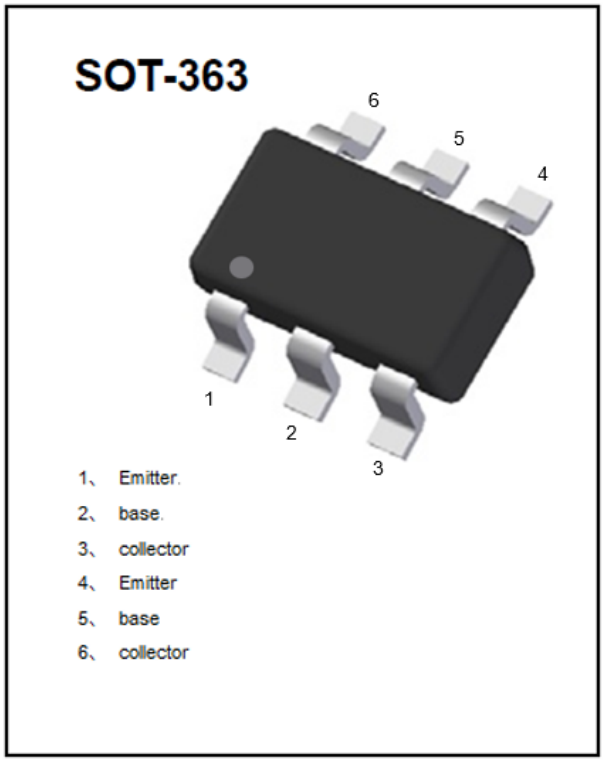
# Dual NPN Small Signal Transistor



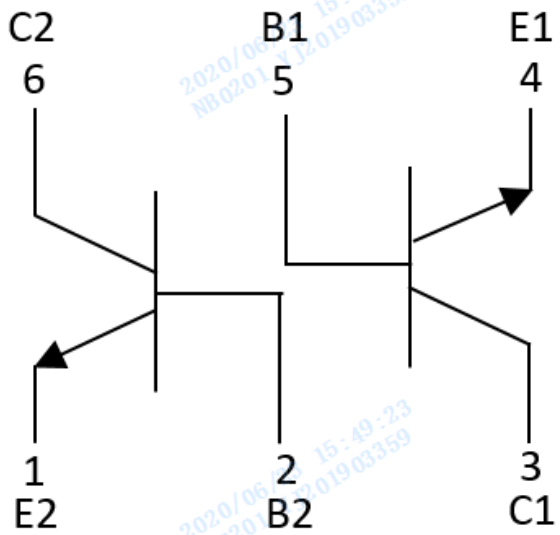

## Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- NPN

## Mechanical Data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**X1

## ■Equivalent circuit



## ■Maximum Ratings (Ta=25℃ Unless otherwise specified)

| Item | Symbol | Unit | Conditions | Value |
|---|---|---|---|---|
| Collector-Base Voltage | VCBO | V | IC=50μA,IE=0 | 60 |
| Collector-Emitter Voltage | VCEO | V | IC =1mA,IB=0 | 50 |
| Emitter-Base Voltage | VEBO | V | IE=50μA,IC=0 | 7 |
| Collector Current -Continuous | IC | mA | | 150 |
| Total Device Dissipation | PC | mW | | 200 |
| Junction Temperature | Tj | ℃ | | 150 |
| Storage Temperature | TSTG | ℃ | | -55 to +150 |

## ■Electrical Characteristics (Ta=25℃ unless otherwise specified)

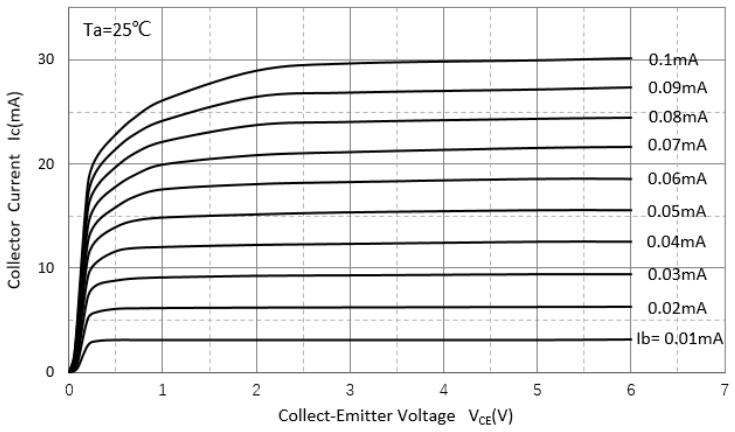
| Item | Symbol | Unit | Conditions | Min | TYP | Max |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{CBO}$ | V | IC=50μA,IE=0 | 60 | | |
| Collector-emitter breakdown voltage | $V_{CEO}$ | V | IC =1mA,IB=0 | 50 | | |
| Emitter-base breakdown voltage | $V_{EBO}$ | V | IE=50μA,IC=0 | 7 | | |
| Collector cut-off current | $I_{CBO}$ | nA | VCB=60V,IB=0 | | | 100 |
| Collector cut-off current | $I_{EBO}$ | nA | VEB=7V, IC=0 | | | 100 |
| DC current gain | $h_{FE}$ | | VCE=6V,IC=1mA | 120 | | 560 |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | V | IC=50mA,IB=5mA | | | 0.4 |
| Transition frequency | fT | MHz | VCE=12V,IC=-2mA,f=100MHz | | 180 | |
| Output capacitance | Cob | pF | VCB=12V,IE=0A,f=1MHz | | | 3.5 |

