# Silicon NPN Power Transistor 2SD2499

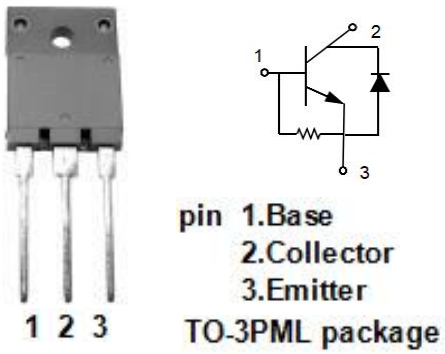
## DESCRIPTION

· Collector-Emitter Breakdown Voltage

-$V_{(BR)CEO}$= 600V(Min)

· Collector-Emitter Saturation Voltage

-$V_{CE(sat)}$ :5.0V(Max) @$I_C$= 4A




## APPLICATIONS

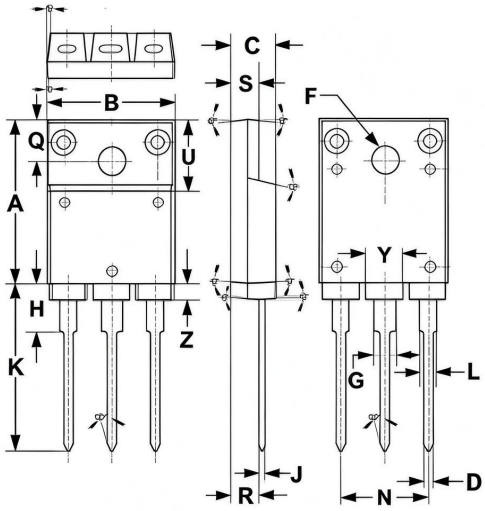
· Horizontal deflection output for color TV

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 1200 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 600 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current | 6 | A |
| $I_{CP}$ | Collector Current-Pulse | 12 | A |
| $I_B$ | Base current | 3 | A |
| $P_C$ | Total Power Dissipation | 50 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |

## THERMAL CHARACTERISTICS

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




| DIM | mm MIN | mm 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 |
|---|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= 10mA, $I_B$= 0 | 600 | -- | -- | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E$= 400mA, $I_B$= 0 | 5.0 | -- | -- | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 1200V,$I_E$=0 | -- | -- | 1.0 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$=5V,$I_C$=0 | 67 | -- | 200 | mA |
| $h_{FE}$ | DC Current Gain | $I_C$= 1A, $V_{CE}$= 5V | 8 | -- | 40 | -- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 4A, $I_B$= 0.8A | -- | -- | 5.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 4A, $I_B$= 0.8A | -- | -- | 1.3 | V |
| $V_F$ | Forward Voltage | $I_F$=6A | -- | -- | 2.0 | V |

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