

XN6A554

Silicon NPN epitaxial planer transistor

For high speed switching

■ Features

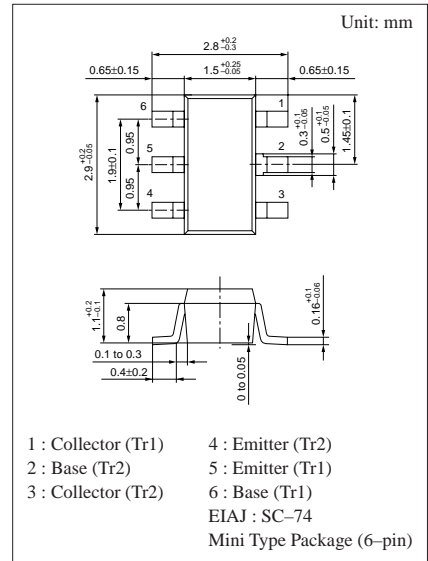
- Two elements incorporated into one package.
- Reduction of the mounting area and assembly cost by one half.
- Low $V_{CE(sat)}$.

■ Basic Part Number of Element

- 2SC3757 × 2 elements

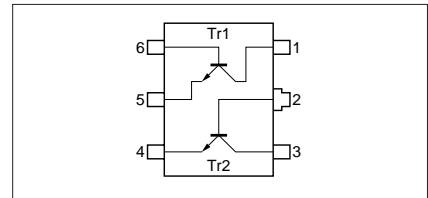
■ Absolute Maximum Ratings (Ta=25°C)

| | Parameter | Symbol | Ratings | Unit |
|-------------------|------------------------------|-----------|-------------|------|
| Rating of element | Collector to base voltage | V_{CBO} | 40 | V |
| | Collector to emitter voltage | V_{CEO} | 40 | V |
| | Emitter to base voltage | V_{EBO} | 5 | V |
| | Collector current | I_C | 100 | mA |
| | Peak collector current | I_{CP} | 300 | mA |
| Overall | Total power dissipation | P_T | 300 | mW |
| | Junction temperature | T_j | 150 | °C |
| | Storage temperature | T_{stg} | -55 to +150 | °C |



Marking Symbol: DT

Internal Connection



■ Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|-----------------------------------|---|-----|------|------|---------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 40V, I_E = 0$ | | | 0.1 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 4V, I_C = 0$ | | | 0.1 | μA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 1V, I_C = 10mA$ | 60 | | 320 | |
| Forward current transfer h_{FE} ratio | $h_{FE}(\text{small/large})^{*1}$ | $V_{CE} = 1V, I_C = 10mA$ | 0.5 | 0.99 | | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10mA, I_B = 1mA$ | | 0.17 | 0.25 | V |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 10mA, I_B = 1mA$ | | | 1.0 | V |
| Transition frequency | f_T | $V_{CE} = 10V, I_E = -10mA, f = 200MHz$ | | 450 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | | 2 | 6 | pF |
| Turn-off time | t_{on} | *2 | | 17 | | ns |
| Turn-on time | t_{off} | | | 17 | | |
| Storage time | t_{stg} | | | 10 | | |

*1 Ratio between 2 elements

*2 Test Circuits