## ■ Ordering Information (Example)

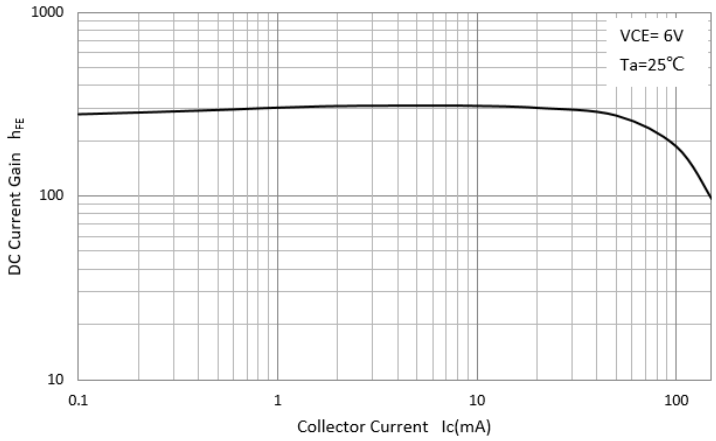
| PREFERED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| UMX1N | F2 | Approximate 0.009g | 3000 | 30000 | 120000 | 7” reel |

## ■ **Characteristics** (Typical)

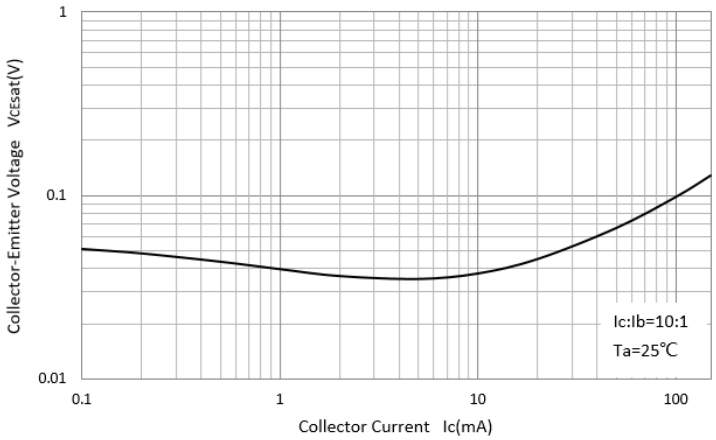
Static Characteristic



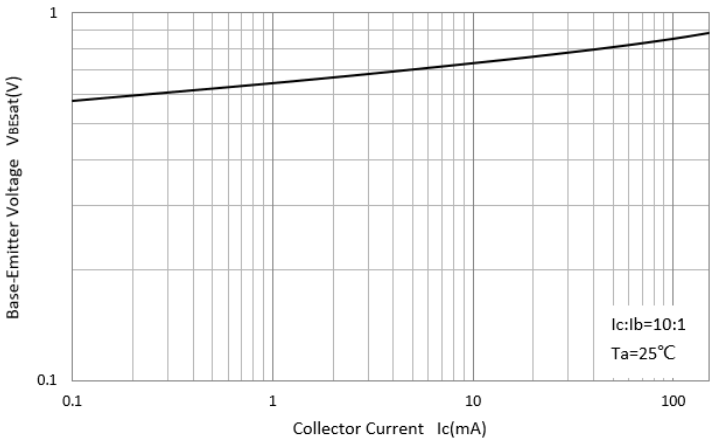

DC Current Gain



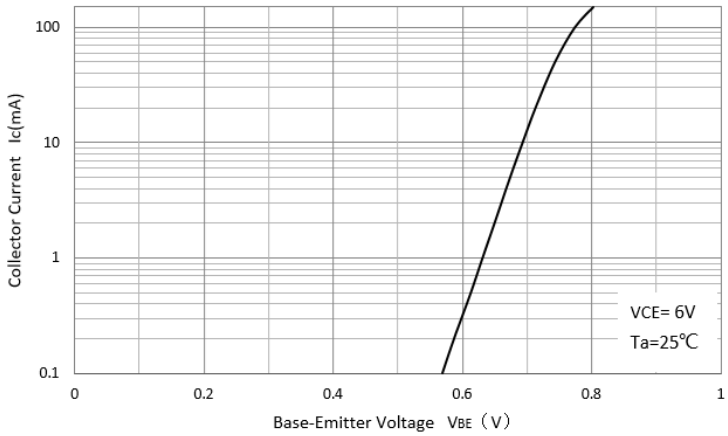

Collector-Emitter Saturation Voltage



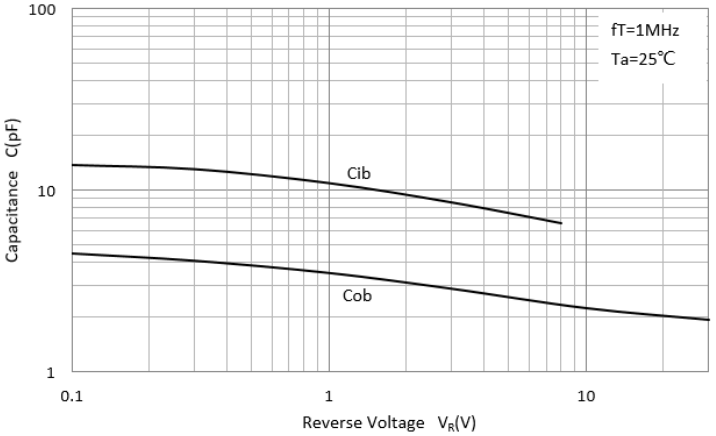

Base-Emitter Saturation Voltage



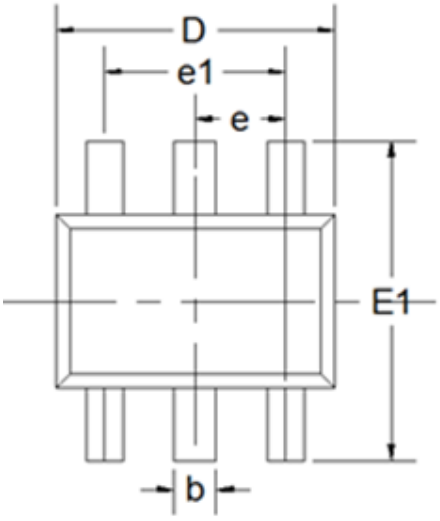

Base-Emitter On Voltage



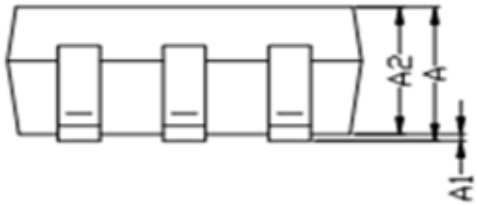

Cob/Cib-$V_{CB}$/$V_{EB}$

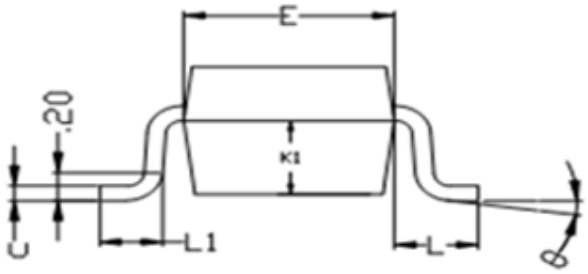


