

**isc Silicon NPN Power Transistor**

**2SC1514**

**DESCRIPTION**

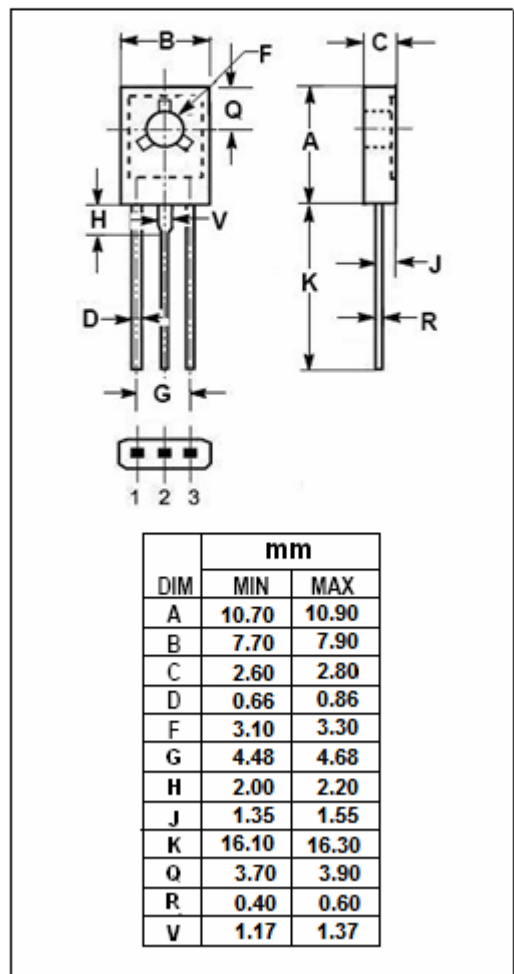
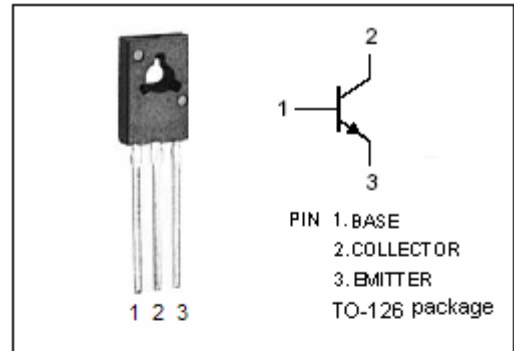
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 300V(\text{Min})$
- Good Linearity of  $h_{FE}$
- Low Saturation Voltage

**APPLICATIONS**

- Designed for use in high frequency high voltage amplifier and TV video output applications.

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

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | 300     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | 300     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | 5       | V                |
| $I_C$     | Collector Current-Continuous                            | 0.1     | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^\circ\text{C}$ | 10      | W                |
|           | Collector Power Dissipation<br>@ $T_a=25^\circ\text{C}$ | 1.25    |                  |
| $T_J$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -40~150 | $^\circ\text{C}$ |



**isc Silicon NPN Power Transistor****2SC1514****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS   | MIN | TYP. | MAX | UNIT          |
|---------------|--------------------------------------|--|-----|------|-----|---------------|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage     | $I_C=10\ \mu\text{A}$ ; $I_E=0$                        | 300 |      |     | V             |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage  | $I_C=1\text{mA}$ ; $R_{BE}=\infty$                     | 300 |      |     | V             |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage       | $I_E=10\ \mu\text{A}$ ; $I_C=0$                        | 5   |      |     | V             |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=20\text{mA}$ ; $I_B=2\text{mA}$                   |     |      | 1.5 | V             |
| $I_{CEO}$     | Collector Cutoff Current             | $V_{CE}=250\text{V}$ ; $R_{BE}=\infty$                 |     |      | 1   | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain                      | $I_C=20\text{mA}$ ; $V_{CE}=20\text{V}$                | 30  |      | 200 |               |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C=20\text{mA}$ ; $V_{CE}=20\text{V}$                |     | 80   |     | MHz           |
| $C_{OB}$      | Output Capacitance                   | $I_E=0$ ; $V_{CB}=20\text{V}$ , $f_{test}=1\text{MHz}$ |     |      | 4   | pF            |