

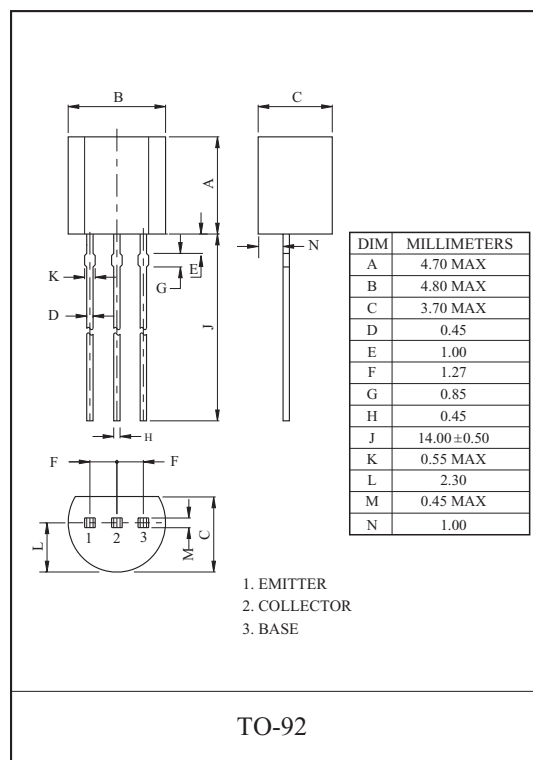
GENERAL PURPOSE APPLICATION.  
HIGH VOLTAGE APPLICATION.

## FEATURES

- High Collector Breakdwon Voltage  
:  $V_{CBO}=180V$ ,  $V_{CEO}=160V$
- Low Leakage Current.  
:  $I_{CBO}=50nA(Max.)$ ,  $V_{CB}=120V$
- Low Saturation Voltage  
:  $V_{CE(sat)}=0.2V(Max.)$ ,  $I_C=50mA$ ,  $I_B=5mA$
- Low Noise :  $NF=8dB (Max.)$

## MAXIMUM RATING (Ta=25℃)

| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT |
|-----------------------------|-----------|---------|------|
| Collector-Base Voltage      | $V_{CBO}$ | 180     | V    |
| Collector-Emitter Voltage   | $V_{CEO}$ | 160     | V    |
| Emitter-Base Voltage        | $V_{EBO}$ | 6       | V    |
| Collector Current           | $I_C$     | 600     | mA   |
| Base Current                | $I_B$     | 100     | mA   |
| Collector Power Dissipation | $P_C$     | 625     | mW   |
| Junction Temperature        | $T_j$     | 150     | ℃    |
| Storage Temperature Range   | $T_{stg}$ | -55~150 | ℃    |



# 2N5551C

## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

| CHARACTERISTIC                         | SYMBOL         | TEST CONDITION                                                                                       | MIN. | TYP. | MAX. | UNIT          |
|----------------------------------------|----------------|------------------------------------------------------------------------------------------------------|------|------|------|---------------|
| Collector Cut-off Current              | $I_{CBO}$      | $V_{CB}=120V, I_E=0$                                                                                 | -    | -    | 50   | nA            |
|                                        |                | $V_{CB}=120V, I_E=0, T_a=100\text{ }^{\circ}\text{C}$                                                | -    | -    | 50   | $\mu\text{A}$ |
| Emitter Cut-off Current                | $I_{EBO}$      | $V_{EB}=4V, I_C=0$                                                                                   | -    | -    | 50   | nA            |
| Collector-Base Breakdown Voltage       | $V_{(BR)CBO}$  | $I_C=0.1\text{mA}, I_E=0$                                                                            | 180  | -    | -    | V             |
| Collector-Emitter Breakdown Voltage *  | $V_{(BR)CEO}$  | $I_C=1\text{mA}, I_B=0$                                                                              | 160  | -    | -    | V             |
| Emitter-Base Breakdown Voltage         | $V_{(BR)EBO}$  | $I_E=10\text{ }\mu\text{A}, I_C=0$                                                                   | 6    | -    | -    | V             |
| DC Current Gain *                      | $h_{FE}(1)$    | $V_{CE}=5V, I_C=1\text{mA}$                                                                          | 80   | -    | -    |               |
|                                        | $h_{FE}(2)$    | $V_{CE}=5V, I_C=10\text{mA}$                                                                         | 80   | -    | 250  |               |
|                                        | $h_{FE}(3)$    | $V_{CE}=5V, I_C=50\text{mA}$                                                                         | 30   | -    | -    |               |
| Collector-Emitter Saturation Voltage * | $V_{CE(sat)1}$ | $I_C=10\text{mA}, I_B=1\text{mA}$                                                                    | -    | -    | 0.15 | V             |
|                                        | $V_{CE(sat)2}$ | $I_C=50\text{mA}, I_B=5\text{mA}$                                                                    | -    | -    | 0.2  |               |
| Base-Emitter Saturation Voltage *      | $V_{BE(sat)1}$ | $I_C=10\text{mA}, I_B=1\text{mA}$                                                                    | -    | -    | 1.0  | V             |
|                                        | $V_{BE(sat)2}$ | $I_C=50\text{mA}, I_B=5\text{mA}$                                                                    | -    | -    | 1.0  |               |
| Transition Frequency                   | $f_T$          | $V_{CE}=10V, I_C=10\text{mA}, f=100\text{MHz}$                                                       | 100  | -    | 300  | MHz           |
| Collector Output Capacitance           | $C_{ob}$       | $V_{CB}=10V, I_E=0, f=1\text{MHz}$                                                                   | -    | -    | 6    | pF            |
| Input Capacitance                      | $C_{ib}$       | $V_{BE}=0.5V, I_C=0, f=1\text{MHz}$                                                                  | -    | -    | 20   | pF            |
| Small-Signal Current Gain              | $h_{fe}$       | $V_{CE}=10V, I_C=1\text{mA}, f=1\text{kHz}$                                                          | 50   | -    | 200  |               |
| Noise Figure                           | NF             | $V_{CE}=5V, I_C=250\text{ }\mu\text{A}$<br>$R_g=1\text{k }\Omega, f=10\text{Hz} \sim 15.7\text{kHz}$ | -    | -    | 8    | dB            |

\* Pulse Test : Pulse Width  $\leq 300\text{ }\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .