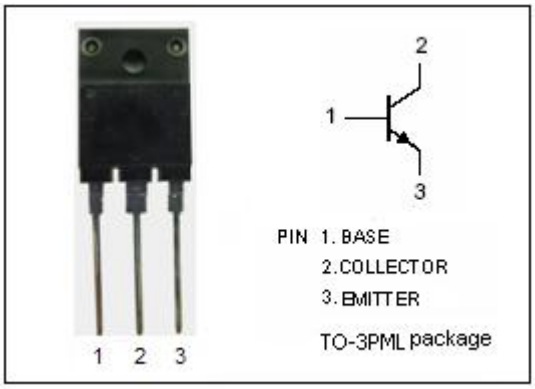
# isc Silicon NPN Power Transistor 2SD2148

## DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 700V (Min)
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

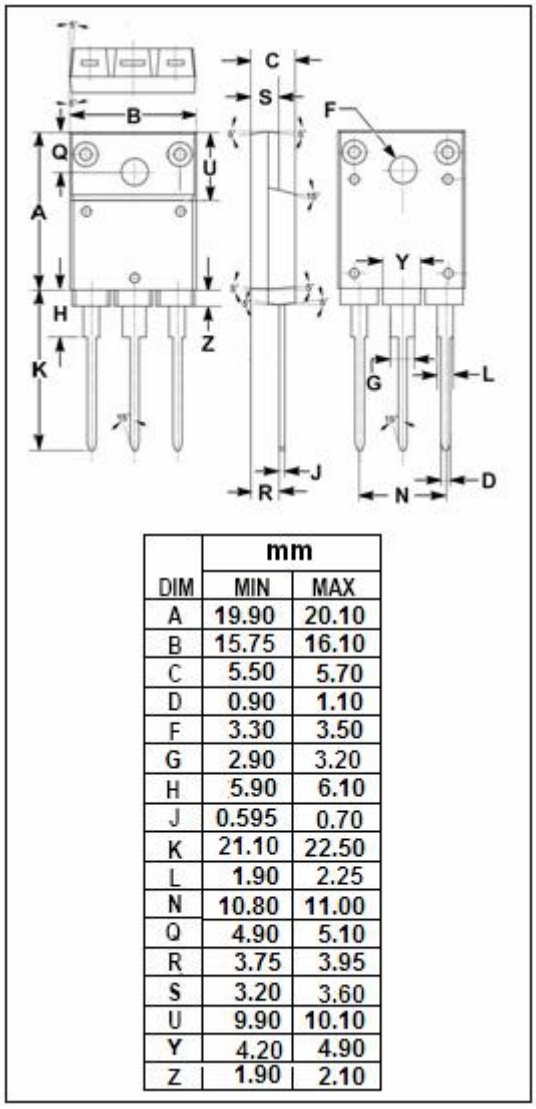
- Designed for use in horizontal deflection circuits of color TV receivers.




## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 1500 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 700 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current- Continuous | 8 | A |
| $I_{CM}$ | Collector Current-Peak | 12 | A |
| $I_B$ | Base Current- Continuous | 4 | A |
| $I_{BM}$ | Base Current-Peak | 6 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 50 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~150 | ℃ |

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 2.5 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 19.90 | 20.10 |
| B | 15.75 | 16.10 |
| C | 5.50 | 5.70 |
| D | 0.90 | 1.10 |
| F | 3.30 | 3.50 |
| G | 2.90 | 3.20 |
| H | 5.90 | 6.10 |
| J | 0.595 | 0.70 |
| K | 21.10 | 22.50 |
| L | 1.90 | 2.25 |
| N | 10.80 | 11.00 |
| Q | 4.90 | 5.10 |
| R | 3.75 | 3.95 |
| S | 3.20 | 3.60 |
| U | 9.90 | 10.10 |
| Y | 4.20 | 4.90 |
| Z | 1.90 | 2.10 |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= 10mA ; $I_B$= 0 | 700 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 4.5A; $I_B$= 2.0A | | | 1.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 4.5A; $I_B$= 2.0A | | | 1.5 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 1500V;$I_E$= 0 | | | 1.0 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 5.0V ; $I_C$= 0 | | | 10 | mA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= 0.1A ; $V_{CE}$= 5V | 6 | | 30 | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= 4.5A ; $V_{CE}$= 5V | 2.25 | | | |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= 10V; $f_{test}$= 0.1MHz | | 125 | | pF |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= 0.1A; $V_{CE}$= 5V; $f_{test}$= 1.0MHz | | 7 | | MHz |