

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

HN3C03F

TV TUNER, UHF OSCILLATOR APPLICATION.
TV TUNER, UHF CONVERTER APPLICATION.

- Including Two Devices in SM6 (Super Mini Type with 6Leads)
- High Transition Frequency : $f_T=4.0\text{GHz}$ (Typ.)

MAXIMUM RATINGS (Ta = 25°C) (Q1, Q2)

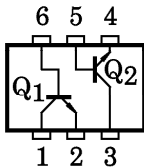
| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|---------|------|
| Collector-Base Voltage | V _{CB0} | 20 | V |
| Collector-Emitter Voltage | V _{CEO} | 12 | V |
| Emitter-Base Voltage | V _{EB0} | 3 | V |
| Collector Current | I _C | 30 | mA |
| Base Current | I _B | 15 | mA |
| Collector Power Dissipation | P _C * | 300 | mW |
| Junction Temperature | T _j | 125 | °C |
| Storage Temperature Range | T _{stg} | -55~125 | °C |

* Total

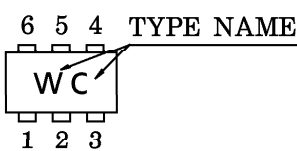
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------------|--------------------------------------|--|------|------|------|------|
| Collector Cut-off Current | I _{CBO} | V _{CB} = 10V, I _E = 0 | — | — | 0.1 | μA |
| Emitter Cut-off Current | I _{EB0} | V _{EB} = 1V, I _C = 0 | — | — | 1.0 | μA |
| Collector-Emitter Breakdown Voltage | V _{(BR)CEO} | I _C = 1mA, I _B = 0 | 12 | — | — | V |
| DC Current Gain | h _{FE} | V _{CE} = 10V, I _E = 5mA | 35 | — | 130 | — |
| Transition Frequency | f _T | V _{CE} = 10V, I _C = 10mA, f = 1GHz | 2.6 | 4.0 | — | GHz |
| Reverse Transfer Capacitance Q1 | C _{ob} (1) | V _{CB} = 10V, I _E = 0, f = 1MHz | — | 1.20 | 1.55 | pF |
| Reverse Transfer Capacitance Q2 | C _{ob} (2) | V _{CB} = 10V, I _E = 0, f = 1MHz | — | 1.00 | 1.35 | pF |
| Collector-Base Time Constant Q1 | C _c ·r _{bb'} (1) | V _{CB} = 10V, I _C = 5mA, f = 30MHz | — | 3.2 | 8.5 | ps |
| Collector-Base Time Constant Q2 | C _c ·r _{bb'} (2) | V _{CB} = 10V, I _C = 5mA, f = 30MHz | — | 2.7 | 8.0 | ps |

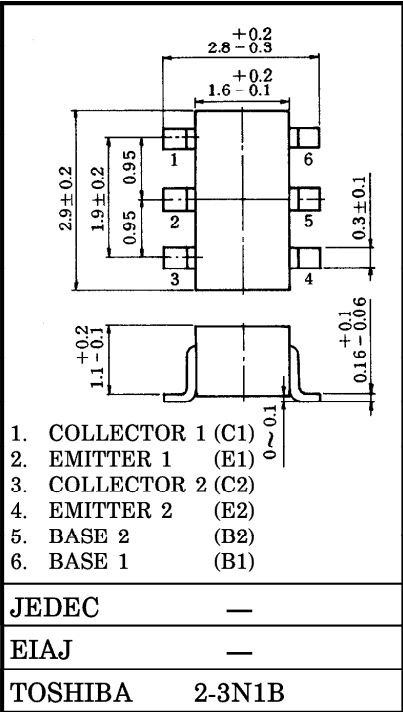
PIN ASSIGNMENT (TOP VIEW)



MARKING



Unit in mm



961001EAA2

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