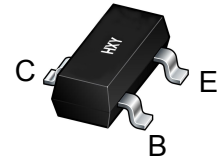




## FEATURES

- Collector Current:  $I_C=0.1A$
- Power Dissipation of 200mw

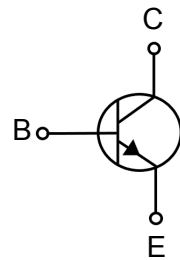


SOT-23

## Package Marking and Ordering Information

| Product ID | Pack   | Qty(PCS) |
|------------|--------|----------|
| 2SC3356    | SOT-23 | 3000     |

| Marking |        |         |
|---------|--------|---------|
| 50-100  | 80-160 | 125-250 |
| R23     | R24    | R25     |



## MAXIMUM RATINGS (Ta=25 unless otherwise noted)

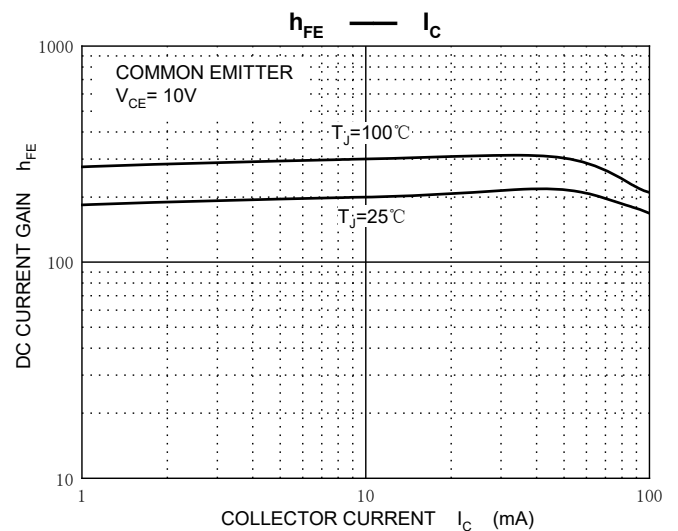
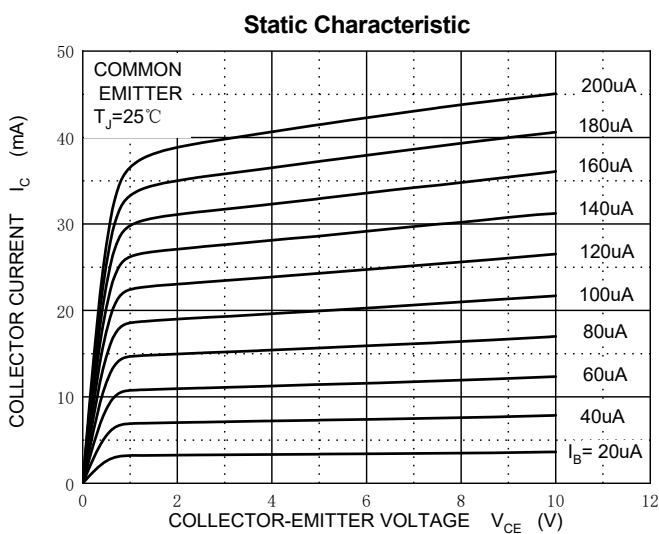
| Parameter                                   | Symbol          | Limit    | Unit          |
|---|-----------------|----------|---------------|
| Collector-Base Voltage                      | $V_{CBO}$       | 20       | V             |
| Collector-Emitter Voltage                   | $V_{CEO}$       | 12       | V             |
| Emitter-Base Voltage                        | $V_{EBO}$       | 3        | V             |
| Collector Current                           | $I_C$           | 100      | mA            |
| Collector Power Dissipation                 | $P_C$           | 200      | mW            |
| Thermal Resistance From Junction To Ambient | $R_{\theta JA}$ | 625      | $^{\circ}C/W$ |
| Junction Temperature                        | $T_J$           | 150      | $^{\circ}C$   |
| Storage Temperature                         | $T_{stg}$       | -55~+150 | $^{\circ}C$   |

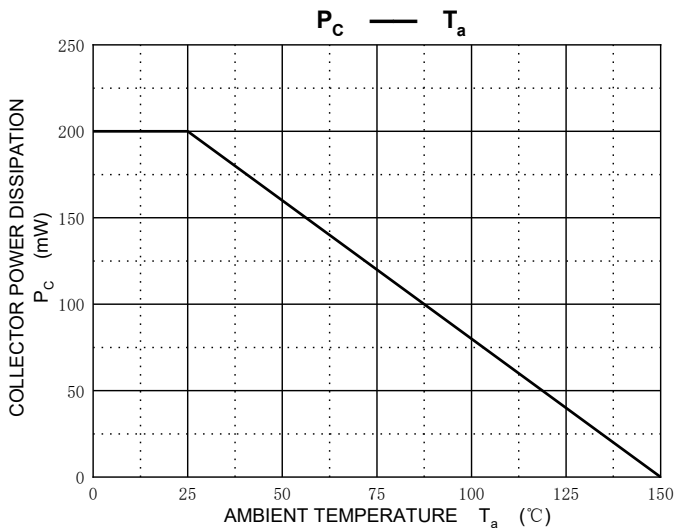
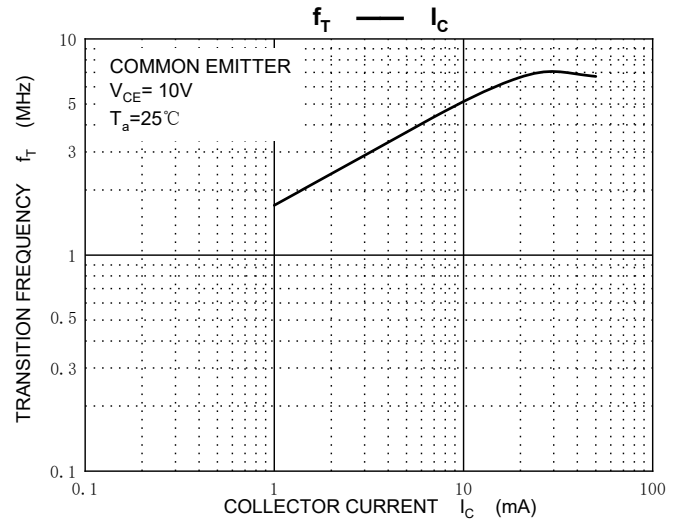
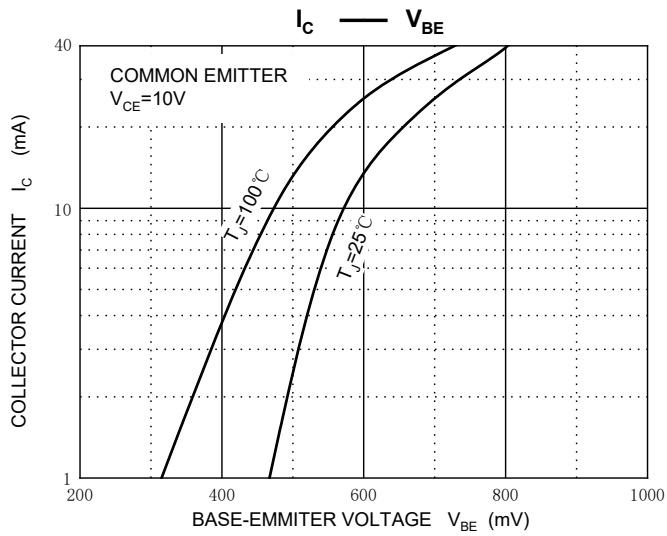
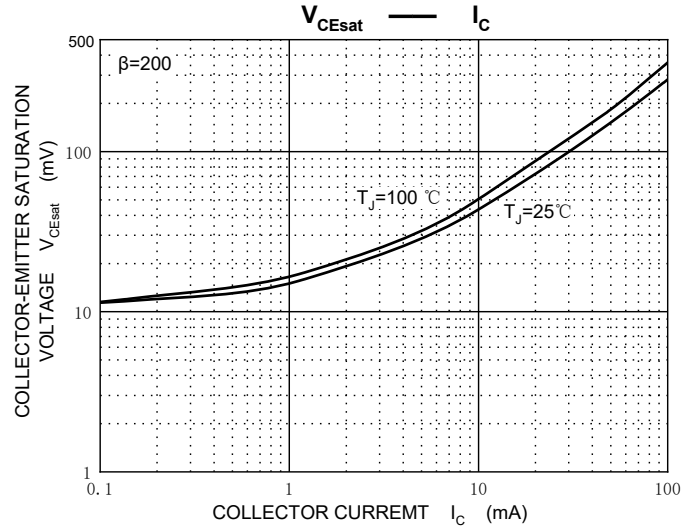
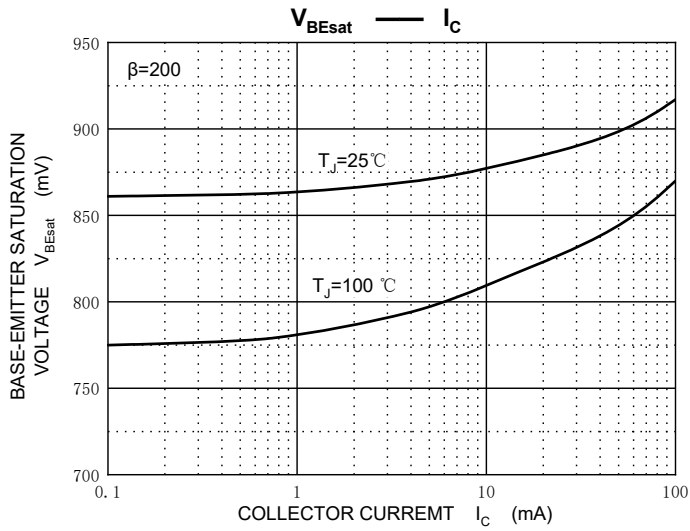


**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25 unless otherwise specified)**

| Parameter                            | Symbol               | Test conditions                                   | Min | Typ  | Max  | Unit |
|--------------------------------------|----------------------|---|-----|------|------|------|
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub> | I <sub>C</sub> =100μA, I <sub>E</sub> =0          | 20  |      |      | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> | I <sub>C</sub> =1mA, I <sub>B</sub> =0            | 12  |      |      | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub> | I <sub>E</sub> =100μA, I <sub>C</sub> =0          | 3   |      |      | V    |
| Collector cut-off current            | I <sub>CBO</sub>     | V <sub>CB</sub> =10V, I <sub>E</sub> =0           |     |      | 1    | uA   |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> =1V, I <sub>C</sub> =0            |     |      | 1    | uA   |
| DC current gain                      | h <sub>FE(1)</sub>   | V <sub>CE</sub> =10V, I <sub>C</sub> =20mA        | 50  |      | 250  |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =50mA, I <sub>B</sub> =5mA         |     |      | 0.3  | V    |
| Base-emitter saturation voltage      | V <sub>BE(sat)</sub> | I <sub>C</sub> =50mA, I <sub>B</sub> =5mA         |     |      | 1.15 | V    |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =10V, I <sub>C</sub> =20mA        |     | 7    |      | GHz  |
| Collector output capacitance         | C <sub>ob</sub>      | V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz   |     | 0.8  | 1    | pF   |
| Noise Figure                         | N <sub>F</sub>       | V <sub>CB</sub> =10V, I <sub>C</sub> =7mA, f=1GHz |     | 1.65 | 2    | dB   |

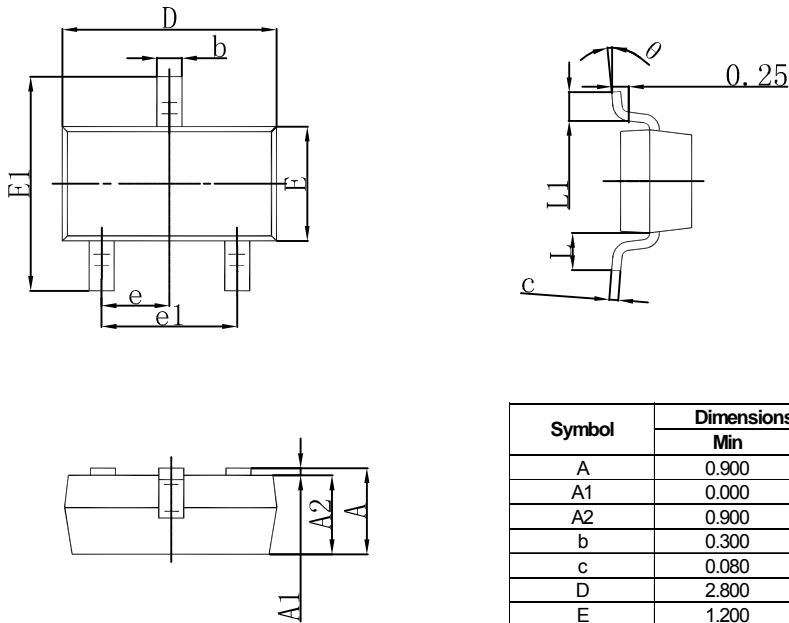
**Typical Characteristics**





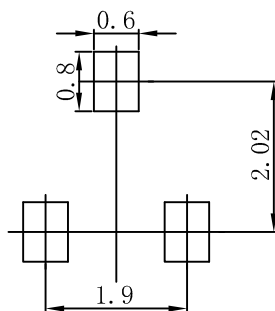


### SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.050 | 0.035                | 0.041 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.950 TYP                 |       | 0.037 TYP            |       |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.550 REF                 |       | 0.022 REF            |       |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

### SOT-23 Suggested Pad Layout



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.



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