

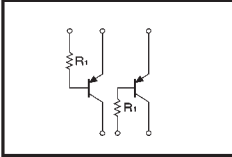
General purpose (dual digital transistors)

IMB7A

●Features

- 1) Two DTA143T chips in a SMT package.

●Circuit diagram



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|-------------|------|
| Collector-base voltage | V_{CBO} | -50 | V |
| Collector-emitter voltage | V_{CEO} | -50 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -100 | mA |
| Collector power dissipation | P_C | 300 (TOTAL) | mW * |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{stg} | -55~+150 | °C |

* 200mW per element must not be exceeded.

●Package, marking, and packaging specifications

| | |
|------------------------------|-------|
| Part No. | IMB7A |
| Package | SMT6 |
| Marking | B7 |
| Code | T110 |
| Basic ordering unit (pieces) | 3000 |

●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 | μA | $V_{CB} = -50V$ |
| Emitter cutoff current | I_{EBO} | — | — | -0.5 | μA | $V_{EB} = -4V$ |
| DC current transfer ratio | h_{FE} | 100 | 250 | 600 | — | $V_{CE}/I_C = -5V/-1mA$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | — | -0.3 | V | $I_C/I_B = -5mA/-0.25mA$ |
| Input resistance | R_i | 3.29 | 4.7 | 6.11 | k Ω | — |

(94S-849-A143T)

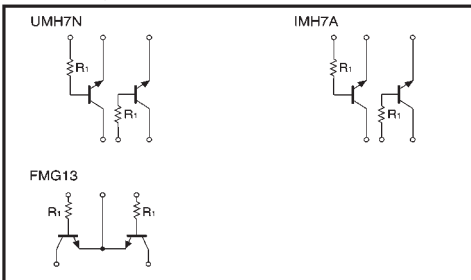
General purpose (dual digital transistors)

UMH7N / FMG13 / IMH7A

●Features

- 1) Includes two DTA143T transistors in a single UMT package.

●Circuit diagram



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|--------------|-------------|-------|
| Collector-base voltage | V_{CBO} | 50 | V |
| Collector-emitter voltage | V_{CEO} | 50 | V |
| Emitter-base voltage | V_{EBO} | 5 | V |
| Collector current | I_C | 100 | mA |
| Collector power dissipation | UMH7N | 150 (TOTAL) | mW *1 |
| | FMG13, IMH7A | 300 (TOTAL) | mW *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.

●Package, marking, and packaging specifications

| | | | |
|------------------------------|-------|-------|-------|
| Part No. | UMH7N | FMG13 | IMH7A |
| Package | UMT6 | SMT5 | SMT6 |
| Marking | H7 | G13 | H7 |
| Code | TR | T148 | T108 |
| Basic ordering unit (pieces) | 3000 | 3000 | 3000 |

●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 | μA | $V_{CB} = 50V$ |
| Emitter cutoff current | I_{EBO} | — | — | 0.5 | μA | $V_{EB} = 4V$ |
| DC current transfer ratio | h_{FE} | 100 | 250 | 600 | — | $V_{CE}/I_C = 5V/1mA$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | — | 0.3 | V | $I_C/I_B = 5mA/0.25mA$ |
| Input resistance | R_i | 3.29 | 4.7 | 6.11 | k Ω | — |

(94S-877-C143T)