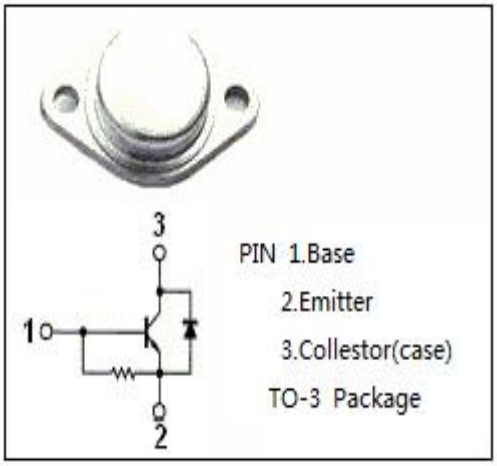
# *isc* Silicon NPN Power Transistor 2SD868

## DESCRIPTION

- High Breakdown Voltage-
  : $V_{CBO}$= 1500V (Min)
- High Switching Speed
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 5.0V(Max.)@ $I_C$= 2A
- Built-in Damper Diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




## APPLICATIONS

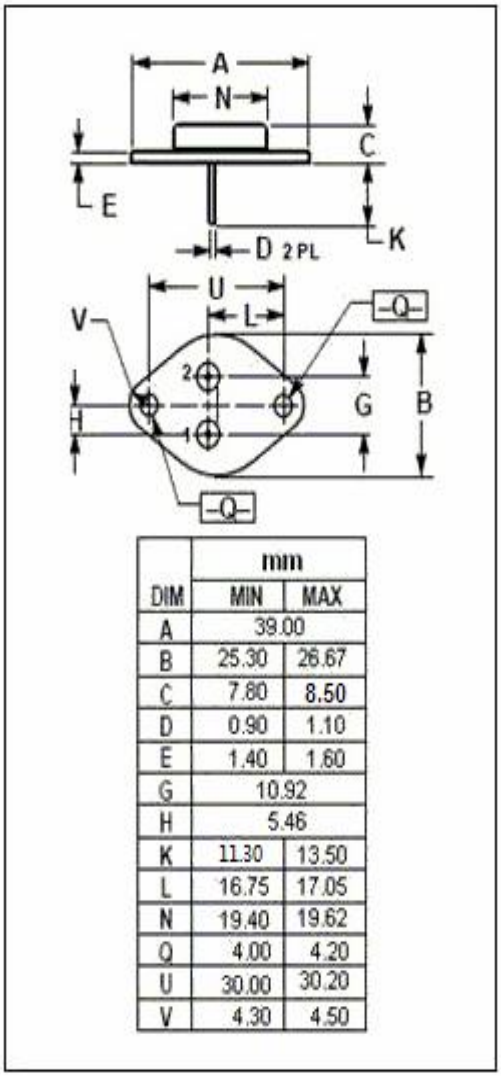
- Designed for use in color TV deflection circuits.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 1500 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 600 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current- Continuous | 2.5 | A |
| $I_B$ | Base Current- Continuous | 1.0 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$= 25℃ | 50 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~150 | ℃ |

## THERMAL CHARACTERISTICS

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




| DIM | mm MIN | MAX |
|---|---|---|
| A | 39.00 | |
| B | 25.30 | 26.67 |
| C | 7.80 | 8.50 |
| D | 0.90 | 1.10 |
| E | 1.40 | 1.60 |
| G | 10.92 | |
| H | 5.46 | |
| K | 11.30 | 13.50 |
| L | 16.75 | 17.05 |
| N | 19.40 | 19.62 |
| Q | 4.00 | 4.20 |
| U | 30.00 | 30.20 |
| V | 4.30 | 4.50 |

# isc Silicon NPN Power Transistor 2SD868

## ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{EBO}$ | Emitter-Base Breakdown Voltage | $I_E$= 200mA; $I_C$= 0 | 5.0 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 2A; $I_B$= 0.6A | | | 8.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 2A; $I_B$= 0.6A | | | 1.5 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 500V; $I_E$= 0 | | | 10 | μA |
| $h_{FE}$ | DC Current Gain | $I_C$= 0.5A; $V_{CE}$= 5V | 8 | | | |
| $V_{ECF}$ | C-E Diode Forward Voltage | $I_F$= 2.5A | | | 2.0 | V |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= 10V; $f_{test}$= 1.0MHz | | 100 | | pF |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= 0.1A; $V_{CE}$= 10V | | 3 | | MHz |
| $t_f$ | Fall Time | $I_C$= 2A, $I_{Bend}$= 0.6A | | | 1.0 | μs |