

2SB940, 2B940A

Silicon PNP epitaxial planar type

For power amplification

For TV vertical deflection output

Complementary to 2SD1264 and 2SD1264A

Features

- High collector to emitter voltage V_{CE0}
- Large collector power dissipation P_C
- Full-pack package which can be installed to the heat sink with one screw

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

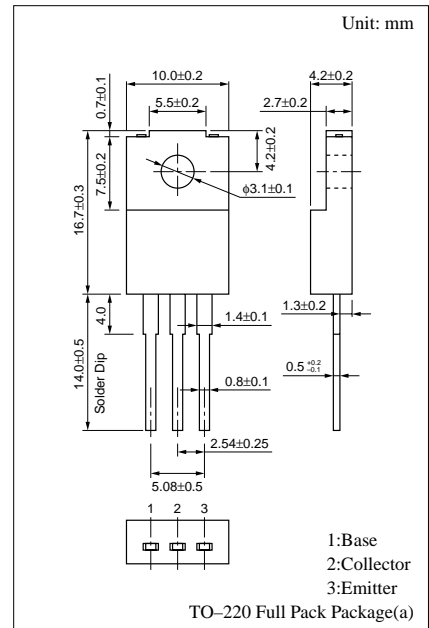
| Parameter | Symbol | Rated | Unit |
|--|-----------|-------------|------------------|
| Collector to base voltage | V_{CBO} | -200 | V |
| 2SB940A | | -200 | |
| Collector to emitter voltage | V_{CEO} | -150 | V |
| 2SB940A | | -180 | |
| Emitter to base voltage | V_{EBO} | -6 | V |
| Peak collector current | I_{CP} | -3 | A |
| Collector current | I_C | -2 | A |
| Collector power dissipation | P_C | 30 | W |
| $T_C=25^\circ\text{C}$ $T_a=25^\circ\text{C}$ | | 2 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

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

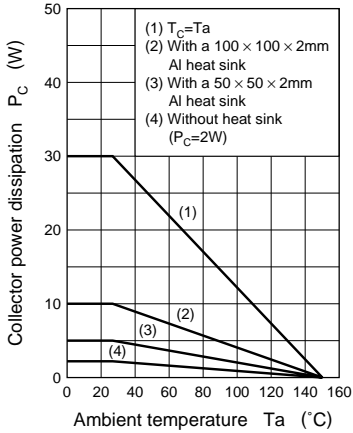
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---------------|--|------|-----|-----|---------------|
| Collector cutoff current | I_{CBO} | $V_{CB} = -200\text{V}, I_E = 0$ | | | -50 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = -4\text{V}, I_C = 0$ | | | -50 | μA |
| Collector to base voltage | V_{CBO} | $I_C = -50\mu\text{A}, I_E = 0$ | -200 | | | V |
| Collector to emitter voltage | V_{CEO} | $I_C = -5\text{mA}, I_B = 0$ | -150 | | | V |
| | | | -180 | | | |
| Emitter to base voltage | V_{EBO} | $I_E = -500\mu\text{A}, I_C = 0$ | -6 | | | V |
| Forward current transfer ratio | h_{FE1}^* | $V_{CE} = -10\text{V}, I_C = -150\text{mA}$ | 60 | | 240 | |
| | h_{FE2} | $V_{CE} = -10\text{V}, I_C = -400\text{mA}$ | 50 | | | |
| Base to emitter voltage | V_{BE} | $V_{CE} = -10\text{V}, I_C = -400\text{mA}$ | | | -1 | V |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500\text{mA}, I_B = -50\text{mA}$ | | | -1 | V |
| Transition frequency | f_T | $V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 10\text{MHz}$ | | 30 | | MHz |

* h_{FE1} Rank classification

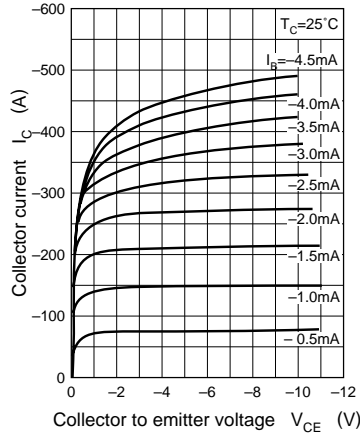
| Rank | Q | P |
|-----------|-----------|------------|
| h_{FE1} | 60 to 140 | 100 to 240 |



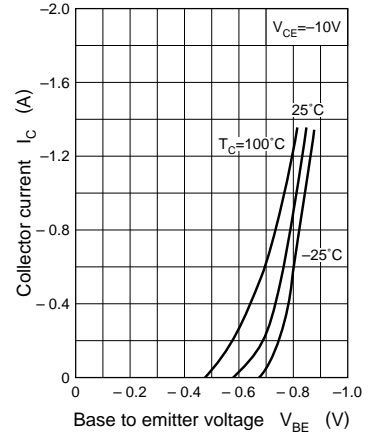
$P_C - T_a$



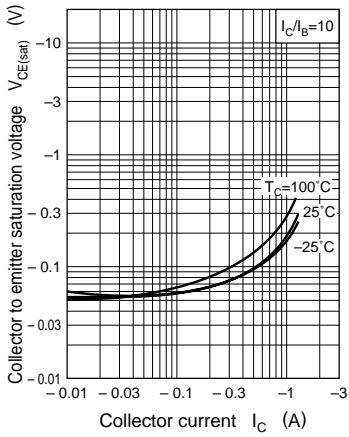
$I_C - V_{CE}$



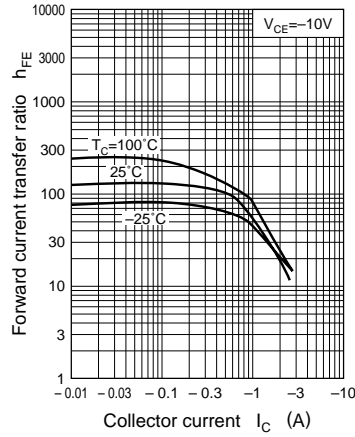
$I_C - V_{BE}$



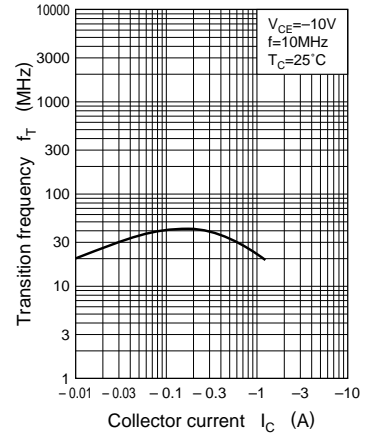
$V_{CE(sat)} - I_C$



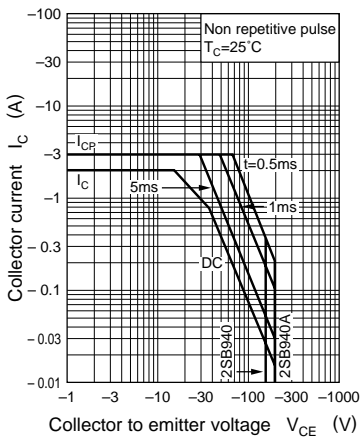
$h_{FE} - I_C$



$f_T - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$

