
2SB1409(L)/(S)

Silicon PNP Epitaxial

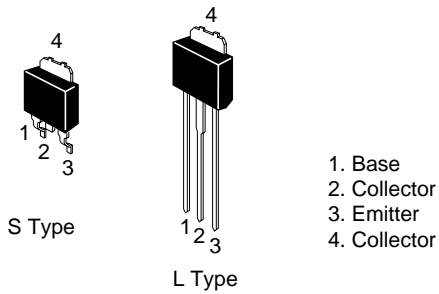
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Application

Low frequency power amplifier complementary Pair with 2SD2123(L)/(S)

Outline

DPAK



2SB1409(L)/(S)

Absolute Maximum Ratings (Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|------------------------------|---------------|-------------|------|
| Collector to base voltage | V_{CBO} | -180 | V |
| Collector to emitter voltage | V_{CEO} | -160 | V |
| Emitter to base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -1.5 | A |
| Collector peak current | $I_{C(peak)}$ | -3 | A |
| Collector power dissipation | P_C^{*1} | 18 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

Note: 1. Value at $T_C = 25^\circ\text{C}$.

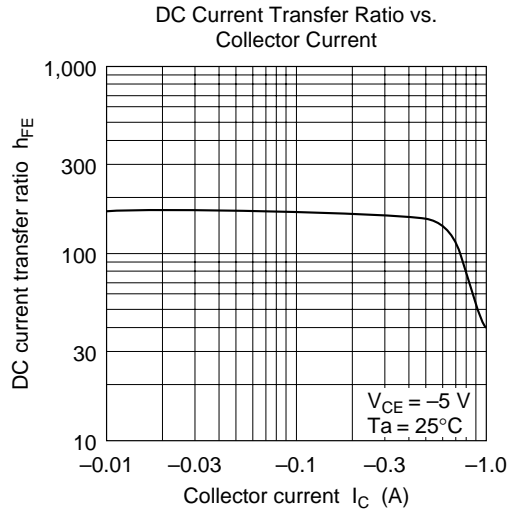
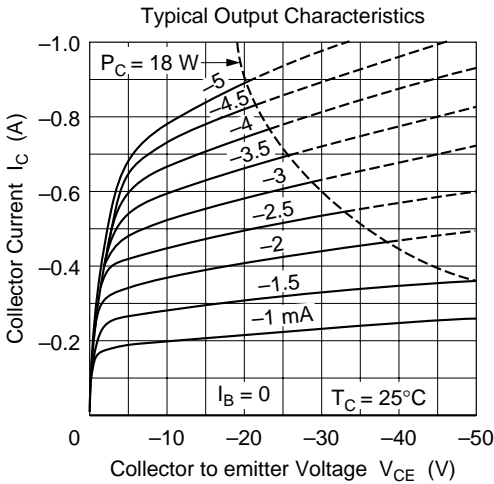
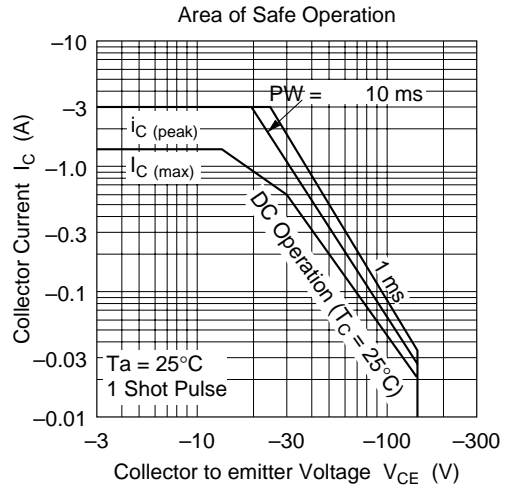
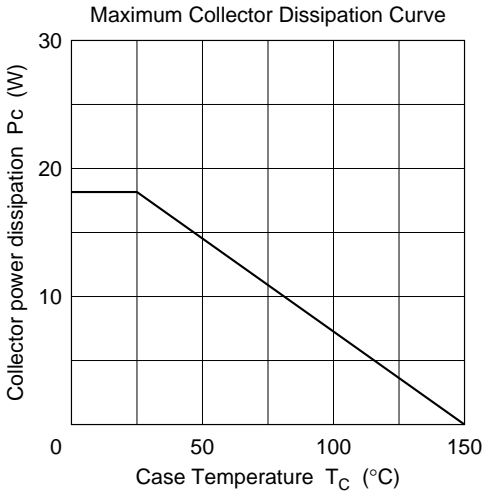
Electrical Characteristics (Ta = 25°C)