## ■SOT-363 Package Outline Dimensions

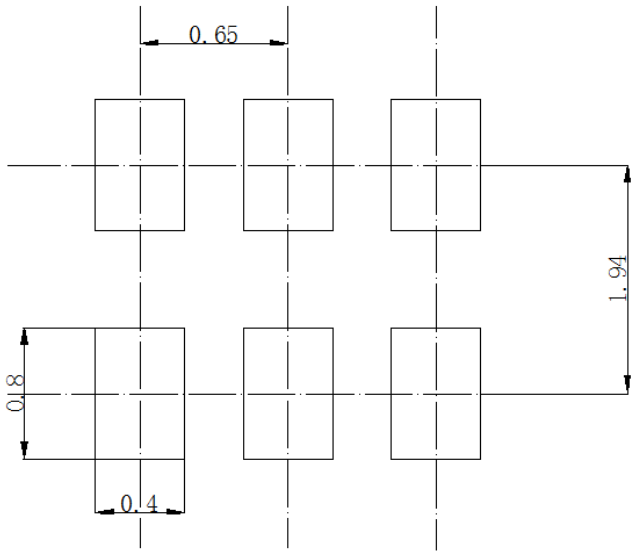



| DIMENSIONS | | | | |
|---|---|---|---|---|
| DIM | INCHES | | MM | |
| | MIN | MAX | MIN | MAX |
| A | 0.035 | 0.043 | 0.9 | 1.1 |
| A1 | 0 | 0.004 | 0 | 0.1 |
| A2 | 0.035 | 0.039 | 0.9 | 1 |
| b | 0.006 | 0.014 | 0.15 | 0.35 |
| c | 0.002 | 0.01 | 0.05 | 0.25 |
| D | 0.071 | 0.087 | 1.8 | 2.2 |
| E | 0.045 | 0.053 | 1.15 | 1.35 |
| E1 | 0.085 | 0.096 | 2.15 | 2.45 |
| e | 0.026Typ | | 0.65Typ | |
| e1 | 0.047 | 0.055 | 1.2 | 1.4 |
| L | 0.021Typ | | 0.525Typ | |
| L1 | 0.01 | 0.018 | 0.26 | 0.46 |
| θ | 0° | 8° | 0° | 8° |




## ■SOT-363 Soldering Footprint




Unit：mm

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