

Transistors

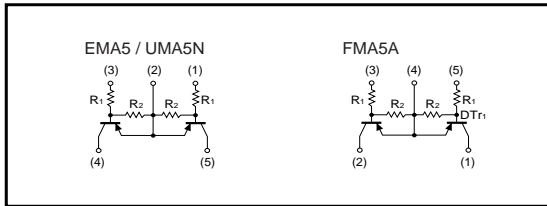
Emitter common (dual digital transistors)

EMA5 / UMA5N / FMA5A

●Features

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

●Equivalent circuit



●Packaging, marking, and packaging specifications

| | | | |
|------------------------------|------|-------|-------|
| Type | EMA5 | UMA5N | FMA5A |
| Package | EMT5 | UMT5 | SMT5 |
| Marking | A5 | A5 | A5 |
| Code | T2R | TR | T148 |
| Basic ordering unit (pieces) | 8000 | 3000 | 3000 |

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|----------------------|------------------|-------------|------|
| Supply voltage | V _{CC} | -50 | V |
| Input voltage | V _{IN} | -12 | V |
| | | 5 | |
| Output current | I _O | -100 | mA |
| Power dissipation | EMA5 / UMA5N | 150 (TOTAL) | mW * |
| | FMA5A | 300 (TOTAL) | |
| Junction temperature | T _J | 150 | °C |
| Storage temperature | T _{stg} | -55 to +150 | °C |

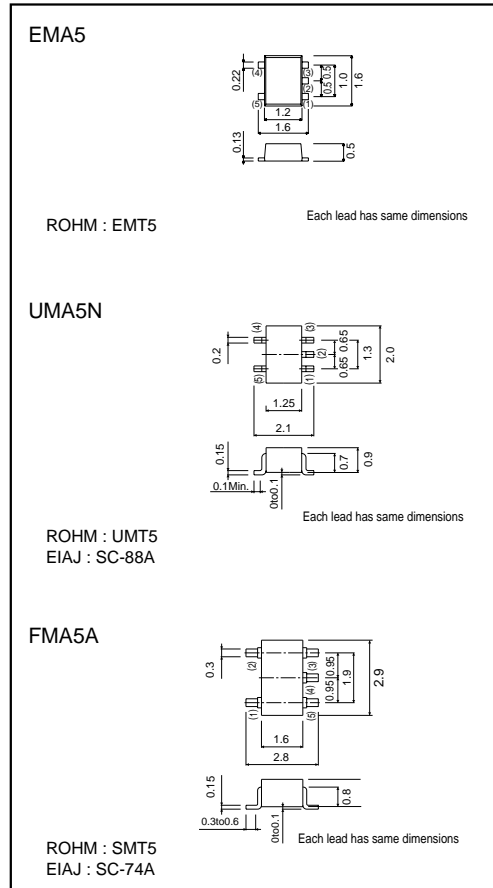
* Do not exceed 120m per element for the UMA5N.
Do not exceed 200mW per element for the FMA5A.

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|----------------------|---------------------------------|------|------|------|------|---|
| Input voltage | V _{I (off)} | - | - | -0.5 | V | V _{CC} = -5V, I _O = -100μA V _O = -0.3V, I _O = -5mA |
| | V _{I (on)} | -1.1 | - | - | | |
| Output voltage | V _{O (on)} | - | -0.1 | -0.3 | V | I _O /I _I = -5mA/V -0.25mA |
| Input current | I _I | - | - | -3.6 | mA | V _I = -5V |
| Output current | I _{O (off)} | - | - | -0.5 | μA | V _{CC} = -50V, V _I =0V |
| DC current gain | G _I | 80 | - | - | - | V _O = -5V, I _O = -10mA |
| Input resistance | R _I | 1.54 | 2.2 | 2.86 | kΩ | - |
| Transition frequency | f _T | - | 250 | - | MHz | V _{CE} = -10V, I _E =5mA, f=100MHz * |
| Resistance ratio | R ₂ / R ₁ | 17 | 21 | 26 | - | - |

*Transition frequency of the device.

●External dimensions (Unit : mm)



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●Electrical characteristics curves

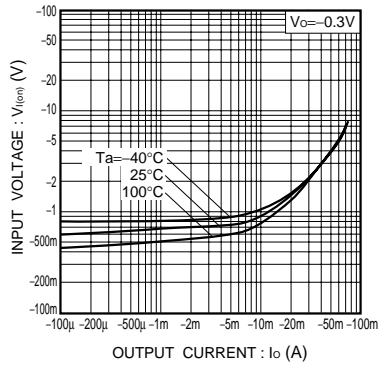


Fig.1 Input voltage vs. output current (ON characteristics)

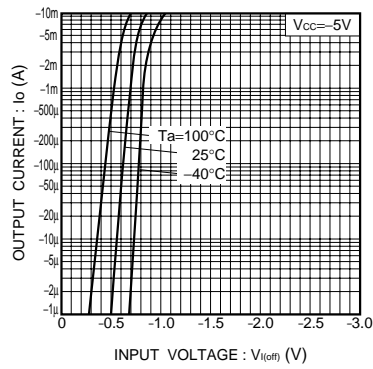


Fig.2 Output current vs. input voltage (OFF characteristics)

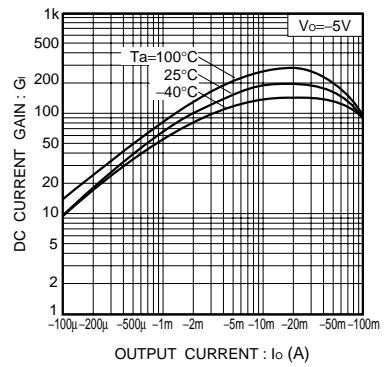


Fig.3 DC current gain vs. output current

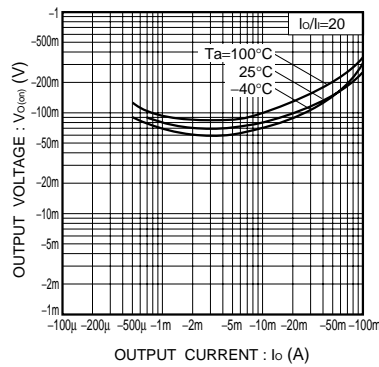


Fig.4 Output voltage vs. output current

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