

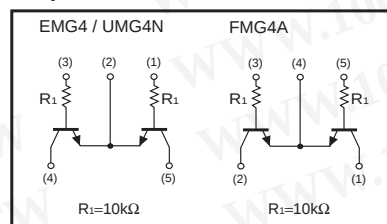
# General purpose (dual digital transistors)

## EMG4 / UMG4N / FMG4A

### ●Features

- Two DTC114T chips in a EMT or UMT or SMT package.

### ●Equivalent circuits



### ●Package, marking, and packaging specifications

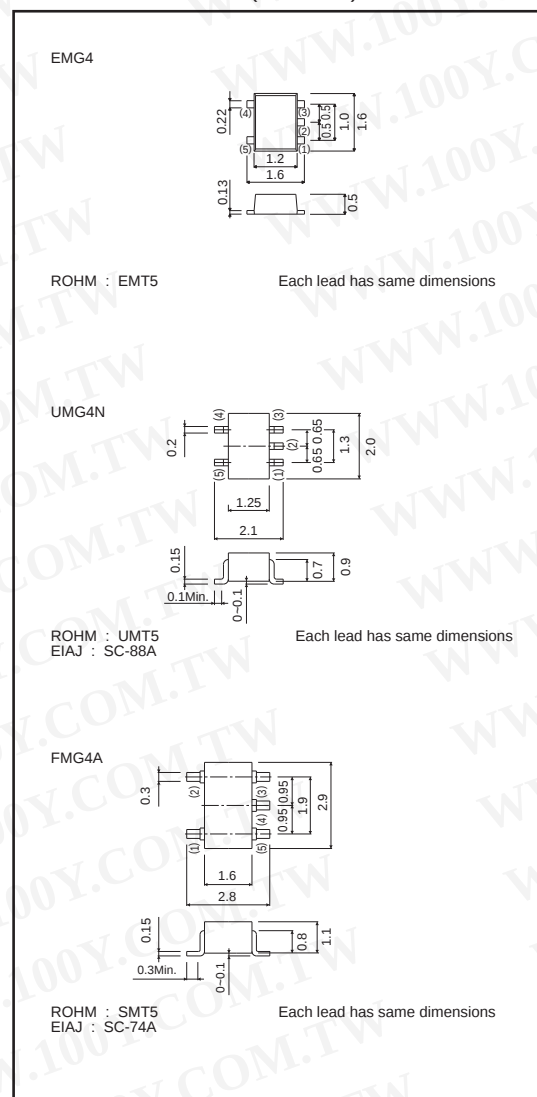
| Type                         | EMG4 | UMG4N | FMG4A |
|------------------------------|------|-------|-------|
| Package                      | EMT5 | UMT5  | SMT5  |
| Marking                      | G4   | G4    | G4    |
| Code                         | T2R  | TR    | T148  |
| Basic ordering unit (pieces) | 8000 | 3000  | 3000  |

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

| Parameter                 | Symbol           | Limits                   | Unit  |
|---------------------------|------------------|--------------------------|-------|
| Collector-base voltage    | V <sub>ceo</sub> | 50                       | V     |
| Collector-emitter voltage | V <sub>ceo</sub> | 50                       | V     |
| Emitter-base voltage      | V <sub>eso</sub> | 5                        | V     |
| Collector current         | I <sub>c</sub>   | 100                      | mA    |
| Power dissipation         | P <sub>d</sub>   | 150(TOTAL)<br>300(TOTAL) | mW *1 |
| Junction temperature      | T <sub>j</sub>   | 150                      | °C    |
| Storage temperature       | T <sub>stg</sub> | -55 to +150              | °C    |

\*1 120mW per element must not be exceeded.  
 \*2 200mW per element must not be exceeded.

### ●External dimensions (Unit : mm)



## Transistors

### ●Electrical characteristics (Ta=25°C)

| Parameter                            | Symbol        | Min. | Typ. | Max. | Unit      | Conditions                         |
|--------------------------------------|---------------|------|------|------|-----------|------------------------------------|
| Collector-base breakdown voltage     | $BV_{CBO}$    | 50   | —    | —    | V         | $I_C=50\mu A$                      |
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | 50   | —    | —    | V         | $I_C=1mA$                          |
| Emitter-base breakdown voltage       | $BV_{EBO}$    | 5    | —    | —    | V         | $I_E=50\mu A$                      |
| Collector cutoff current             | $I_{CBO}$     | —    | —    | 0.5  | $\mu A$   | $V_{CB}=50V$                       |
| Emitter cutoff current               | $I_{EBO}$     | —    | —    | 0.5  | $\mu A$   | $V_{EB}=4V$                        |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | —    | —    | 0.3  | V         | $I_C/I_E=10mA/1mA$                 |
| DC current transfer ratio            | $h_{FE}$      | 100  | 250  | 600  | —         | $V_{CE}=5V, I_C=1mA$               |
| Transition frequency                 | $f_T$         | —    | 250  | —    | MHz       | $V_{CE}=10V, I_E=-5mA, f=100MHz$ * |
| Input resistance                     | $R_i$         | 7    | 10   | 13   | $k\Omega$ | —                                  |

\*Transition frequency of the device.

### ●Electrical characteristics curves

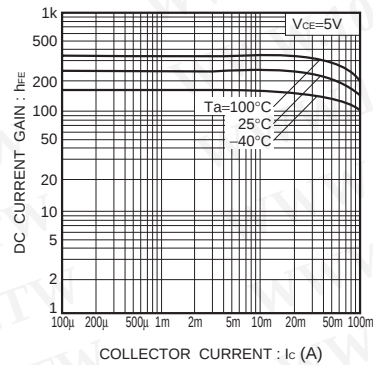


Fig.1 DC current gain vs. collector current

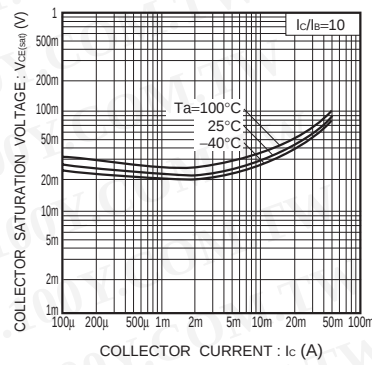


Fig.2 Collector-emitter saturation voltage vs. collector current

## Appendix

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