

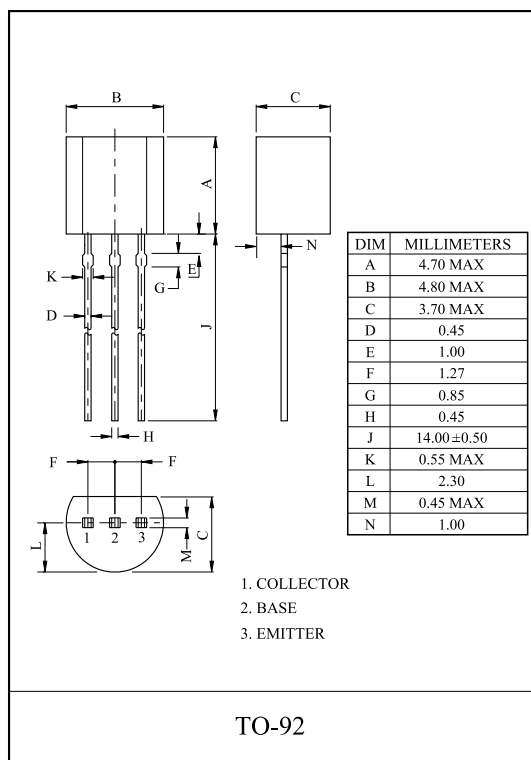
LOW NOISE AMPLIFIER APPLICATION.

### FEATURE

- For Complementary with PNP Type BC559/560.

### MAXIMUM RATING (Ta=25 °C)

| CHARACTERISTIC              |       | SYMBOL    | RATING  | UNIT |
|-----------------------------|-------|-----------|---------|------|
| Collector-Base Voltage      | BC549 | $V_{CB0}$ | 30      | V    |
|                             | BC550 |           | 50      |      |
| Collector-Emitter Voltage   | BC549 | $V_{CE0}$ | 30      | V    |
|                             | BC550 |           | 45      |      |
| Emitter-Base Voltage        |       | $V_{EBO}$ | 5       | V    |
| Collector Current           |       | $I_C$     | 100     | mA   |
| Collector Power Dissipation |       | $P_C$     | 625     | mW   |
| Junction Temperature        |       | $T_j$     | 150     |      |
| Storage Temperature Range   |       | $T_{stg}$ | -55 150 |      |



# PDF Support

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

| CHARACTERISTIC                       |       | SYMBOL                | TEST CONDITION                                       | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|-------|-----------------------|--|------|------|------|------|
| Collector-Emitter Breakdown Voltage  | BC549 | $V_{(BR)CEO}$         | $I_C=10mA, I_B=0$                                    | 30   | -    | -    | V    |
|                                      | BC550 |                       |  | 45   | -    | -    |      |
| Collector-Base Breakdown Voltage     | BC549 | $V_{(BR)CBO}$         | $I_C=10\mu A, I_E=0$                                 | 30   | -    | -    | V    |
|                                      | BC550 |                       |  | 50   | -    | -    |      |
| Emitter-Base Breakdown Voltage       |       | $V_{(BR)EBO}$         | $I_E=10\mu A, I_C=0$                                 | 5.0  | -    | -    | V    |
| Collector Cut-off Current            |       | $I_{CBO}$             | $V_{CB}=30V, I_E=0$                                  | -    | -    | 15   | nA   |
| DC Current Gain                      |       | $h_{FE}(\text{Note})$ | $I_C=2mA, V_{CE}=5V$                                 | 110  | -    | 800  |      |
| Base-Emitter Voltage                 |       | $V_{BE(ON)}$          | $I_C=2mA, V_{CE}=5V$                                 | 0.55 | -    | 0.7  | V    |
| Collector-Emitter Saturation Voltage |       | $V_{CE(sat)}$         | $I_C=100mA, I_B=5mA$                                 | -    | -    | 0.6  | V    |
| Base-Emitter Saturation Voltage      |       | $V_{BE(sat)}$         | $I_C=100mA, I_B=5mA$                                 | -    | 0.9  | -    | V    |
| Transition Frequency                 |       | $f_T$                 | $I_C=10mA, V_{CE}=5V, f=100MHz$                      | -    | 300  | -    | MHz  |
| Collector Output Capacitance         |       | $C_{ob}$              | $V_{CB}=10V, I_E=0, f=1MHz$                          | -    | -    | 4.5  | pF   |
| Noise Figure                         | BC549 | NF                    | $I_C=200\mu A, V_{CE}=5V$<br>$R_g=10k\Omega, f=1kHz$ | -    | -    | 4.0  | dB   |
|                                      | BC550 |                       |  | -    | -    | 10   |      |

Note :  $h_{FE}$  Classification A:110 220, B:200 450, C:420 800