

**isc Silicon NPN Power Transistors****2N5933****DESCRIPTION**

- DC Current Gain-  
:  $h_{FE} = 20-100 @ I_C = 20A$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 2.0V(Max) @ I_C = 20A$

**APPLICATIONS**

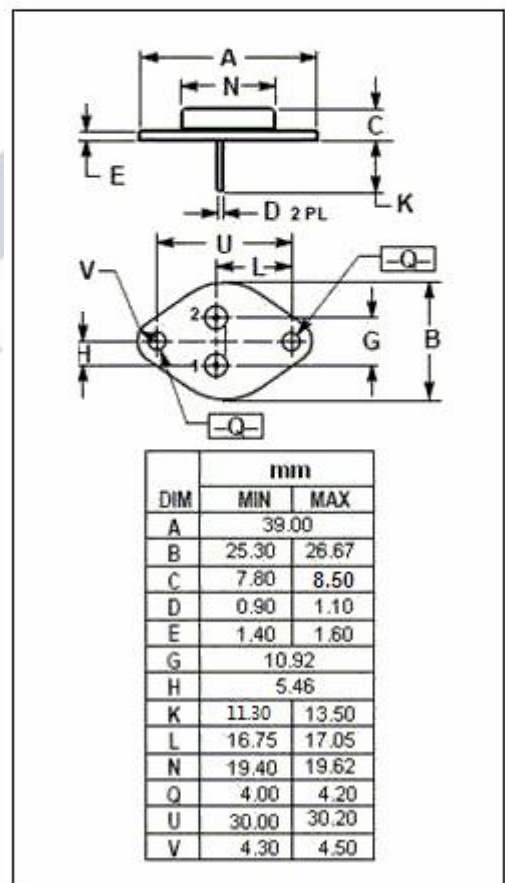
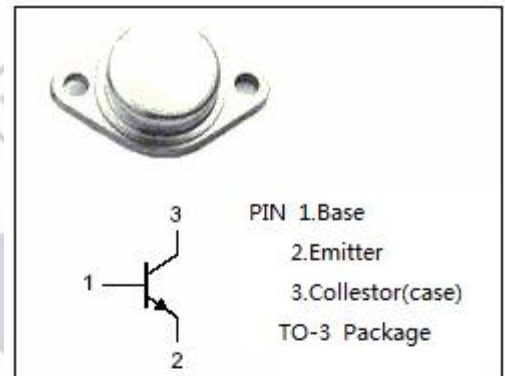
- Designed for general purpose power amplifier and switching applications.

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

| SYMBOL    | PARAMETER                                        | VALUE   | UNIT       |
|-----------|--------------------------------------------------|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage                           | 110     | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                        | 100     | V          |
| $V_{EBO}$ | Emitter-Base Voltage                             | 5       | V          |
| $I_C$     | Collector Current-Continuous                     | 30      | A          |
| $I_B$     | Base Current-Continuous                          | 7.5     | A          |
| $P_C$     | Collector Power Dissipation @ $T_C = 25^\circ C$ | 175     | 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 | 0.875 | $^\circ C/W$ |



**isc Silicon NPN Power Transistors****2N5933****ELECTRICAL CHARACTERISTICS** **$T_C=25^{\circ}\text{C}$  unless otherwise specified**

| SYMBOL         | PARAMETER                            | CONDITIONS                                                           | MIN | TYP. | MAX | UNIT |
|----------------|--------------------------------------|----------------------------------------------------------------------|-----|------|-----|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C = 50\text{mA}$ ; $I_B = 0$                                      | 100 |      |     | V    |
| $V_{CE(sat)}$  | Collector-Emitter Saturation Voltage | $I_C = 20\text{A}$ ; $I_B = 1.3\text{A}$                             |     |      | 2.0 | V    |
| $V_{BE(on)}$   | Base-Emitter On Voltage              | $I_C = 10\text{A}$ ; $V_{CE} = 4\text{V}$                            |     |      | 1.5 | V    |
| $I_{CEO}$      | Collector Cutoff Current             | $V_{CE} = 100\text{V}$ ; $I_B = 0$                                   |     |      | 2.0 | mA   |
| $I_{CBO}$      | Collector Cutoff Current             | $V_{CB} = 110\text{V}$ ; $I_E = 0$                                   |     |      | 1.0 | mA   |
| $I_{EBO}$      | Emitter Cutoff Current               | $V_{EB} = 5\text{V}$ ; $I_C = 0$                                     |     |      | 1.0 | mA   |
| $h_{FE-1}$     | DC Current Gain                      | $I_C = 20\text{A}$ ; $V_{CE} = 4\text{V}$                            | 20  |      | 100 |      |
| $h_{FE-2}$     | DC Current Gain                      | $I_C = 30\text{A}$ ; $V_{CE} = 4\text{V}$                            | 4   |      |     |      |
| $f_T$          | Current-Gain—Bandwidth Product       | $I_C = 1\text{A}$ ; $V_{CE} = 10\text{V}$ ; $f_{test} = 1\text{MHz}$ |     | 30   |     | MHz  |