

2SB738, 2SB739

Silicon PNP Epitaxial

HITACHI

Application

- Low frequency power amplifier
- Complementary pair with 2SD787 and 2SD788

Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

2SB738, 2SB739

Absolute Maximum Ratings (Ta = 25°C)

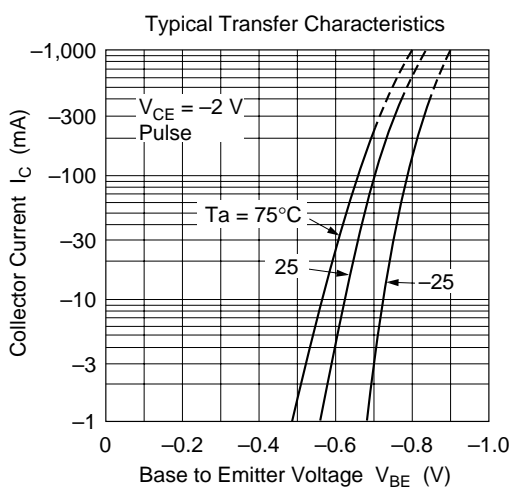
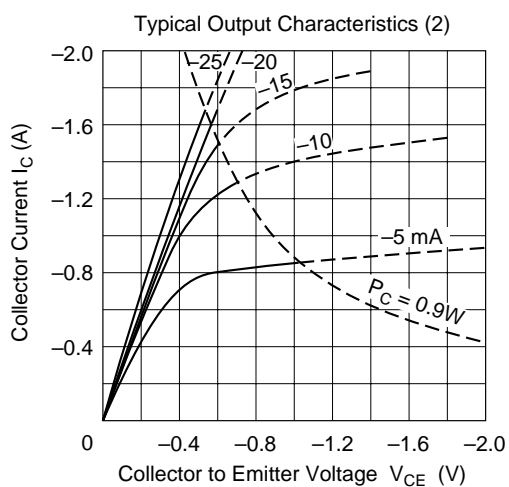
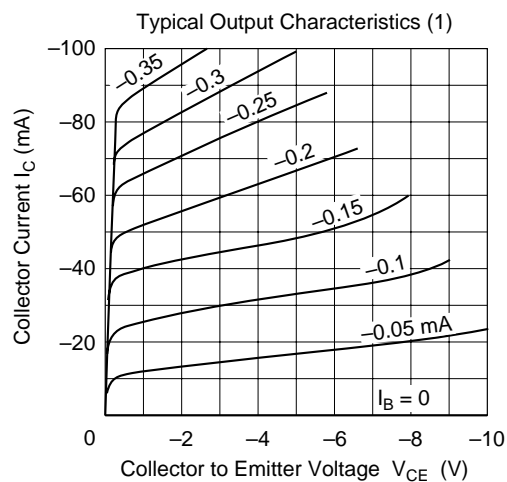
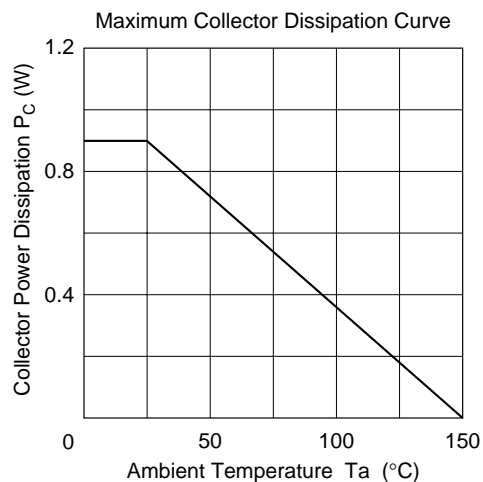
| Item | Symbol | 2SB738 | 2SB739 | Unit |
|------------------------------|-----------|-------------|-------------|------|
| Collector to base voltage | V_{CBO} | -20 | -20 | V |
| Collector to emitter voltage | V_{CEO} | -16 | -20 | V |
| Emitter to base voltage | V_{EBO} | -6 | -6 | V |
| Collector current | I_C | -2 | -2 | A |
| Collector power dissipation | P_C | 0.9 | 0.9 | W |
| Junction temperature | T_j | 150 | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | -55 to +150 | °C |

