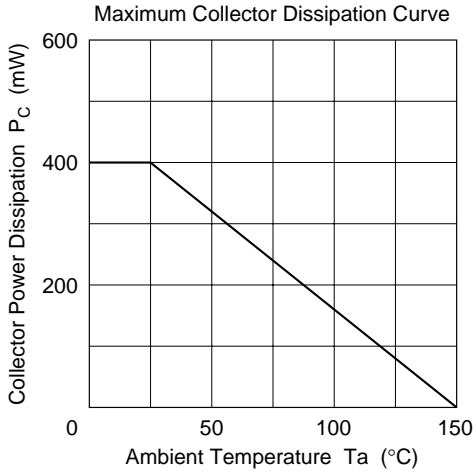


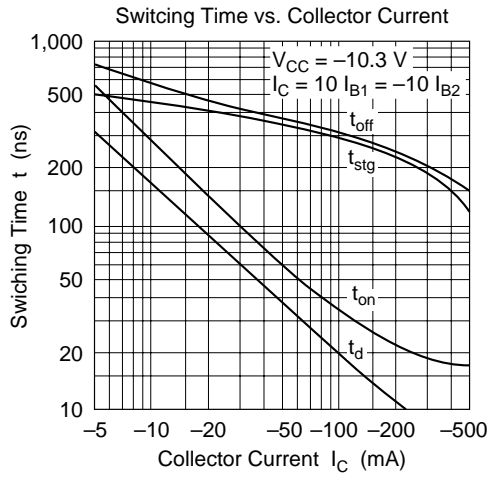
Response Waveform

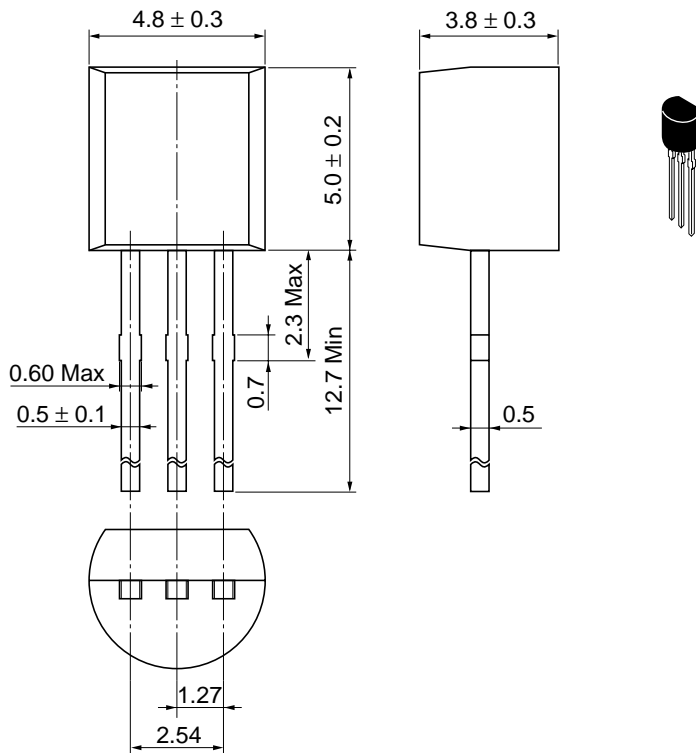


Response Waveform









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

Cautions

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