

2SB1638, 2SB1638A

Silicon PNP epitaxial planar type

For low-voltage switching

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Satisfactory linearity of forward current transfer ratio h_{FE}
- I type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

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

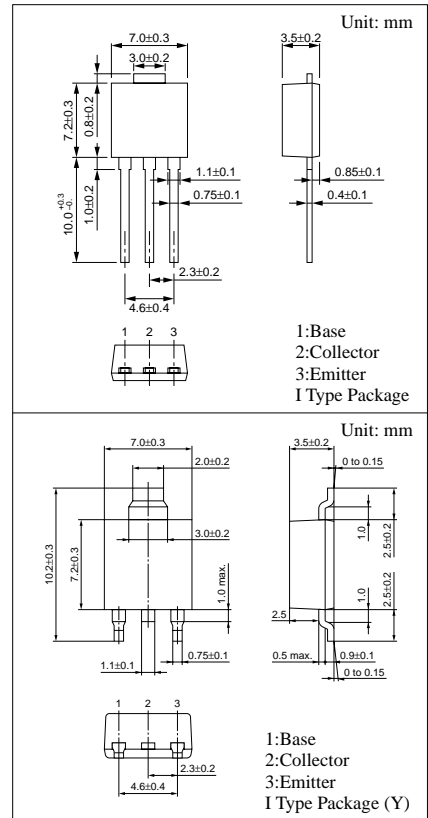
| Parameter | Symbol | Ratings | Unit |
|------------------------------|------------------------|-------------|------------------|
| Collector to base voltage | 2SB1638 | -40 | V |
| | 2SB1638A | -50 | |
| Collector to emitter voltage | 2SB1638 | -20 | V |
| | 2SB1638A | -40 | |
| Emitter to base voltage | V_{EBO} | -5 | V |
| Peak collector current | I_{CP} | -12 | A |
| Collector current | I_C | -7 | A |
| Collector power dissipation | $T_C=25^\circ\text{C}$ | 15 | W |
| | $T_a=25^\circ\text{C}$ | 1.3 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

