

## DESCRIPTION

- DC Current Gain-  
:  $h_{FE} = 20 \sim 100 @ I_C = 15A$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 0.75V(Max) @ I_C = 15A$
- Wide Area of Safe Operation

## APPLICATIONS

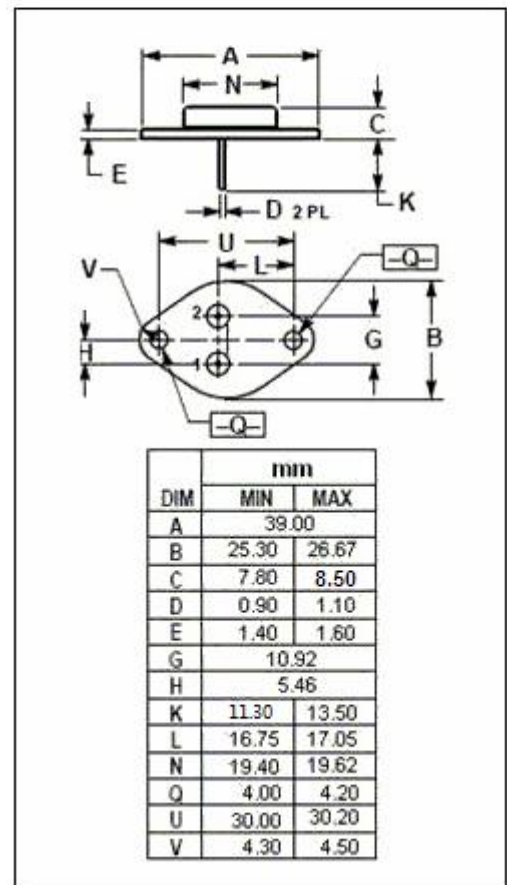
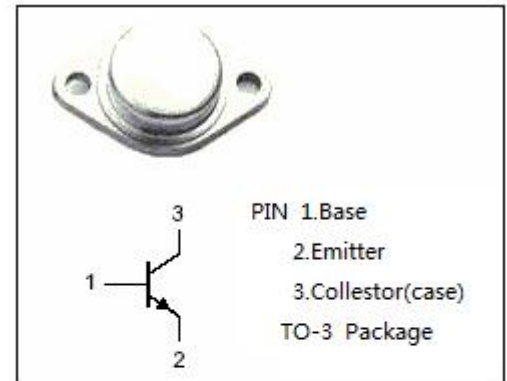
- Designed for general purpose power amplifier and switching applications.

## ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

| SYMBOL    | PARAMETER                                        | VALUE   | UNIT       |
|-----------|--------------------------------------------------|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage                           | 150     | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                        | 120     | V          |
| $V_{EBO}$ | Emitter-Base Voltage                             | 7       | V          |
| $I_C$     | Collector Current-Continuous                     | 30      | A          |
| $I_B$     | Base Current-Continuous                          | 10      | A          |
| $P_C$     | Collector Power Dissipation @ $T_C = 25^\circ C$ | 140     | W          |
| $T_J$     | Junction Temperature                             | 150     | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                              | -65~150 | $^\circ C$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX  | UNIT         |
|--------------|--------------------------------------|------|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 1.25 | $^\circ C/W$ |



## SPTECH Silicon NPN Power Transistors

2N5672

## ELECTRICAL CHARACTERISTICS

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

| SYMBOL         | PARAMETER                            | CONDITIONS                                                                                                                                 | MIN | MAX      | UNIT |
|----------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----|----------|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C = 50\text{mA}$ ; $I_B = 0$                                                                                                            | 120 |          | V    |
| $V_{CE(sat)}$  | Collector-Emitter Saturation Voltage | $I_C = 15\text{A}$ ; $I_B = 1.2\text{A}$                                                                                                   |     | 0.75     | V    |
| $V_{BE(sat)}$  | Base-Emitter Saturation Voltage      | $I_C = 15\text{A}$ ; $I_B = 1.2\text{A}$                                                                                                   |     | 1.5      | V    |
| $V_{BE(on)}$   | Base-Emitter On Voltage              | $I_C = 15\text{A}$ ; $V_{CE} = 5\text{V}$                                                                                                  |     | 1.6      | V    |
| $I_{CEO}$      | Collector Cutoff Current             | $V_{CE} = 80\text{V}$ ; $I_B = 0$                                                                                                          |     | 10       | mA   |
| $I_{CEV}$      | Collector Cutoff Current             | $V_{CE} = 135\text{V}$ ; $V_{BE(off)} = 1.5\text{V}$<br>$V_{CE} = 100\text{V}$ ; $V_{BE(off)} = 1.5\text{V}$ , $T_C = 150^{\circ}\text{C}$ |     | 10<br>10 | mA   |
| $I_{EBO}$      | Emitter Cutoff Current               | $V_{EB} = 7\text{V}$ ; $I_C = 0$                                                                                                           |     | 10       | mA   |
| $h_{FE-1}$     | DC Current Gain                      | $I_C = 15\text{A}$ ; $V_{CE} = 2\text{V}$                                                                                                  | 20  | 100      |      |
| $h_{FE-2}$     | DC Current Gain                      | $I_C = 20\text{A}$ ; $V_{CE} = 5\text{V}$                                                                                                  | 20  |          |      |
| $f_T$          | Current-Gain—Bandwidth Product       | $I_C = 2\text{A}$ ; $V_{CE} = 10\text{V}$ ; $f_{test} = 1\text{MHz}$                                                                       | 40  |          | MHz  |

## Switching Times

|           |              |                                                                                                                                 |  |     |               |
|-----------|--------------|---------------------------------------------------------------------------------------------------------------------------------|--|-----|---------------|
| $t_{on}$  | Turn-On Time | $I_C = 15\text{A}$ ; $I_{B1} = -I_{B2} = 1.2\text{A}$ ; $V_{CC} = 30\text{V}$ ;<br>$t_p = 0.1\text{ms}$ ; Duty Cycle $\leq 2\%$ |  | 0.5 | $\mu\text{s}$ |
| $t_{stg}$ | Storage Time |                                                                                                                                 |  | 1.5 | $\mu\text{s}$ |
| $t_f$     | Fall Time    |                                                                                                                                 |  | 0.5 | $\mu\text{s}$ |