Electrical Characteristics (Ta = 25°C)

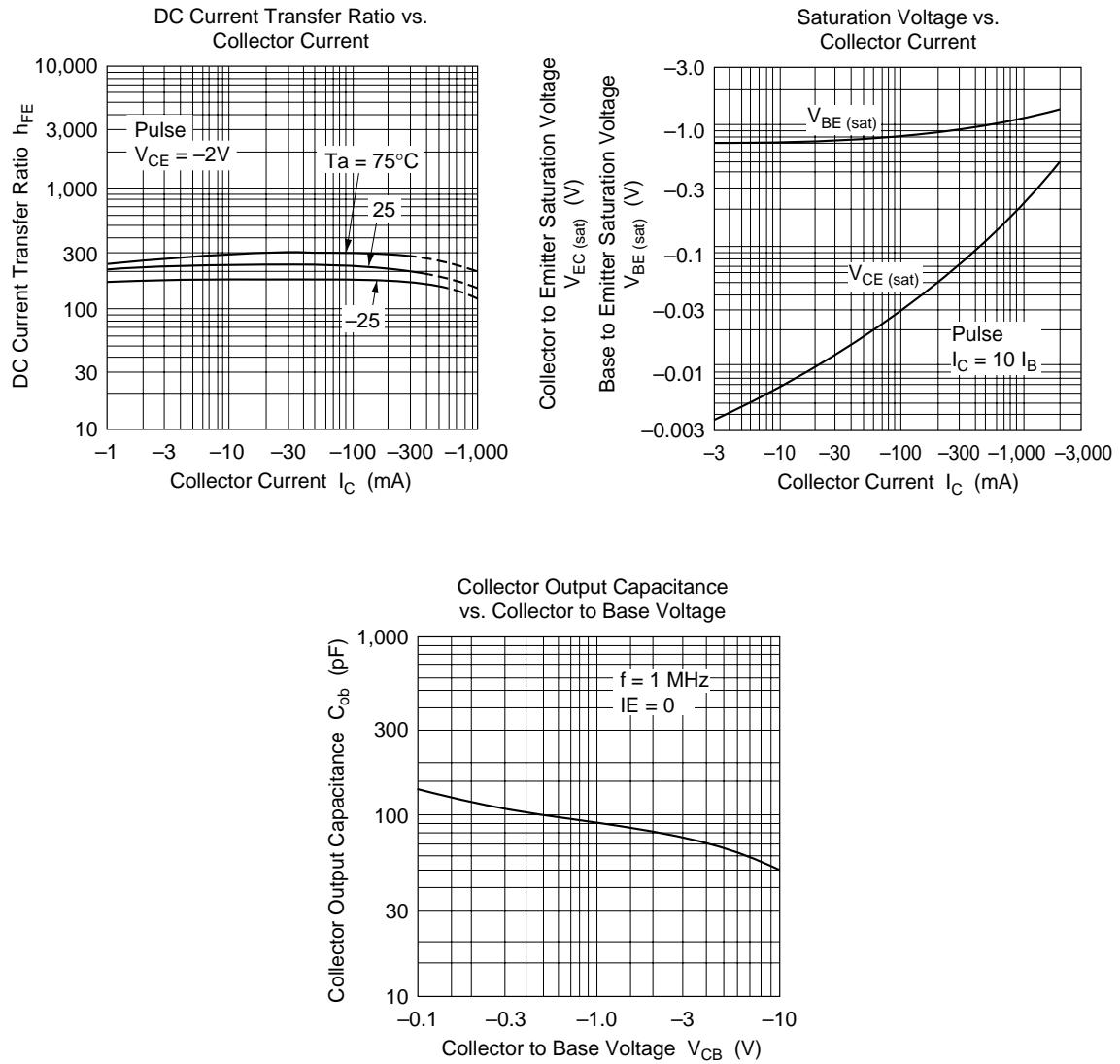
| Item | Symbol | 2SB738 | | | 2SB739 | | | Unit | Test conditions |
|---|---------------|--------|-----|------|--------|-----|------|---------|--|
| | | Min | Typ | Max | Min | Typ | Max | | |
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | -20 | — | — | -20 | — | — | V | $I_C = -10 \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | -16 | — | — | -20 | — | — | V | $I_C = -1 \text{ mA}, R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | -6 | — | — | -6 | — | — | V | $I_E = -10 \mu A, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | -2 | — | — | -2 | μA | $V_{CB} = -16 \text{ V}, I_E = 0$ |
| Emitter cutoff current | I_{EBO} | — | — | -0.2 | — | — | -0.2 | μA | $V_{EB} = -6 \text{ V}, I_C = 0$ |
| DC current transfer ratio | h_{FE}^{*1} | 100 | — | 320 | 100 | — | 320 | | $V_{CE} = -2 \text{ V}, I_C = -0.1 \text{ A}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | -0.3 | — | — | -0.3 | V | $I_C = -1 \text{ A}, I_B = -0.1 \text{ A}$ |
| Gain bandwidth product | f_T | — | 150 | — | — | 150 | — | MHz | $V_{CE} = -2 \text{ V}, I_C = -10 \text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 50 | — | — | 50 | — | pF | $V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ |

Note: 1. The 2SB738 and 2SB739 are grouped by h_{FE} as follows.

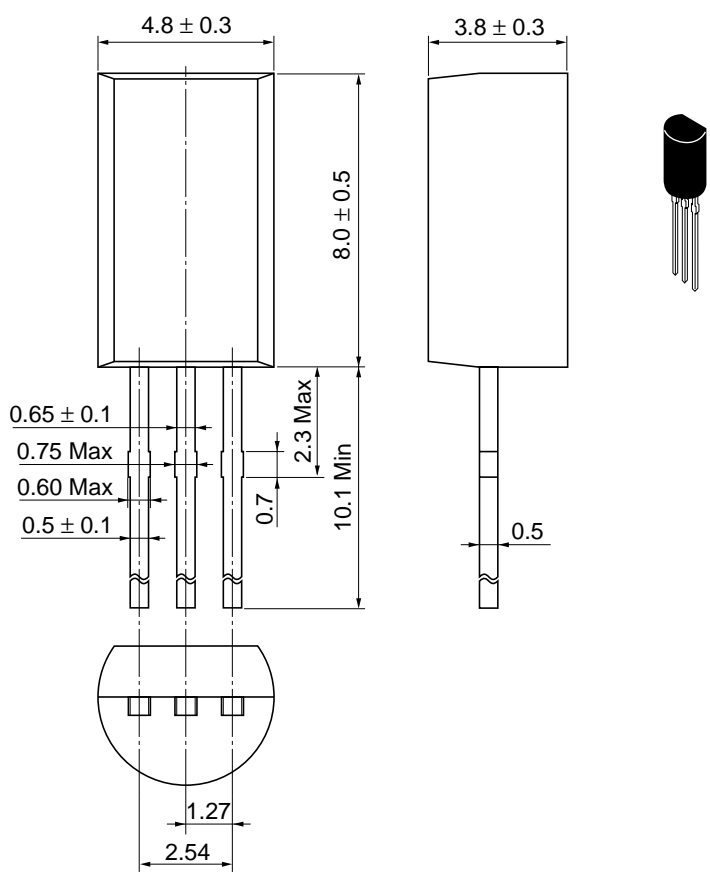
| B | C |
|------------|------------|
| 100 to 200 | 160 to 320 |



2SB738, 2SB739



Unit: mm



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