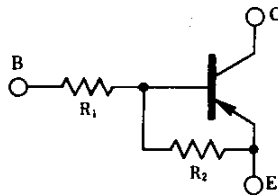


on-chip resistor PNP silicon epitaxial transistor For mid-speed switching

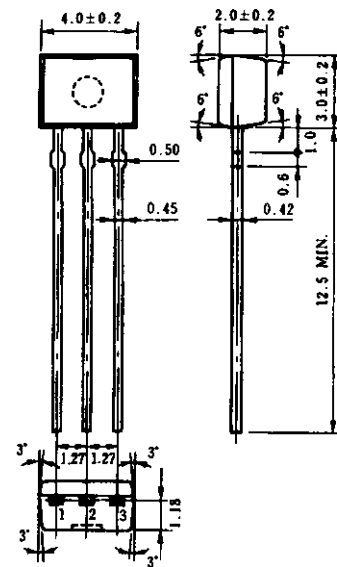
FEATURES

- On-chip bias resistor
($R_1 = 4.7 \text{ k}\Omega$, $R_2 = 4.7 \text{ k}\Omega$)

- Complementary transistor with BA1L3M



PACKAGE DRAWING (UNIT: mm)



Electrode Connection

1. Emitter
2. Collector
3. Base

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|------------------|-------------|------------------|
| Collector to base voltage | V_{CBO} | -60 | V |
| Collector to emitter voltage | V_{CEO} | -50 | V |
| Emitter to base voltage | V_{EBO} | -10 | V |
| Collector current (DC) | $I_{C(DC)}$ | -100 | mA |
| Collector current (Pulse) | $I_{C(pulse)}$ * | -200 | mA |
| Total power dissipation | P_T | 250 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

* $PW \leq 10 \text{ ms}$, duty cycle $\leq 50 \%$

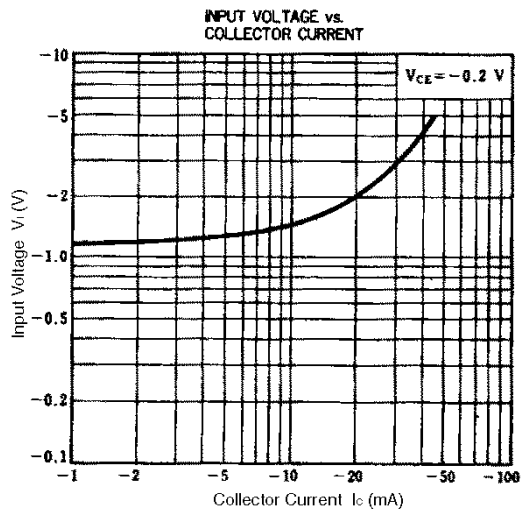
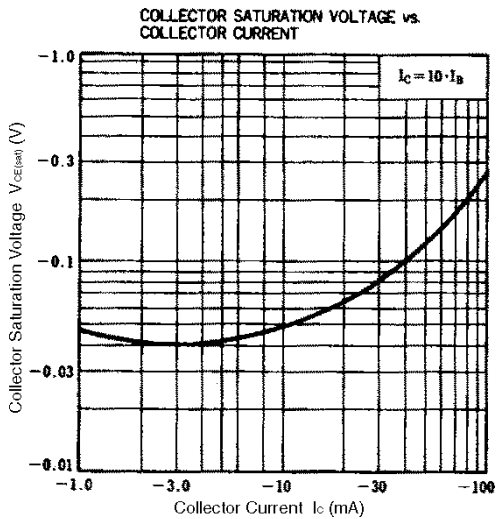
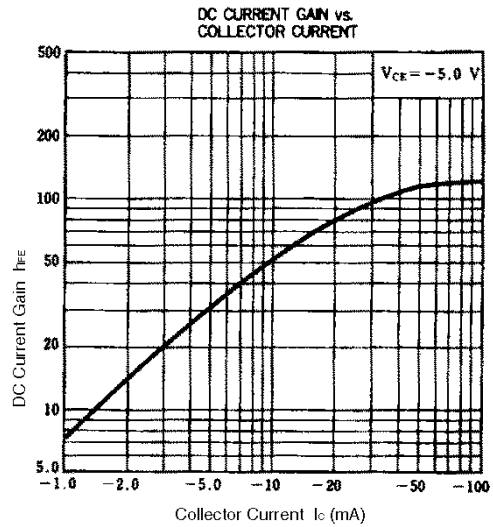
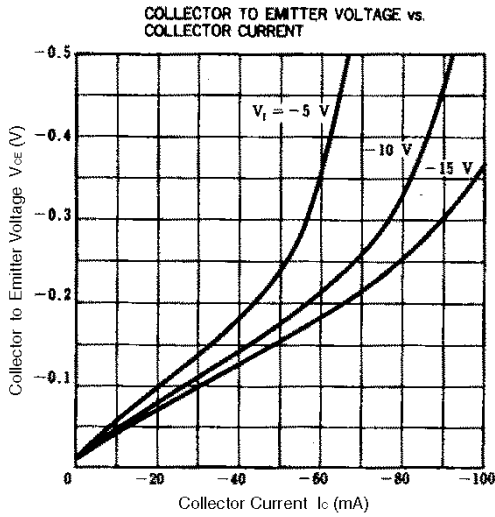
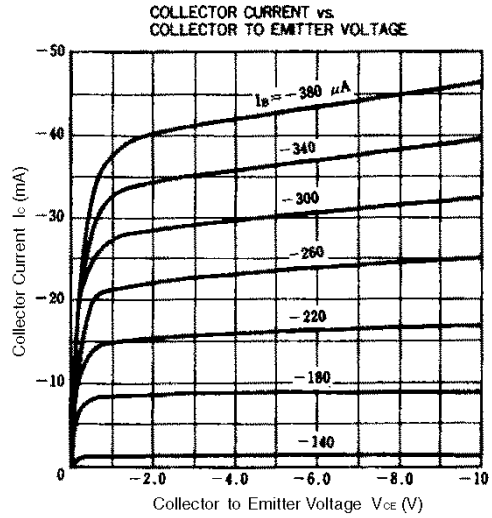
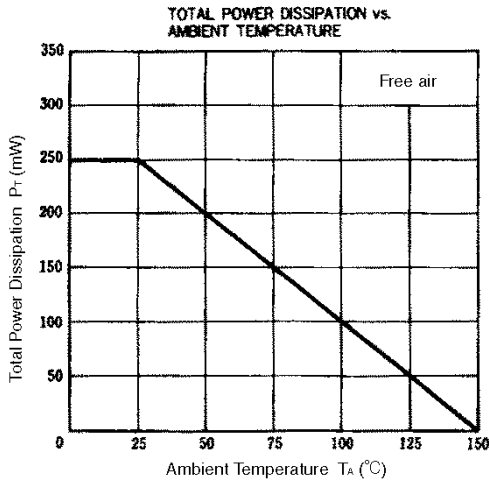
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

