

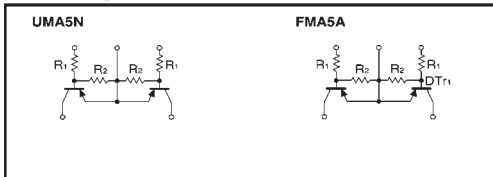
# Emitter common (dual digital transistors)

UMA5N / FMA5A

●Features

- 1) Two DTA123Js in a UMT or SMT package.

●Circuit diagrams



●Absolute maximum ratings (Ta=25°C)

| Parameter            | Symbol           | Limits      | Unit |
|----------------------|------------------|-------------|------|
| Supply voltage       | V <sub>CC</sub>  | -50         | V    |
| Input voltage        | V <sub>IN</sub>  | -12         | V    |
|                      |                  | 5           |      |
| Output current       | I <sub>O</sub>   | -100        | mA   |
| Power dissipation    | P <sub>d</sub>   | 150 (TOTAL) | mW * |
|                      |                  | 300 (TOTAL) |      |
| Junction temperature | T <sub>j</sub>   | 150         | °C   |
| Storage temperature  | T <sub>stg</sub> | -55~+150    | °C   |

\* Do not exceed 120mW per element for the UMA5N.  
Do not exceed 200mW per element for the FMA5A.

●Package, marking, and packaging specifications

| Part No.                     | UMA5N | FMA5A |
|------------------------------|-------|-------|
| Package                      | UMT5  | SMT5  |
| Marking                      | A5    | A5    |
| Code                         | TR    | T148  |
| Basic ordering unit (pieces) | 3000  | 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> =-5V, I <sub>O</sub> =-100 μA<br>V <sub>O</sub> =-0.3V, I <sub>O</sub> =-5mA |
|                      | V <sub>I (on)</sub>            | -1.1 | —    | —    |      |  |
| Output voltage       | V <sub>O (on)</sub>            | —    | -0.1 | -0.3 | V    | I <sub>O</sub> /I <sub>I</sub> =-5mA/0.25mA  |
| Input current        | I <sub>I</sub>                 | —    | —    | -3.6 | mA   | V <sub>I</sub> =-5V  |
| Output current       | I <sub>O (off)</sub>           | —    | —    | -0.5 | μA   | V <sub>CC</sub> =-50V, V <sub>I</sub> =0V  |
| DC current gain      | G <sub>I</sub>                 | 80   | —    | —    | —    | V <sub>O</sub> =-5V, I <sub>O</sub> =-10mA   |
| Input resistance     | R <sub>I</sub>                 | 1.54 | 2.2  | 2.86 | kΩ   | —  |
| Transition frequency | f <sub>T</sub>                 | —    | 250  | —    | MHz  | V <sub>CE</sub> =-10V, I <sub>E</sub> =5mA, f=100MHz *                                       |
| Resistance ratio     | R <sub>2</sub> /R <sub>1</sub> | 17   | 21   | 26   | —    | —  |

\*Transition frequency of the device.

(96-384-A123J)

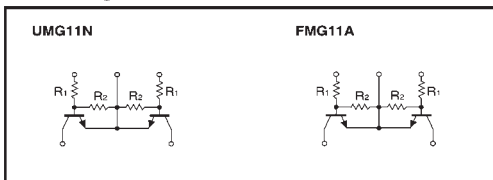
# Emitter common (dual digital transistors)

UMG11N / FMG11A

●Features

- 1) Two DTA123Js in a UMT or SMT package.

●Circuit diagrams



●Absolute maximum ratings (Ta=25°C)

| Parameter           | Symbol           | Limits      | Unit  |
|---------------------|------------------|-------------|-------|
| Supply voltage      | V <sub>CC</sub>  | 50          | V     |
| Input voltage       | V <sub>IN</sub>  | 12          | V     |
|                     |                  | 5           |       |
| Output current      | I <sub>O</sub>   | 100         | mA    |
| Power dissipation   | P <sub>d</sub>   | 150 (TOTAL) | mW *1 |
|                     |                  | 300 (TOTAL) |       |
| Storage temperature | T <sub>stg</sub> | -50~+150    | °C    |

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

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

●Package, marking, and packaging specifications

| Part No.                     | UMG11N | FMG11A |
|------------------------------|--------|--------|
| Package                      | UMT5   | SMT5   |
| Marking                      | G11    | G11    |
| Code                         | TR     | T148   |
| Basic ordering unit (pieces) | 3000   | 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> =5V, I <sub>O</sub> =100 μA<br>V <sub>O</sub> =0.3V, I <sub>O</sub> =5mA |
|                      | V <sub>I (on)</sub>            | 1.1  | —    | —    |      |  |
| Output voltage       | V <sub>O (on)</sub>            | —    | 0.1  | 0.3  | V    | I <sub>O</sub> =5mA, I <sub>I</sub> =0.25mA  |
| Input current        | I <sub>I</sub>                 | —    | —    | 3.6  | mA   | V <sub>I</sub> =5V   |
| Output current       | I <sub>O (off)</sub>           | —    | —    | 0.5  | μA   | V <sub>CC</sub> =50V, V <sub>I</sub> =0V   |
| DC current gain      | G <sub>I</sub>                 | 80   | —    | —    | —    | I <sub>O</sub> =10mA, V <sub>O</sub> =5V   |
| Input resistance     | R <sub>I</sub>                 | —    | 2.2  | —    | kΩ   | —  |
| Transition frequency | f <sub>T</sub>                 | —    | 250  | —    | MHz  | V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz *                                   |
| Resistance ratio     | R <sub>2</sub> /R <sub>1</sub> | 17   | 21   | 26   | —    | —  |

\*Transition frequency of the device.

(94S-813-C123J)