

isc Silicon NPN Power Transistor

2SD1110

**DESCRIPTION**

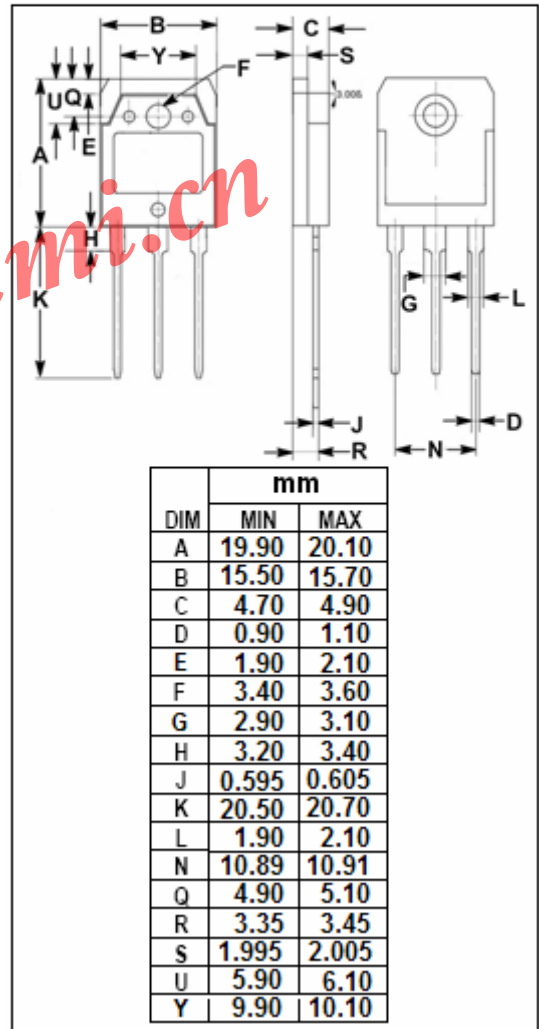
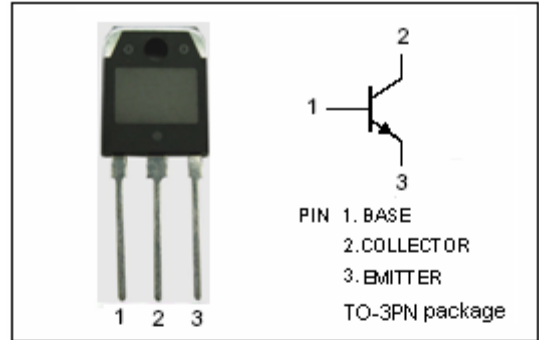
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 120V(\text{Min})$
- Good Linearity of  $h_{FE}$
- Complement to Type 2SB849

**APPLICATIONS**

- Designed for audio frequency power amplifier applications.

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

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | 120     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | 120     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | 5       | V                |
| $I_C$     | Collector Current-Continuous                            | 7       | A                |
| $I_{CP}$  | Collector Current-Pulse                                 | 12      | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^\circ\text{C}$ | 80      | W                |
| $T_J$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -55~150 | $^\circ\text{C}$ |



## isc Silicon NPN Power Transistor

2SD1110

## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS  | MIN | TYP. | MAX | UNIT          |
|---------------|--------------------------------------|---|-----|------|-----|---------------|
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C= 5.0\text{A}; I_B= 0.5\text{A}$                  |     |      | 2.0 | V             |
| $V_{BE(sat)}$ | Base -Emitter Saturation Voltage     | $I_C= 5.0\text{A}; I_B= 0.5\text{A}$                  |     |      | 2.0 | V             |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB}= 120\text{V}; I_E= 0$                         |     |      | 50  | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB}= 3\text{V}; I_C= 0$                           |     |      | 50  | $\mu\text{A}$ |
| $h_{FE-1}$    | DC Current Gain                      | $I_C= 50\text{mA}; V_{CE}= 5\text{V}$                 | 20  |      |     |               |
| $h_{FE-2}$    | DC Current Gain                      | $I_C= 1\text{A}; V_{CE}= 5\text{V}$                   | 40  |      | 200 |               |
| $C_{OB}$      | Output Capacitance                   | $I_E= 0; V_{CB}= 10\text{V}; f_{test}= 1.0\text{MHz}$ |     | 190  |     | pF            |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C= 0.2\text{A}; V_{CE}= 5\text{V}$                 |     | 15   |     | MHz           |

◆  $h_{FE-2}$  Classifications

| S     | R      | Q       |
|-------|--------|---------|
| 40-80 | 60-120 | 100-200 |