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Micro Commercial Components

Micro Commercial Components
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# UMT1N

## Dual Transistors

## 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
- Moisure Sensitivity Level 1

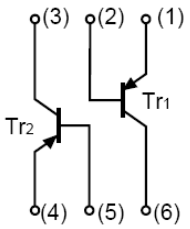
## Mechanical Data

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

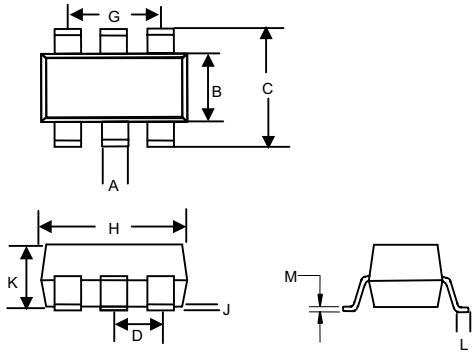
### Maximum Ratings @ 25℃ Unless Otherwise Specified

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| **OFF CHARACTERISTICS** | | | |
| $V_{(BR)CEO}$ | 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 |
| Ic | Collector Current | -150 | mAdc |
| $P_d$ | Power Dissipation | 150 | mW |
| $T_J$, $T_{STG}$ | Operating & Storage Temperature | -55~+150 | ℃ |

**MARKING:T1**




SOT-363




| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| | INCHES | | MM | | |
| DIM | MIN | MAX | MIN | MAX | NOTE |
| 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 | |

**ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)**

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$=-50μA,$I_E$=0 | -60 | | | V |
| **Collector-emitter breakdown Voltage** | $V_{(BR)CEO}$ | $I_C$=-1mA,$I_B$=0 | -50 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=-50μA,$I_C$=0 | -6 | | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=-60V,$I_E$=0 | | | -0.1 | uA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$=-6V,$I_C$=0 | | | -0.1 | uA |
| **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** | Cob | $V_{CB}$=-12V,$I_E$=0, f=1MHz | | | 5 | pF |

## Typical Characteristics

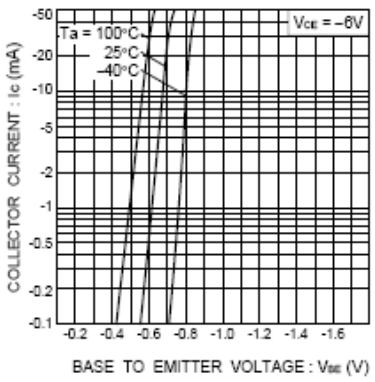



Fig.1 Grounded emitter propagation characteristics

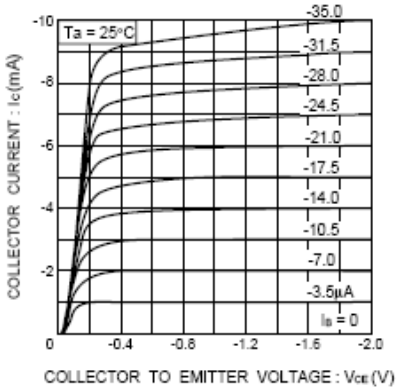



Fig.2 Grounded emitter output characteristics ( I )

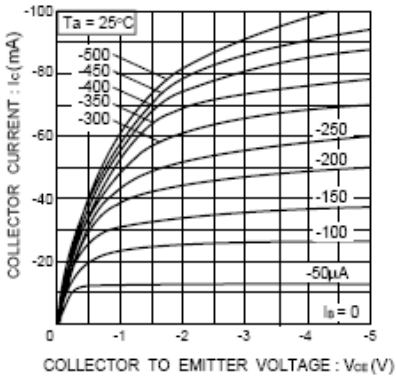



Fig.3 Grounded emitter output characteristics ( II )

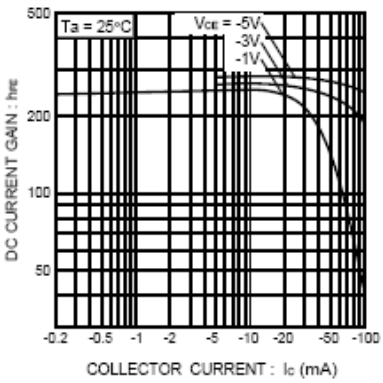



Fig.4 DC current gain vs. collector current ( I )

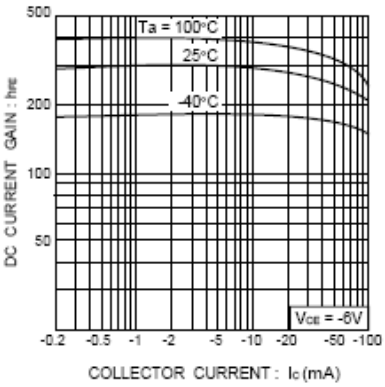



Fig.5 DC current gain vs. collector current ( II )

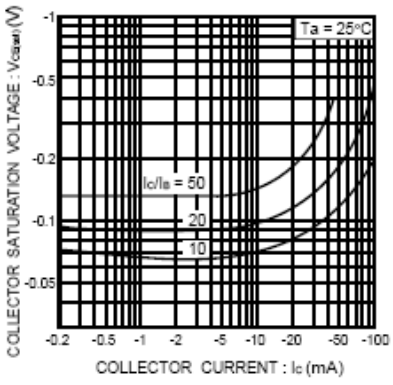



Fig.6 Collector-emitter saturation voltage vs. collector current ( I )

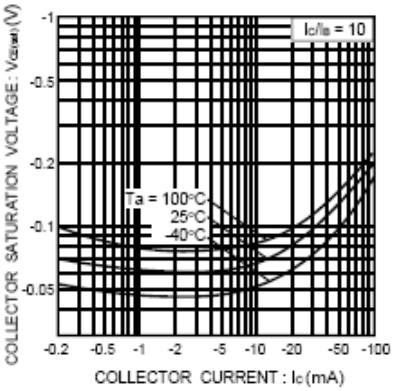



Fig.7 Collector-emitter saturation voltage vs. collector current ( II )

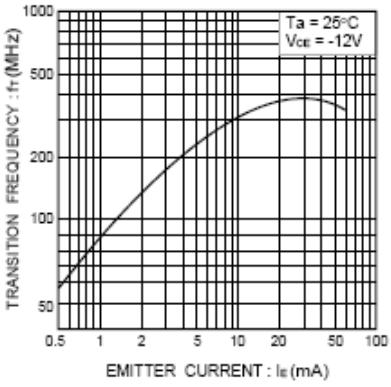



Fig.8 Gain bandwidth product vs. emitter current

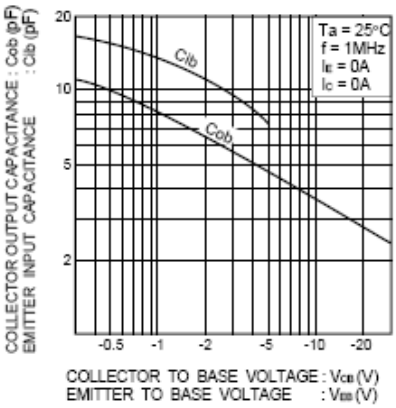



Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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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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|---|
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