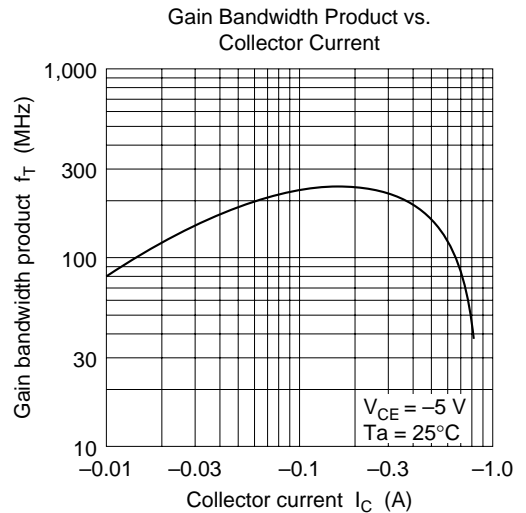
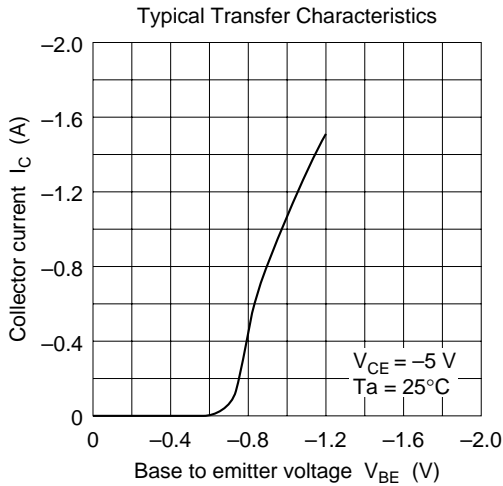
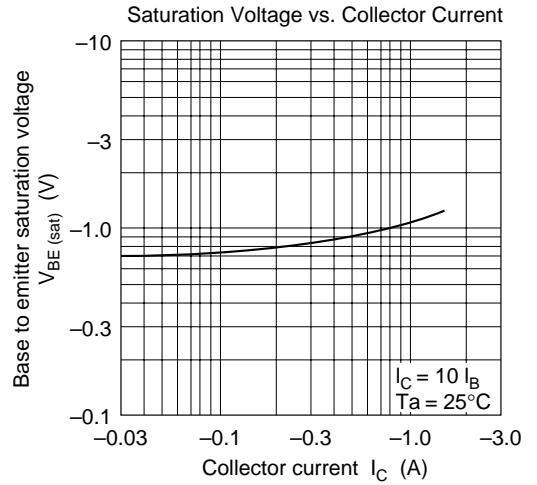
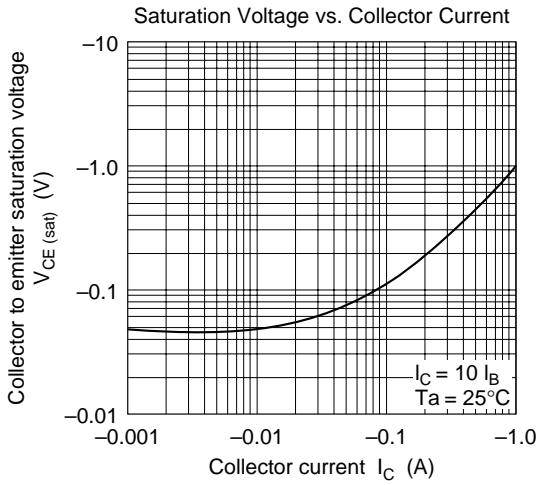
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|----------------|------|-----|------|---------------|--|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | -180 | — | — | V | $I_C = -1\text{ mA}$, $I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | -160 | — | — | V | $I_C = -10\text{ mA}$, $R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | -5 | — | — | V | $I_E = -1\text{ mA}$, $I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | -10 | μA | $V_{CB} = -160\text{ V}$, $I_E = 0$ |
| DC current transfer ratio | h_{FE1}^{*1} | 60 | — | 200 | | $V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}^{*2}$ |
| | h_{FE2} | 30 | — | — | | $V_{CE} = -5\text{ V}$, $I_C = -500\text{ mA}^{*2}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | -1 | V | $I_C = -500\text{ mA}$, $I_B = -50\text{ mA}$ |
| Base to emitter voltage | V_{BE} | — | — | -1.5 | V | $V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}$ |
| Gain bandwidth product | f_T | — | 240 | — | MHz | $V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 25 | — | pF | $V_{CB} = -10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$ |

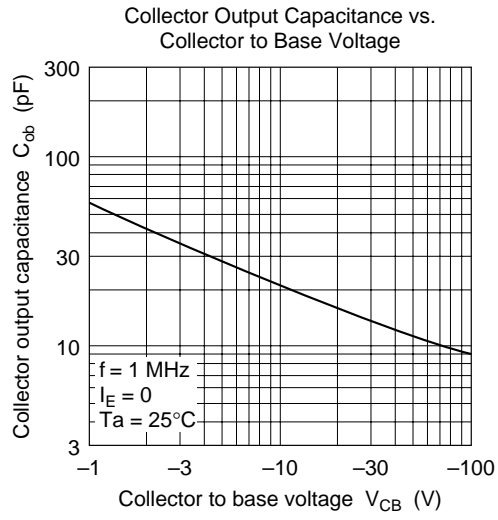
Notes: 1. The 2SB1409(L)/(S) is grouped by h_{FE1} as follows.

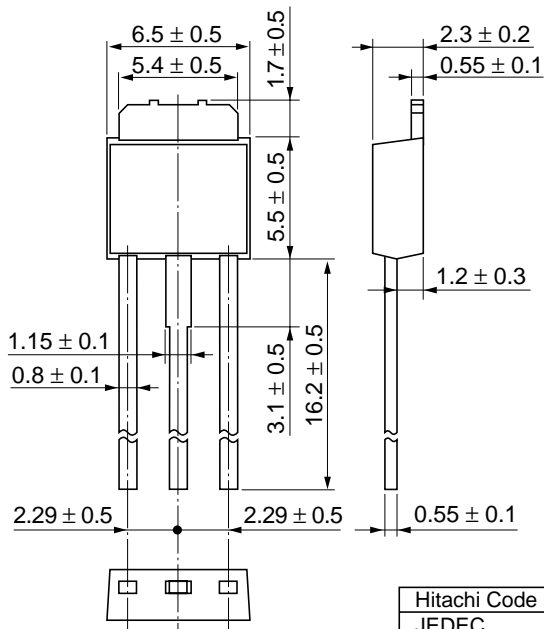
| B | C |
|-----------|------------|
| 60 to 120 | 100 to 200 |

2. Pulse test.









| | |
|--------------------------|--------------|
| Hitachi Code | DPAK (L)-(1) |
| JEDEC | — |
| EIAJ | Conforms |
| Weight (reference value) | 0.42 g |

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