

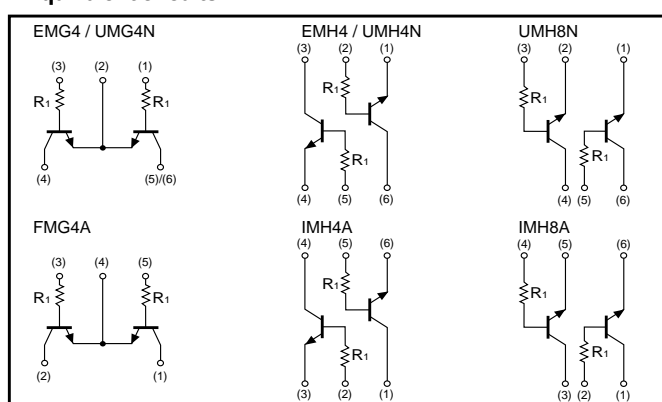
# General purpose (dual digital transistors)

## EMG4 / EMH4 / UMG4N / UMH4N / UMH8N FMG4A / IMH4A / IMH8A

### ●Features

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

### ●Equivalent circuits



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

| Parameter                 | Symbol                              | Limits     | Unit  |
|---------------------------|-------------------------------------|------------|-------|
| Collector-base voltage    | $V_{CB0}$                           | 50         | V     |
| Collector-emitter voltage | $V_{CE0}$                           | 50         | V     |
| Emitter-base voltage      | $V_{EB0}$                           | 5          | V     |
| Collector current         | $I_C$                               | 100        | mA    |
| Power dissipation         | EMG4 / EMH4 / UMG4N / UMH4N / UMH8N | 150(TOTAL) | mW *1 |
|                           | FMG4A / IMH4A / IMH8A               | 300(TOTAL) | *2    |
| Junction temperature      | $T_j$                               | 150        | °C    |
| Storage temperature       | $T_{stg}$                           | -55~+150   | °C    |

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

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

| Parameter                            | Symbol        | Min. | Typ. | Max. | Unit       | Conditions                         |
|--------------------------------------|---------------|------|------|------|------------|------------------------------------|
| Collector-base breakdown voltage     | $BV_{CB0}$    | 50   | —    | —    | V          | $I_C=50\mu A$                      |
| Collector-emitter breakdown voltage  | $BV_{CE0}$    | 50   | —    | —    | V          | $I_C=1mA$                          |
| Emitter-base breakdown voltage       | $BV_{EB0}$    | 5    | —    | —    | V          | $I_E=50\mu A$                      |
| Collector cutoff current             | $I_{CB0}$     | —    | —    | 0.5  | $\mu A$    | $V_{CB}=50V$                       |
| Emitter cutoff current               | $I_{EB0}$     | —    | —    | 0.5  | $\mu A$    | $V_{EB}=4V$                        |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | —    | —    | 0.3  | V          | $I_C/I_B=10mA/1mA$                 |
| 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                     | $R_1$         | 7    | 10   | 13   | k $\Omega$ | —                                  |

\*Transition frequency of the device.

# EMG4 / EMH4 / UMG4N / UMH4N / UMH8N / FMG4A / IMH4A / IMH8A

## Transistors

### ●Package, marking, and packaging specifications

| Type                         | EMG4 | EMH4 | UMG4N | UMH4N | UMH8N | FMG4A | IMH4A | IMH8A |
|------------------------------|------|------|-------|-------|-------|-------|-------|-------|
| Package                      | EMT5 | EMT5 | UMT5  | UMT6  | UMT6  | SMT5  | SMT6  | SMT6  |
| Marking                      | G4   | H4   | G4    | H4    | H8    | G4    | H4    | H8    |
| Code                         | T2R  | T2R  | TR    | TN    | TR    | T148  | T110  | T108  |
| Basic ordering unit (pieces) | 8000 | 8000 | 3000  | 3000  | 3000  | 3000  | 3000  | 3000  |

### ●External dimensions (Units : mm)

