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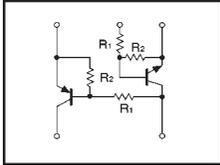
# Power management (dual digital transistors)

## FMC6A

### ●Features

- 1) Both the DTA115E and DTC115E chips in a SMT package.

### ●Circuit diagram



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

| Parameter           | Symbol           | Limits      | Unit |
|---------------------|------------------|-------------|------|
| Supply voltage      | V <sub>CC</sub>  | 50          | V    |
| Input voltage       | V <sub>IN</sub>  | 40          | V    |
|                     |                  | -10         |      |
| Output current      | I <sub>C</sub>   | 100         | mA   |
|                     | I <sub>O</sub>   | 20          | mA   |
| Power dissipation   | P <sub>d</sub>   | 300 (TOTAL) | mW   |
| Storage temperature | T <sub>stg</sub> | -55~+150    | °C   |

PNP type negative symbols have been omitted.

### ●Package, marking, and packaging specifications

|                              |       |
|------------------------------|-------|
| Part No.                     | FMC6A |
| Package                      | SMT5  |
| Marking                      | C6    |
| Code                         | T148  |
| Basic ordering unit (pieces) | 3000  |

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

| Parameter            | Symbol                         | Min. | Typ. | Max. | Unit | Conditions   |
|----------------------|--------------------------------|------|------|------|------|--|
| Input voltage        | V <sub>I(off)</sub>            | —    | —    | 0.5  | V    | V <sub>CC</sub> =5/-5V, I <sub>O</sub> =100/-100 μA<br>V <sub>O</sub> =0.3/-0.3V, I <sub>C</sub> =1/-1mA |
|                      | V <sub>I(on)</sub>             | 3    | —    | —    |      |  |
| Output voltage       | V <sub>O(on)</sub>             | —    | 0.1  | 0.3  | V    | I <sub>C</sub> =5/-5mA, I <sub>I</sub> =0.25/-0.25mA   |
| Input current        | I <sub>I</sub>                 | —    | —    | 0.15 | mA   | V <sub>I</sub> =5/-5V  |
| Output current       | I <sub>O(off)</sub>            | —    | —    | 0.5  | μA   | V <sub>CC</sub> =50/-50V   |
| DC current gain      | G <sub>I</sub>                 | 82   | —    | —    | —    | I <sub>O</sub> =5/-5mA, V <sub>O</sub> =5/-5V  |
| Transition frequency | f <sub>T</sub>                 | —    | 250  | —    | MHz  | V <sub>CE</sub> =10V/-10V, I <sub>E</sub> =-5mA/5mA, f=100MHz *  |
| Input resistance     | R <sub>I</sub>                 | 70   | 100  | 130  | kΩ   | —  |
| Resistance ratio     | R <sub>2</sub> /R <sub>1</sub> | 0.8  | 1    | 1.2  | —    | —  |

\* Transition frequency of mounted transistor. PNP type negative symbols have been omitted.

(94S-830-AC115E)

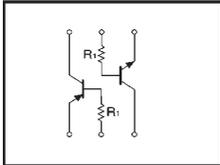
# Power management (dual digital transistors)

## IMD1A

### ●Features

- 1) Both the DTA124T and DTC124T chips in a SMT package.

### ●Circuit diagram



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

| Parameter                   | Symbol           | Limits      | Unit |
|-----------------------------|------------------|-------------|------|
| Collector-base voltage      | V <sub>CEB</sub> | 50          | V    |
| Collector-emitter voltage   | V <sub>CEO</sub> | 50          | V    |
| Emitter-base voltage        | V <sub>EB0</sub> | 5           | V    |
| Collector current           | I <sub>C</sub>   | 100         | mA   |
| Collector power dissipation | P <sub>C</sub>   | 300 (TOTAL) | mW * |
| Junction temperature        | T <sub>J</sub>   | 150         | °C   |
| Storage temperature         | T <sub>stg</sub> | -55~+150    | °C   |

\* 200mW per element must not be exceeded. PNP type negative symbols have been omitted.

### ●Package, marking, and packaging specifications

|                              |       |
|------------------------------|-------|
| Type                         | IMD1A |
| Package                      | SMT6  |
| Marking                      | D1    |
| Code                         | T108  |
| Basic ordering unit (pieces) | 3000  |

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

| Parameter                            | Symbol               | Min. | Typ. | Max. | Unit | Conditions   |
|--------------------------------------|----------------------|------|------|------|------|--|
| Collector-base breakdown voltage     | BV <sub>CEB</sub>    | 50   | —    | —    | V    | I <sub>C</sub> =50 μA                                  |
| Collector-emitter breakdown voltage  | BV <sub>CEO</sub>    | 50   | —    | —    | V    | I <sub>C</sub> =1mA                                    |
| Emitter-base breakdown voltage       | BV <sub>EB0</sub>    | 5    | —    | —    | V    | I <sub>E</sub> =50 μA                                  |
| Collector cutoff current             | I <sub>CBO</sub>     | —    | —    | 0.5  | μA   | V <sub>CB</sub> =50V                                   |
| Emitter cutoff current               | I <sub>EB0</sub>     | —    | —    | 0.5  | μA   | V <sub>EB</sub> =4V                                    |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | —    | —    | 0.3  | V    | I <sub>C</sub> /I <sub>E</sub> =5mA/0.5mA              |
| DC current transfer ratio            | h <sub>FE</sub>      | 100  | 250  | 600  | —    | V <sub>CE</sub> =5V, I <sub>C</sub> =1mA               |
| Transition frequency                 | f <sub>T</sub>       | —    | 250  | —    | MHz  | V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz * |
| Input resistance                     | R <sub>I</sub>       | 15.4 | 22   | 28.6 | kΩ   | —  |

\* Transition frequency of mounted transistor. PNP type negative symbols have been omitted.

(96-458-AC124T)