

**DESCRIPTION**

2SC6053 is a mini package resin sealed silicon NPN epitaxial type transistor designed with high collector current, small  $V_{CE(sat)}$ .

**FEATURE**

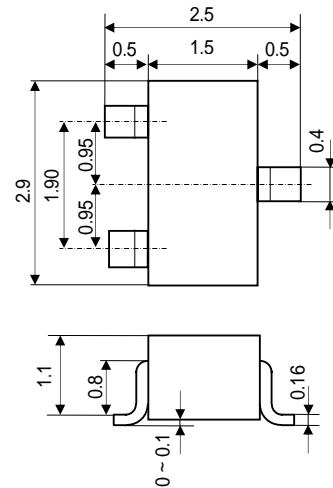
- Super mini package for easy mounting
- High collector current  $I_C = 650\text{mA}$
- Low collector to emitter saturation voltage  
 $V_{CE(sat)} = 0.5\text{V max}$

**APPLICATION**

Small type motor drive, relay drive, power supply

**OUTLINE DRAWING**

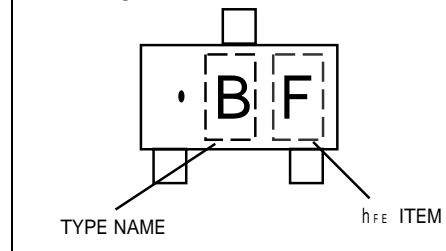
Unit: mm

**TERMINAL CONNECTER**

: BASE  
: EMITTER EIAJ : SC-59  
: COLLECTOR JEDEC : TO-236 resemblance

**MAXIMUM RATINGS** ( $T_a=25^\circ\text{C}$ )

| Symbol    | Parameter                    | Ratings     | Unit |
|-----------|------------------------------|-------------|------|
| $V_{CBO}$ | Collector to Base voltage    | 25          | V    |
| $V_{CEO}$ | Collector to Emitter voltage | 20          | V    |
| $V_{EBO}$ | Emitter to Base voltage      | 4           | V    |
| $I_C$     | Collector current            | 650         | mA   |
| $P_C$     | Collector dissipation        | 150         | mW   |
| $T_j$     | Junction temperature         | + 150       |      |
| $T_{stg}$ | Storage temperature          | -55 ~ + 150 |      |

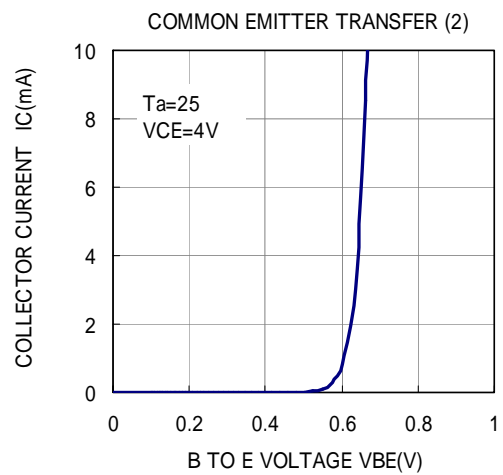
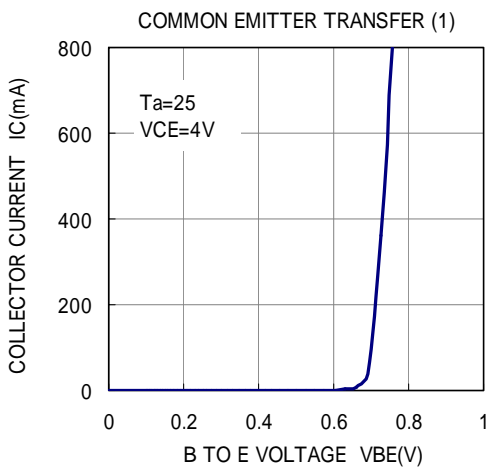
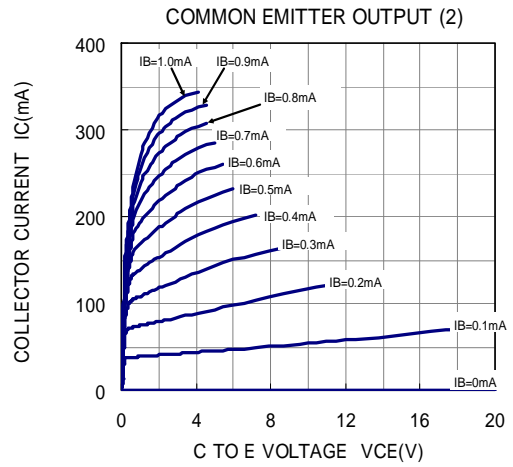
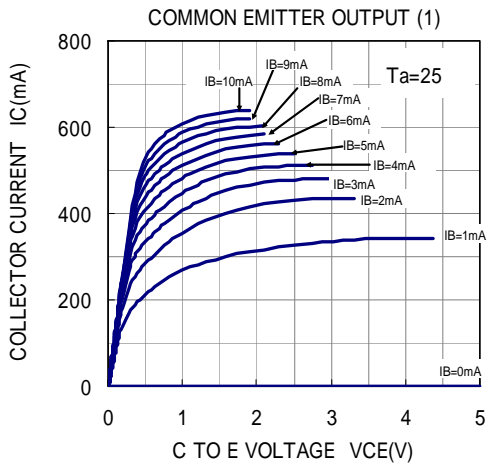
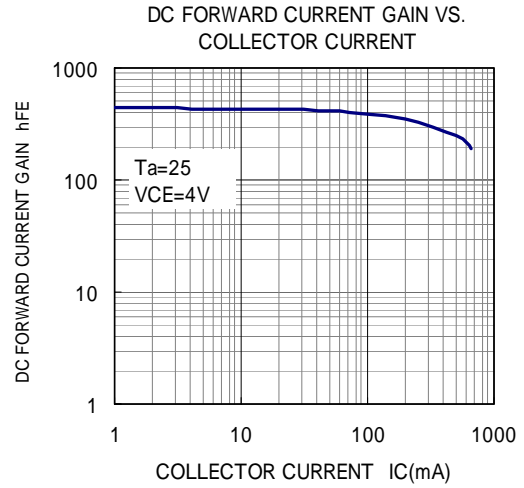
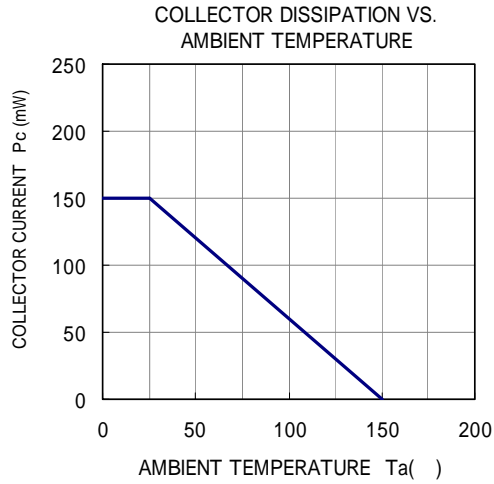
**MARKING****ELECTRICAL CHARACTERISTICS** ( $T_a=25^\circ\text{C}$ )

| Parameter                 | Symbol        | Test conditions                          | Limits |     |     | Unit          |
|---------------------------|---------------|--|--------|-----|-----|---------------|
|                           |               |  | Min    | Typ | Max |               |
| C to E break down voltage | $V_{(BR)CEO}$ | $I_C=100\ \mu\text{A}$ , $R_{BE}=\infty$ | 20     |     |     | V             |
| C to B break down voltage | $V_{(BR)CBO}$ | $I_C=10\ \mu\text{A}$ , $I_E=0$          | 25     |     |     | V             |
| E to B break down voltage | $V_{(BR)EBO}$ | $I_E=10\ \mu\text{A}$ , $I_C=0$          | 4      |     |     | V             |
| Collector cut off current | $I_{CBO}$     | $V_{CB}=25\text{V}$ , $I_E=0$            |        |     | 1   | $\mu\text{A}$ |
| Emitter cut off current   | $I_{EBO}$     | $V_{EB}=2\text{V}$ , $I_C=0$             |        |     | 1   | $\mu\text{A}$ |
| DC forward current gain   | $h_{FE}^*$    | $V_{CE}=4\text{V}$ , $I_C=100\text{mA}$  | 150    |     | 800 | ---           |
| C to E saturation voltage | $V_{CE(sat)}$ | $I_C=500\text{mA}$ , $I_B=25\text{mA}$   |        | 0.3 | 0.5 | V             |
| Gain band width product   | fT            | $V_{CE}=6\text{V}$ , $I_E=-10\text{mA}$  |        | 290 |     | MHz           |

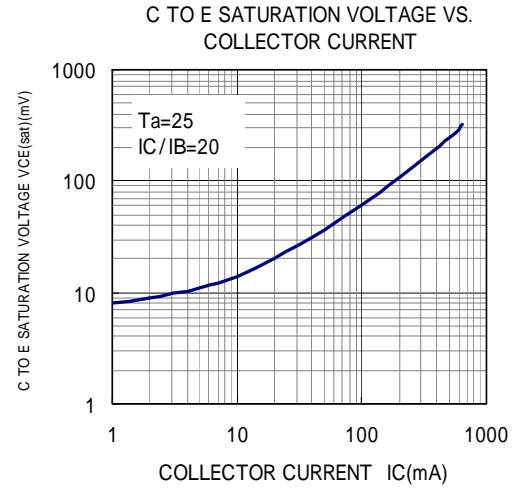
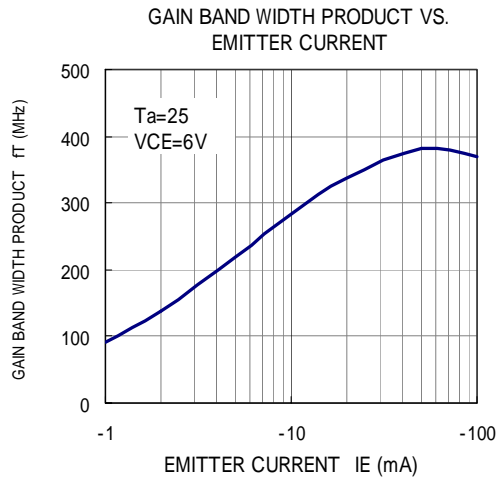
\* : It shows  $h_{FE}$  classification in right table.

| Item     | E          | F          | G          |
|----------|------------|------------|------------|
| $h_{FE}$ | 150 to 300 | 250 to 500 | 400 to 800 |

TYPICAL CHARACTERISTICS



## TYPICAL CHARACTERISTICS





*Marketing division, Marketing planning department*

6-41 Tsukuba, Isahaya, Nagasaki, 854-0065 Japan

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