

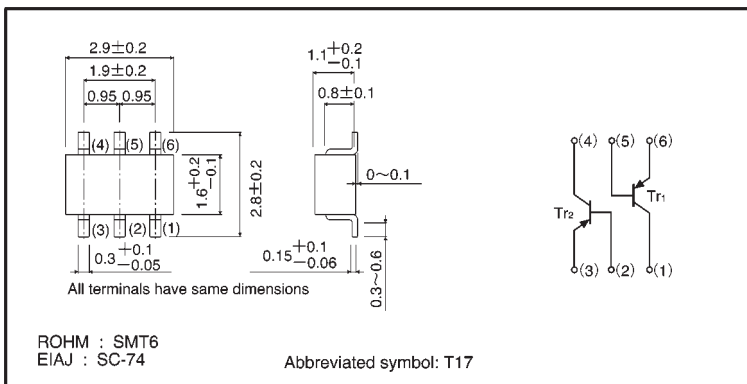
# General purpose transistor (isolated dual transistors)

## IMT17

### ●Features

- 1) Two 2SA1036K chips in an SMT package.
- 2) Same size as SMT3 package, so same mounting machine can be used for both.
- 3) Transistor elements are independent, eliminating interference.
- 4) High collector current.  
 $I_c = -500\text{mA}$
- 5) Mounting cost, and area, are reduced by one half.

### ●External dimensions (Units: mm)



### ●Structure

Epitaxial planar type  
PNP silicon transistor

The following characteristics apply to both Tr<sub>1</sub> and Tr<sub>2</sub>.

### ●Absolute maximum ratings (Ta = 25°C)

| Parameter                 | Symbol    | Limits      | Unit |
|---------------------------|-----------|-------------|------|
| Collector-base voltage    | $V_{CBO}$ | -60         | V    |
| Collector-emitter voltage | $V_{CEO}$ | -50         | V    |
| Emitter-base voltage      | $V_{EBO}$ | -5          | V    |
| Collector current         | $I_c$     | 500         | mA   |
| Power dissipation         | $P_d$     | 300 (TOTAL) | mW * |
| Junction temperature      | $T_j$     | 150         | °C   |
| Storage temperature       | $T_{stg}$ | -55~+150    | °C   |

\* 200mW per element must not be exceeded.

●Electrical characteristics (Ta = 25°C)

| Parameter                            | Symbol               | Min. | Typ. | Max. | Unit | Conditions                                                |
|--------------------------------------|----------------------|------|------|------|------|-----------------------------------------------------------|
| Collector-base breakdown voltage     | BV <sub>CBO</sub>    | −60  | —    | —    | V    | I <sub>C</sub> = −100 μA                                  |
| Collector-emitter breakdown voltage  | BV <sub>CEO</sub>    | −50  | —    | —    | V    | I <sub>C</sub> = −1mA                                     |
| Emitter-base breakdown voltage       | BV <sub>EBO</sub>    | −5   | —    | —    | V    | I <sub>E</sub> = −100 μA                                  |
| Collector cutoff current             | I <sub>CBO</sub>     | —    | —    | −0.1 | μA   | V <sub>CB</sub> = −30V                                    |
| Emitter cutoff current               | I <sub>EBO</sub>     | —    | —    | −0.1 | μA   | V <sub>EB</sub> = −4V                                     |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | —    | —    | −0.6 | V    | I <sub>C</sub> /I <sub>B</sub> = −500mA/−50mA             |
| DC current transfer ratio            | h <sub>FE</sub>      | 120  | —    | 390  | —    | V <sub>CE</sub> = −3V, I <sub>C</sub> = −100mA            |
| Transition frequency                 | f <sub>T</sub>       | —    | 200  | —    | MHz  | V <sub>CE</sub> = −10V, I <sub>E</sub> = 20mA, f = 100MHz |
| Output capacitance                   | C <sub>ob</sub>      | —    | 7    | —    | pF   | V <sub>CB</sub> = −10V, I <sub>E</sub> = 0A, f = 1MHz     |

\* Measured using pulse current.