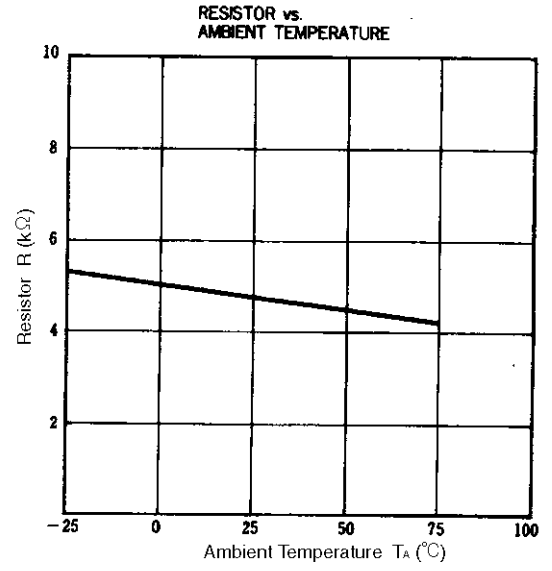
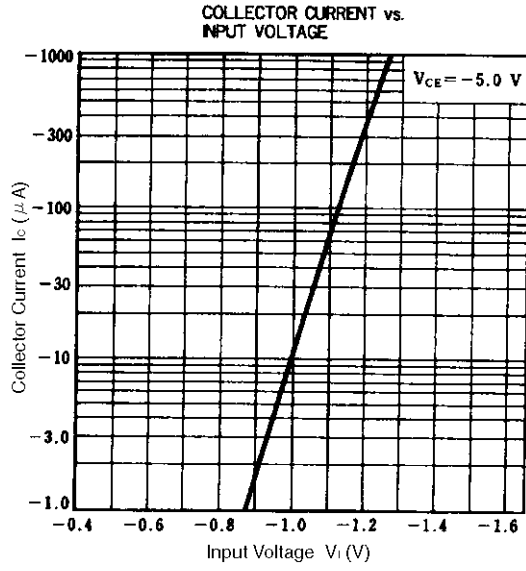
| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|------------------------------|------------------|--|------|-------|------|------------------|
| Collector cutoff current | I_{CBO} | $V_{CB} = -50 \text{ V}$, $I_E = 0$ | | | -100 | nA |
| DC current gain | h_{FE1} ** | $V_{CE} = -5.0 \text{ V}$, $I_C = -5.0 \text{ mA}$ | 20 | 40 | 80 | - |
| DC current gain | h_{FE2} ** | $V_{CE} = -5.0 \text{ V}$, $I_C = -50 \text{ mA}$ | 70 | 110 | | - |
| Collector saturation voltage | $V_{CE(sat)}$ ** | $I_C = -5.0 \text{ mA}$, $I_B = -0.25 \text{ mA}$ | | -0.02 | -0.3 | V |
| Low level input voltage | V_{IL} ** | $V_{CE} = -5.0 \text{ V}$, $I_B = -100 \mu\text{A}$ | | -1.1 | -0.8 | V |
| High level input voltage | V_{IH} ** | $V_{CE} = -0.2 \text{ V}$, $I_C = -5.0 \text{ mA}$ | -30 | -1.5 | | V |
| Input resistance | R_1 | | 3.29 | 4.7 | 6.11 | $\text{k}\Omega$ |
| Resistance ratio | R_2/R_1 | | 0.9 | 10 | 1.1 | - |
| Turn-on time | t_{on} | $V_{CC} = -5 \text{ V}$, $R_L = 1 \text{ k}\Omega$ | | | 0.5 | μs |
| Storage time | t_{stg} | $V_i = -5 \text{ V}$, $PW = 2 \mu\text{s}$ | | | 3.0 | μs |
| Turn-off time | t_{off} | duty cycle $\leq 2 \%$ | | | 5.0 | μs |

** $PW \leq 350 \mu\text{s}$, duty cycle $\leq 2 \%$

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TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)





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