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

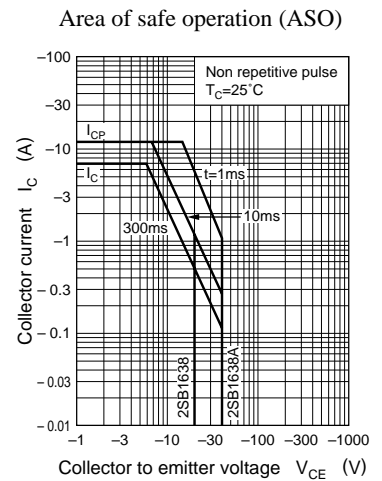
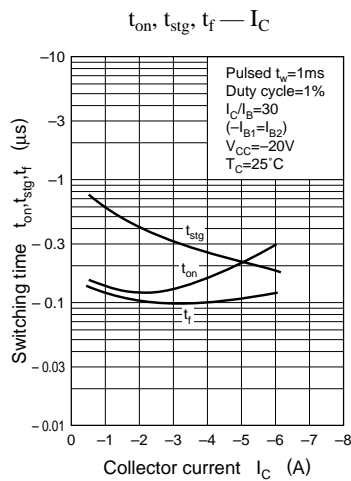
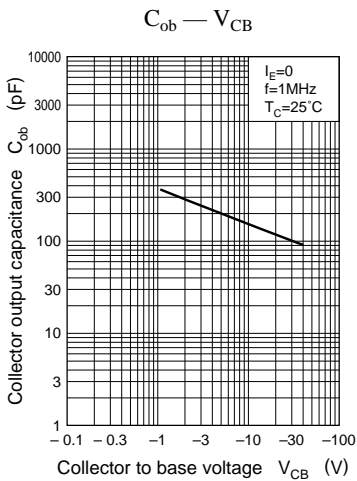
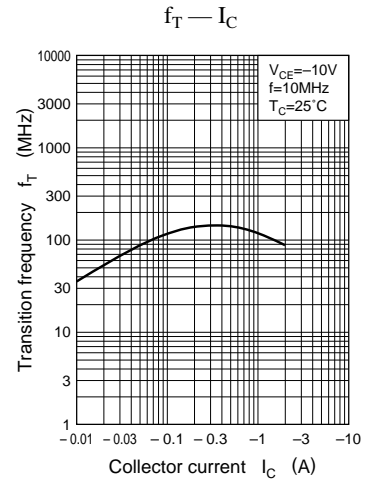
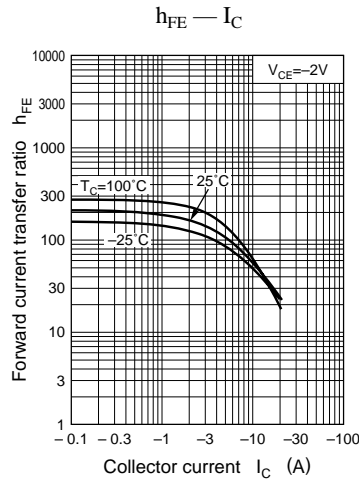
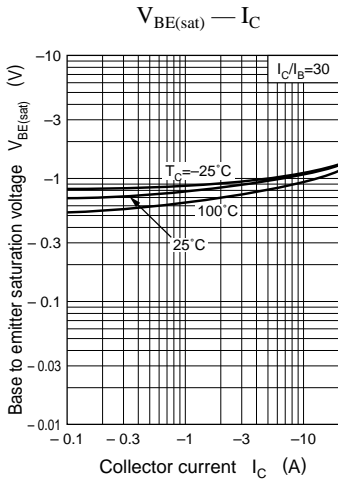
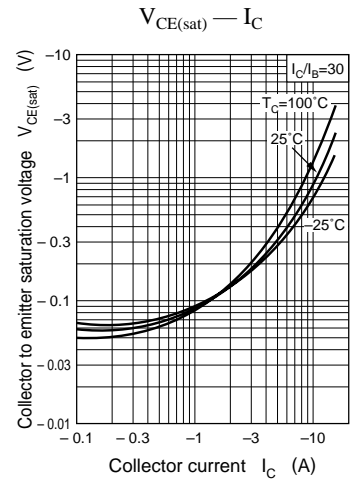
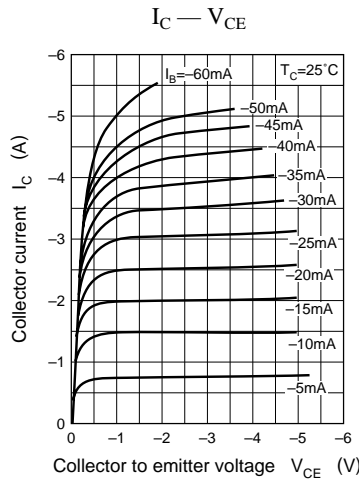
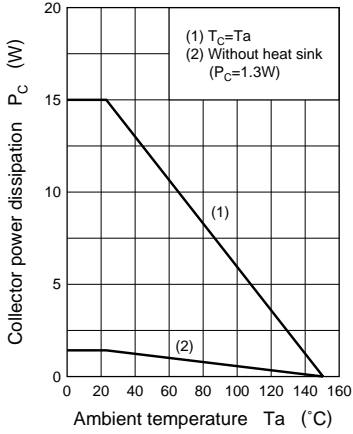
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---------------|---|-----|---------------|------|---------------|
| Collector cutoff current | 2SB1638 | $V_{CB} = -40\text{V}, I_E = 0$ | | | -50 | μA |
| | 2SB1638A | | | | | |
| Emitter cutoff current | I_{EBO} | $V_{EB} = -5\text{V}, I_C = 0$ | | | -50 | μA |
| Collector to emitter voltage | 2SB1638 | $I_C = -10\text{mA}, I_B = 0$ | -20 | | | V |
| | 2SB1638A | | -40 | | | |
| Forward current transfer ratio | h_{FE1} | $V_{CE} = -2\text{V}, I_C = -0.1\text{A}$ | 45 | | | |
| | h_{FE2}^* | $V_{CE} = -2\text{V}, I_C = -2\text{A}$ | 90 | | 260 | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -5\text{A}, I_B = -0.16\text{A}$ | | | -0.6 | V |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -5\text{A}, I_B = -0.16\text{A}$ | | | -1.5 | V |
| Transition frequency | f_T | $V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 10\text{MHz}$ | | 150 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$ | | 140 | | pF |
| Turn-on time | t_{on} | $I_C = -2\text{A}, I_{B1} = -66\text{mA}, I_{B2} = 66\text{mA}$ | | 0.1 | | μs |
| Storage time | t_{stg} | | 0.5 | μs | | |
| Fall time | t_f | | 0.1 | μs | | |

* h_{FE2} Rank classification

| Rank | Q | P |
|-----------|-----------|------------|
| h_{FE2} | 90 to 180 | 130 to 260 |



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[查询"2SB1638"供应商](#) $R_{th(t)} - t$

