



Micro Commercial Components



Micro Commercial Components  
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## UMT1N

### Features

- Halogen free available upon request by adding suffix "-HF"
- Two 2SA1037AK chips in a package
- Mounting possible with SOT-363 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

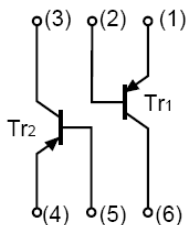
### Mechanical Data

- Case: SOT-363, Molded Plastic
- Polarity: See Diagram

#### Maximum Ratings @ 25°C Unless Otherwise Specified

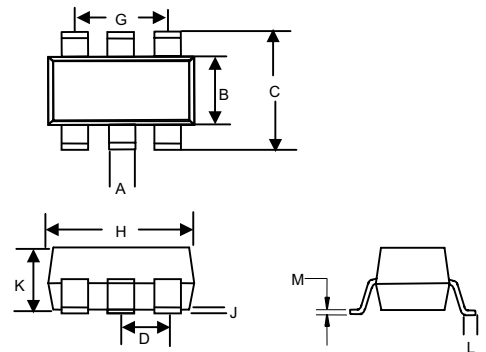
| Symbol                     | Parameter                           | Value    | Units |
|----------------------------|-------------------------------------|----------|-------|
| <b>OFF CHARACTERISTICS</b> |                                     |          |       |
| $V_{(BR)CEO}$              | Collector-Emitter Breakdown Voltage | -50      | Vdc   |
| $V_{(BR)CBO}$              | Collector-Base Breakdown Voltage    | -60      | Vdc   |
| $V_{(BR)EBO}$              | Collector-Emitter Breakdown Voltage | -6.0     | Vdc   |
| $I_c$                      | Collector Current                   | -150     | mAdc  |
| $P_d$                      | Power Dissipation                   | 150      | mW    |
| $T_J, T_{STG}$             | Operating & Storage Temperature     | -55~+150 | °C    |

#### MARKING:T1



### Dual Transistors

#### SOT-363



| DIM | INCHES |      | MM          |      | NOTE |
|-----|--------|------|-------------|------|------|
|     | MIN    | MAX  | MIN         | MAX  |      |
| A   | .006   | .014 | 0.15        | 0.35 |      |
| B   | .045   | .053 | 1.15        | 1.35 |      |
| C   | .085   | .096 | 2.15        | 2.45 |      |
| D   | .026   |      | 0.65Nominal |      |      |
| G   | .047   | .055 | 1.20        | 1.40 |      |
| H   | .071   | .087 | 1.80        | 2.20 |      |
| J   | ---    | .004 | ---         | 0.10 |      |
| K   | .035   | .043 | 0.90        | 1.10 |      |
| L   | .010   | .018 | 0.26        | 0.46 |      |
| M   | .003   | .006 | 0.08        | 0.15 |      |

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## ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                        | MIN | TYP | MAX  | UNIT    |
|--------------------------------------|---------------|----------------------------------------|-----|-----|------|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -50\mu A, I_E = 0$              | -60 |     |      | V       |
| Collector-emitter breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = -1mA, I_B = 0$                  | -50 |     |      | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -50\mu A, I_C = 0$              | -6  |     |      | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -60V, I_E = 0$               |     |     | -0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -6V, I_C = 0$                |     |     | -0.1 | $\mu A$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -6V, I_C = -1mA$             | 120 |     | 560  |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -50mA, I_B = -5mA$              |     |     | -0.5 | V       |
| Transition frequency                 | $f_T$         | $V_{CE} = -12V, I_E = 2mA, f = 100MHz$ |     | 140 |      | MHz     |
| Output capacitance                   | $C_{ob}$      | $V_{CB} = -12V, I_E = 0, f = 1MHz$     |     |     | 5    | pF      |

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## Typical Characteristics

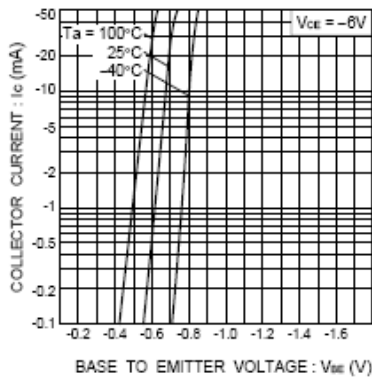


Fig.1 Grounded emitter propagation characteristics

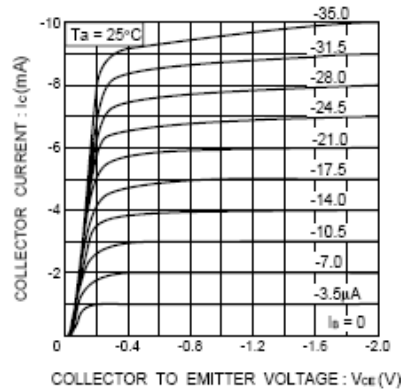


Fig.2 Grounded emitter output characteristics (I)

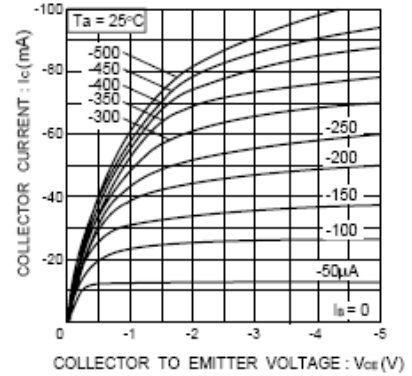


Fig.3 Grounded emitter output characteristics (II)

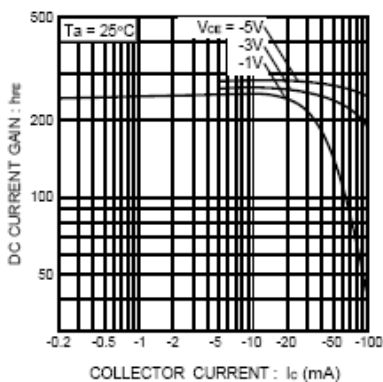


Fig.4 DC current gain vs. collector current (I)

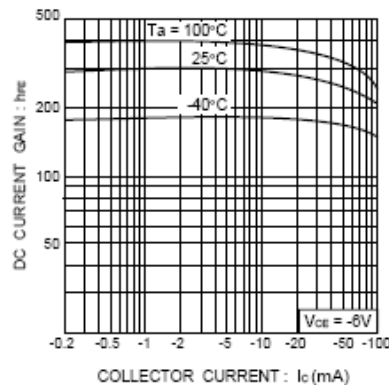


Fig.5 DC current gain vs. collector current (II)

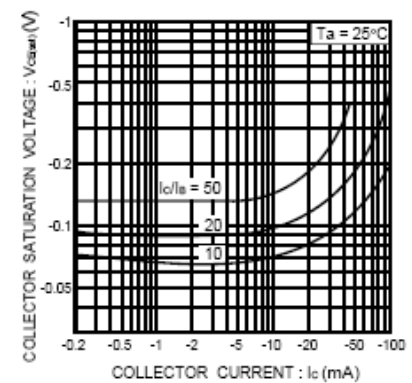


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

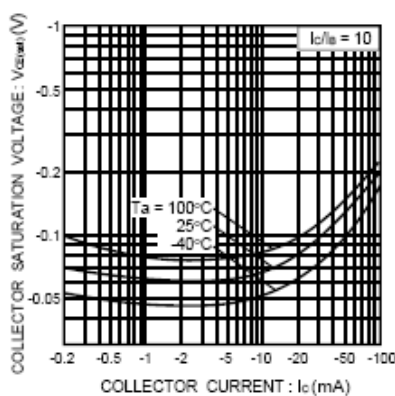


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

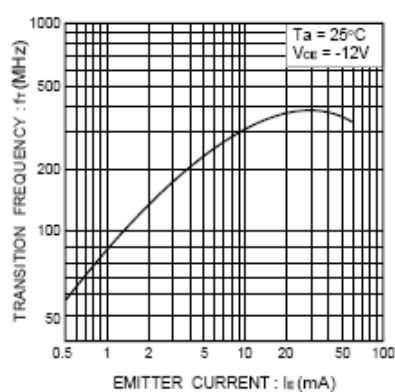


Fig.8 Gain bandwidth product vs. emitter current

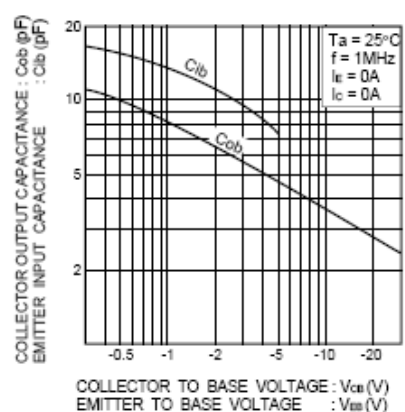


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

• M • C • C •

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## Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel; 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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