

# General purpose (dual transistors)

## IMX8

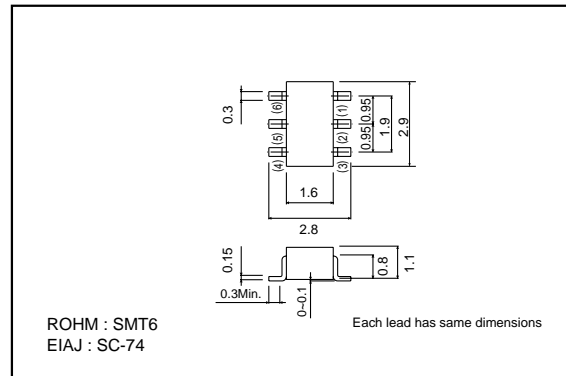
### ●Features

- 1) Two 2SC3906K chips in an SMT package.
- 2) High breakdown voltage.

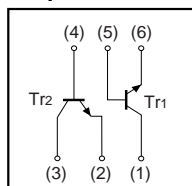
### ●Package, marking, and packaging specifications

|                              |      |
|------------------------------|------|
| Part No.                     | IMX8 |
| Package                      | SMT6 |
| Marking                      | X8   |
| Code                         | T108 |
| Basic ordering unit (pieces) | 3000 |

### ●External dimensions (Unit : mm)



### ●Equivalent circuit



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

| Parameter                 | Symbol    | Limits      | Unit |
|---------------------------|-----------|-------------|------|
| Collector-base voltage    | $V_{CB0}$ | 120         | V    |
| Collector-emitter voltage | $V_{CEO}$ | 120         | V    |
| Emitter-base voltage      | $V_{EBO}$ | 5           | V    |
| Collector current         | $I_C$     | 50          | mA   |
| Power dissipation         | $P_C$     | 300(TOTAL)  | mW * |
| Junction temperature      | $T_j$     | 150         | °C   |
| Storage temperature       | $T_{stg}$ | -55 to +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     | $BV_{CB0}$    | 120  | -    | -    | V       | $I_C=50\mu A$                      |
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | 120  | -    | -    | V       | $I_C=1mA$                          |
| Emitter-base breakdown voltage       | $BV_{EBO}$    | 5    | -    | -    | V       | $I_E=50\mu A$                      |
| Collector cutoff current             | $I_{CBO}$     | -    | -    | 0.5  | $\mu A$ | $V_{CB}=100V$                      |
| Emitter cutoff current               | $I_{EBO}$     | -    | -    | 0.5  | $\mu A$ | $V_{EB}=4V$                        |
| DC current transfer ratio            | $h_{FE}$      | 180  | -    | 820  | -       | $V_{CE}=6V, I_C=2mA$               |
| Transition frequency                 | $f_T$         | -    | 140  | -    | MHz     | $V_{CE}=12V, I_E=-2mA, f=100MHz$ * |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | -    | -    | 0.5  | V       | $I_C/I_B=10mA/1mA$                 |

\*Transition frequency of the device

Transistors

●Electrical characteristics

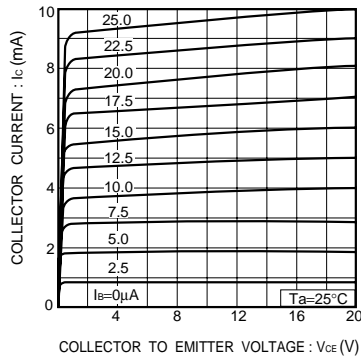


Fig.1 Ground emitter output characteristics

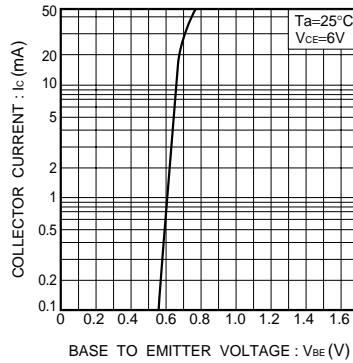


Fig.2 Ground emitter propagation characteristics

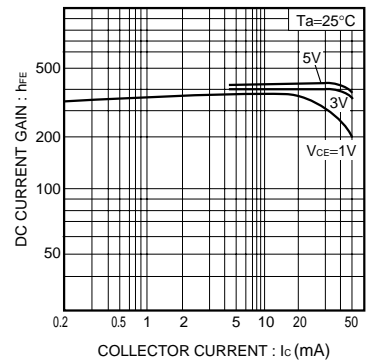


Fig.3 DC current gain vs. collector current

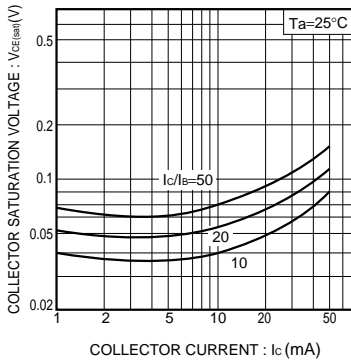


Fig.4 Collector-emitter saturation voltage vs. collector current ( I )

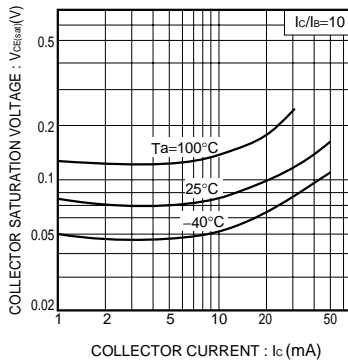


Fig.5 Collector-emitter saturation voltage vs. collector current ( II )

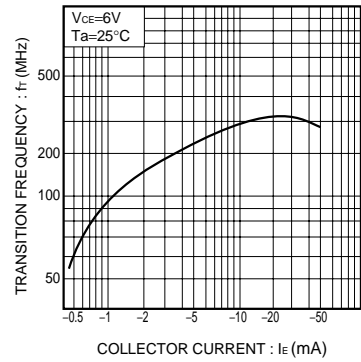


Fig.6 Gain bandwidth product vs. emitter current

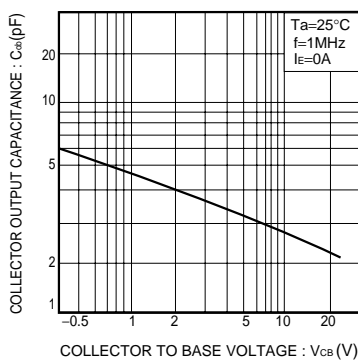


Fig.7 Collector output capacitance vs. collector-base voltage

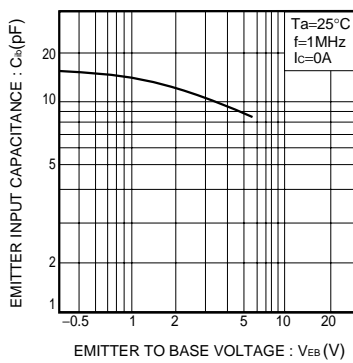


Fig.8 Emitter input capacitance vs. emitter-base voltage

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