

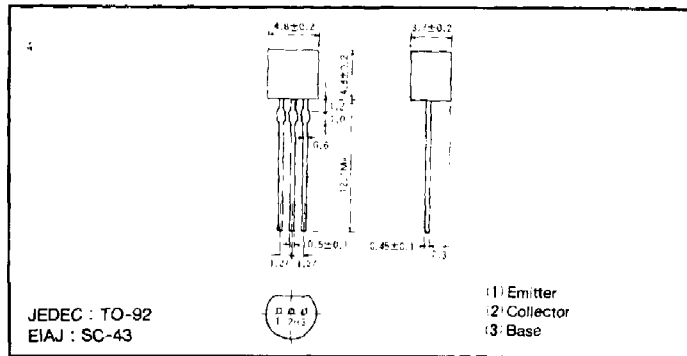
Transistors

2SB737

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Low r_{bb} Low Noise Amp. Epitaxial Planar PNP Silicon Transistor

Dimensions (Unit : mm)



NF=2.5dB Typ.
(at $f=10\text{Hz}$, $R_g=10\Omega$, $V_{CE}=-6\text{V}$,
 $I_C=-3\text{mA}$)
 $r_{bb}=2\Omega$
 $e_n=0.55\text{nV}/\sqrt{\text{Hz}}$ (at 10Hz, 10mA)
2SD786

● Features

- 1) Ultra-low noise. (Excellent noise response at low R_g):
NF=2.5dB Typ.
(at $f=10\text{Hz}$, $R_g=10\Omega$, $V_{CE}=-6\text{V}$,
 $I_C=-3\text{mA}$)
- 2) Low base resistance: $r_{bb}=2\Omega$
- 3) Low voltage noise: $e_n=0.55\text{nV}/\sqrt{\text{Hz}}$
(at 10Hz, 10mA)
- 4) Complementary pair with 2SD786.

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

| Symbol | Limits | Unit |
|-----------|---------|------------------|
| V_{CBO} | -50 | V |
| V_{CEO} | -40 | V |
| V_{EBO} | -5 | V |
| I_C | -300 | mA |
| P_C | 250 | mW |
| T_j | 125 | $^\circ\text{C}$ |
| T_{stg} | -55~125 | $^\circ\text{C}$ |

Electrical Characteristics ($T_a=25^\circ\text{C}$)

| Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---------------|------|-------|------|---------------|---|
| BV_{CEO} | -40 | - | - | V | $I_C=-1\text{mA}$ |
| BV_{CBO} | -50 | - | - | V | $I_C=-50\mu\text{A}$ |
| BV_{EBO} | -5 | - | - | V | $I_E=-50\mu\text{A}$ |
| I_{CBO} | - | - | -0.5 | μA | $V_{CB}=-30\text{V}$ |
| I_{EBO} | - | - | -0.5 | μA | $V_{EB}=-4\text{V}$ |
| $V_{CE(sat)}$ | - | -0.06 | -0.5 | V | $I_C/I_B=-50\text{mA}/-5\text{mA}$ |
| h_{FE} | 120 | - | 560 | - | $V_{CE}/I_C=-6\text{V}/-10\text{mA}$ |
| f_T | - | 100 | - | MHz | $V_{CE}=-6\text{V}$, $I_E=10\text{mA}$ |
| r_{bb} | - | 2 | 4 | Ω | $V_{CE}=-6\text{V}$, $I_C=-1\text{mA}$, $f=30\text{MHz}$ |
| NV_1 | - | - | 150 | mV | FLAT AMP ($G_v=80\text{dB}$) $V_{CE}=-10\text{V}$, $I_C=-1\text{mA}$ $R_g=100\text{k}\Omega$ |

| Item | Q | R | S |
|----------|---------|---------|---------|
| h_{FE} | 120~270 | 180~390 | 270~560 |

| Type | h_{FE} | T91 | T92 | T93 |
|--------|----------|-----|-----|-----|
| 2SB737 | QRS | ○ | ○ | ○ |

