

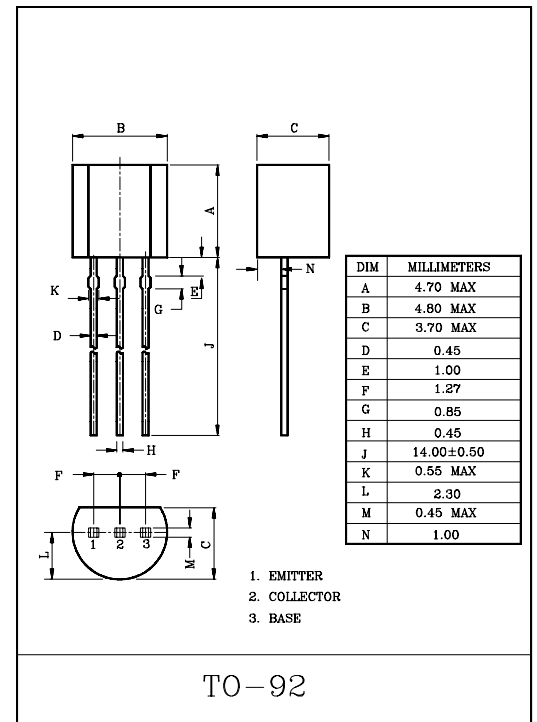
LOW NOISE AMPLIFIER APPLICATION.  
HIGH VOLTAGE APPLICATION.

### FEATURES

- Low Noise.
  - :  $NF=3dB(Typ.)$ ,  $R_g=100\Omega$ ,  $V_{CE}=-6V$ ,  $I_C=-100\mu A$ ,  $f=1kHz$
  - :  $NF=0.5dB(Typ.)$ ,  $R_g=1k\Omega$ ,  $V_{CE}=-6V$ ,  $I_C=-100\mu A$ ,  $f=1kHz$ .
- High DC Current Gain :  $h_{FE}=200\sim 700$ .
- High Voltage :  $V_{CEO}=-120V$ .
- Low Pulse Noise. Low 1/f Noise.

### MAXIMUM RATINGS ( $T_a=25^\circ C$ )

| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT       |
|-----------------------------|-----------|---------|------------|
| Collector-Base Voltage      | $V_{CBO}$ | -120    | V          |
| Collector-Emitter Voltage   | $V_{CEO}$ | -120    | V          |
| Emitter-Base Voltage        | $V_{EBO}$ | -5      | V          |
| Collector Current           | $I_C$     | -100    | mA         |
| Emitter Current             | $I_E$     | 100     | mA         |
| Collector Power Dissipation | $P_C$     | 625     | mW         |
| Junction Temperature        | $T_j$     | 150     | $^\circ C$ |
| Storage Temperature Range   | $T_{stg}$ | -55~150 | $^\circ C$ |



### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

| CHARACTERISTIC                       | SYMBOL         | TEST CONDITION   | MIN. | TYP.  | MAX. | UNIT |
|--------------------------------------|----------------|--|------|-------|------|------|
| Collector Cut-off Current            | $I_{CBO}$      | $V_{CB}=-120V$ , $I_E=0$                                       | -    | -     | -100 | nA   |
| Emitter Cut-off Current              | $I_{EBO}$      | $V_{EB}=-5V$ , $I_C=0$   | -    | -     | -100 | nA   |
| Collector-Emitter Breakdown Voltage  | $V_{CEO}$      | $I_C=-1mA$ , $I_B=0$   | -120 | -     | -    | V    |
| DC Current Gain                      | $h_{FE}(Note)$ | $V_{CE}=-6V$ , $I_C=-2mA$                                      | 200  | -     | 700  |      |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$  | $I_C=-10mA$ , $I_B=-1mA$                                       | -    | -     | -0.3 | V    |
| Base-Emitter Voltage                 | $V_{BE}$       | $V_{CE}=-6V$ , $I_C=-2mA$                                      | -    | -0.65 | -    | V    |
| Transition Frequency                 | $f_T$          | $V_{CE}=-6V$ , $I_C=-1mA$                                      | -    | 100   | -    | MHz  |
| Collector Output Capacitance         | $C_{ob}$       | $V_{CB}=-10V$ , $I_E=0$ , $f=1MHz$                             | -    | 4.0   | -    | pF   |
| Noise Figure                         | NF             | $V_{CE}=-6V$ , $I_C=-100\mu A$<br>$f=10Hz$ , $R_g=10k\Omega$   | -    | -     | 6.0  | dB   |
|                                      |                | $V_{CE}=-6V$ , $I_C=-100\mu A$ ,<br>$f=1kHz$ , $R_g=10k\Omega$ | -    | -     | 2.0  |      |
|                                      |                | $V_{CE}=-6V$ , $I_C=-100\mu A$<br>$f=1kHz$ , $R_g=100\Omega$   | -    | 3.0   | -    |      |

Note :  $h_{FE}$  Classification GR:200~400, BL:350~700