●Packaging specifications

|          |                              |        |
|----------|------------------------------|--------|
| Part No. | Packaging type               | Taping |
|          | Code                         | T110   |
|          | Basic ordering unit (pieces) | 3000   |
| IMT17    |                              |        |

●Electrical characteristic curves

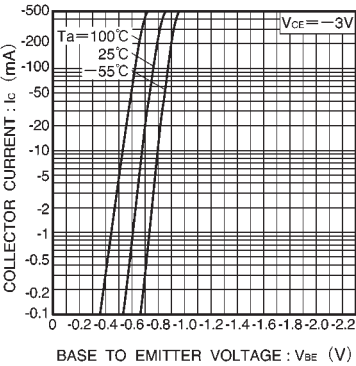


Fig.1 Grounded emitter propagation characteristics

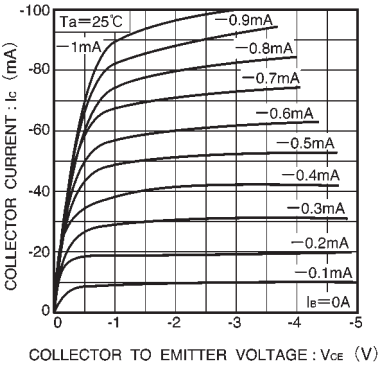


Fig.2 Grounded emitter output characteristics ( I )

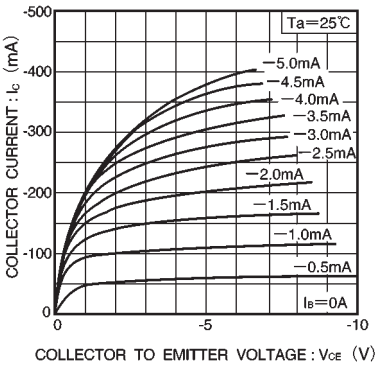


Fig.3 Grounded emitter output characteristics ( II )

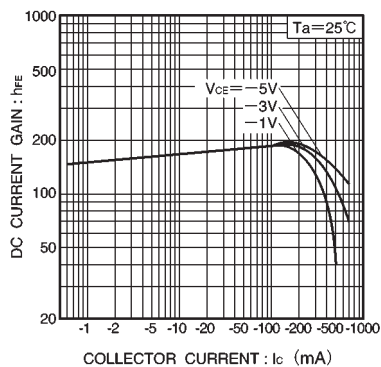


Fig.4 DC current gain vs. collector current ( I )

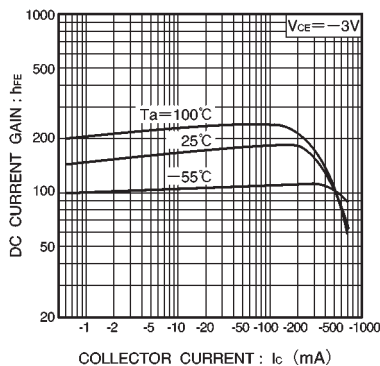


Fig.5 DC current gain vs. collector current ( II )

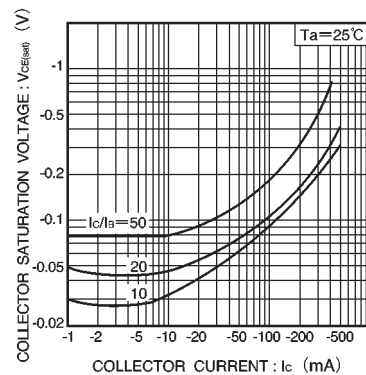


Fig.6 Collector-emitter saturation voltage vs. collector current ( I )

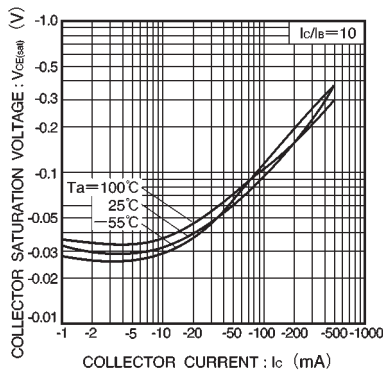


Fig.7 Collector-emitter saturation voltage vs. collector current ( II )

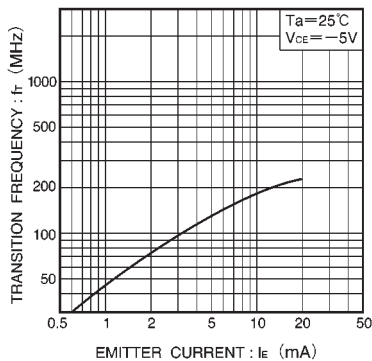


Fig.8 Gain bandwidth product vs. emitter current

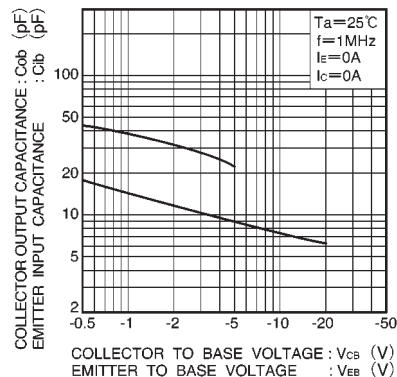


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage