

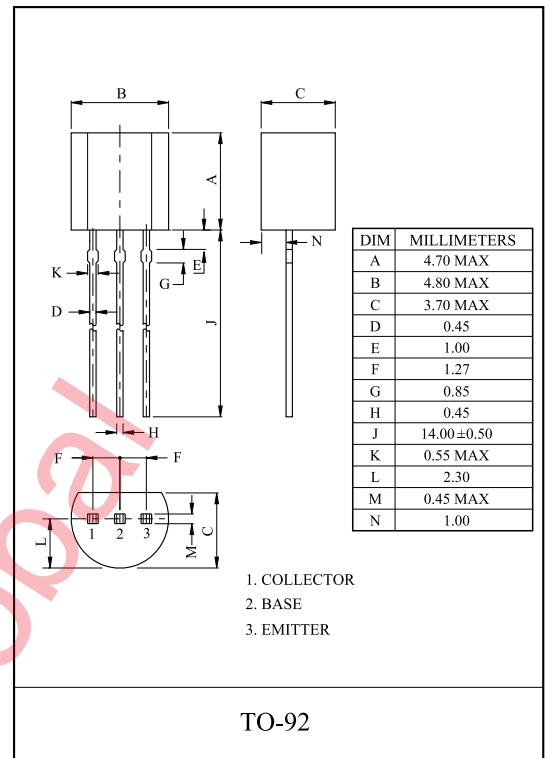
LOW NOISE AMPLIFIER APPLICATION.

### FEATURE

- For Complementary with PNP Type BC559/560.

### MAXIMUM RATING (Ta=25 °C)

| CHARACTERISTIC              | SYMBOL           | RATING  | UNIT |
|-----------------------------|------------------|---------|------|
| Collector-Base Voltage      | BC549            | 30      | V    |
|                             | BC550            | 50      |      |
| Collector-Emitter Voltage   | BC549            | 30      | V    |
|                             | BC550            | 45      |      |
| Emitter-Base Voltage        | V <sub>EBO</sub> | 5       | V    |
| Collector Current           | I <sub>C</sub>   | 100     | mA   |
| Collector Power Dissipation | P <sub>C</sub>   | 625     | mW   |
| Junction Temperature        | T <sub>j</sub>   | 150     |      |
| Storage Temperature Range   | T <sub>stg</sub> | -55 150 |      |



### ELECTRICAL CHARACTERISTICS (Ta=25 °C)

| CHARACTERISTIC                       | SYMBOL                 | TEST CONDITION   | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|------------------------|--|------|------|------|------|
| Collector-Emitter Breakdown Voltage  | BC549                  | I <sub>C</sub> =10mA, I <sub>B</sub> =0                                      | 30   | -    | -    | V    |
|                                      | BC550                  |  | 45   | -    | -    |      |
| Collector-Base Breakdown Voltage     | BC549                  | I <sub>C</sub> =10 μA, I <sub>E</sub> =0                                     | 30   | -    | -    | V    |
|                                      | BC550                  |  | 50   | -    | -    |      |
| Emitter-Base Breakdown Voltage       | V <sub>(BR)EBO</sub>   | I <sub>E</sub> =10 μA, I <sub>C</sub> =0                                     | 5.0  | -    | -    | V    |
| Collector Cut-off Current            | I <sub>CBO</sub>       | V <sub>CB</sub> =30V, I <sub>E</sub> =0                                      | -    | -    | 15   | nA   |
| DC Current Gain                      | h <sub>FE</sub> (Note) | I <sub>C</sub> =2mA, V <sub>CE</sub> =5V                                     | 110  | -    | 800  |      |
| Base-Emitter Voltage                 | V <sub>BE(ON)</sub>    | I <sub>C</sub> =2mA, V <sub>CE</sub> =5V                                     | 0.55 | -    | 0.7  | V    |
| Collector-Emitter Saturation Voltage | V <sub>CE(sat)</sub>   | I <sub>C</sub> =100mA, I <sub>B</sub> =5mA                                   | -    | -    | 0.6  | V    |
| Base-Emitter Saturation Voltage      | V <sub>BE(sat)</sub>   | I <sub>C</sub> =100mA, I <sub>B</sub> =5mA                                   | -    | 0.9  | -    | V    |
| Transition Frequency                 | f <sub>T</sub>         | I <sub>C</sub> =10mA, V <sub>CE</sub> =5V, f=100MHz                          | -    | 300  | -    | MHz  |
| Collector Output Capacitance         | C <sub>ob</sub>        | V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz                              | -    | -    | 4.5  | pF   |
| Noise Figure                         | BC549                  | I <sub>C</sub> =200 μA, V <sub>CE</sub> =5V<br>R <sub>g</sub> =10k Ω, f=1kHz | -    | -    | 4.0  | dB   |
|                                      | BC550                  |  | -    | -    | 10   |      |

Note : h<sub>FE</sub> Classification A:110 220, B:200 450, C:420 800