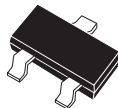


**CMPT930**

**NPN SILICON TRANSISTOR**



**SOT-23 CASE**

**DESCRIPTION**

The CENTRAL SEMICONDUCTOR CMPT930 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for small signal general purpose amplifier applications.

**Marking Code is C1X.**

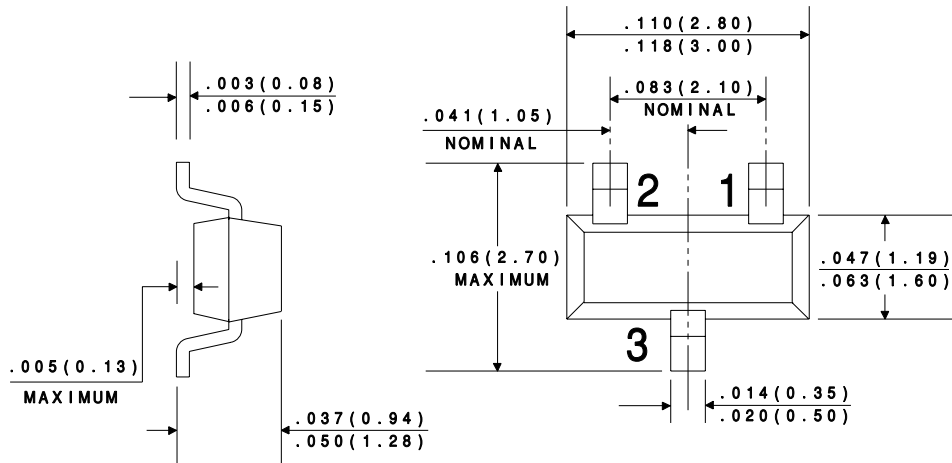
**MAXIMUM RATINGS** ( $T_A=25^{\circ}\text{C}$ )

|                           | SYMBOL                         |             | UNITS                |
|---------------------------|--------------------------------|-------------|----------------------|
| Collector-Base Voltage    | $V_{\text{CBO}}$               | 45          | V                    |
| Collector-Emitter Voltage | $V_{\text{CEO}}$               | 45          | V                    |
| Emitter-Base Voltage      | $V_{\text{EBO}}$               | 5.0         | V                    |
| Collector Current         | $I_{\text{C}}$                 | 30          | mA                   |
| Power Dissipation         | $P_{\text{D}}$                 | 350         | mW                   |
| Operating and Storage     |                                |             |                      |
| Junction Temperature      | $T_{\text{J}}, T_{\text{stg}}$ | -65 to +150 | $^{\circ}\text{C}$   |
| Thermal Resistance        | $\theta_{\text{JA}}$           | 357         | $^{\circ}\text{C/W}$ |

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

| SYMBOL                      | TEST CONDITIONS                                                                                                        | MIN | MAX | UNITS |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------|-----|-----|-------|
| $I_{\text{CBO}}$            | $V_{\text{CB}}=45\text{V}$                                                                                             |     | 10  | nA    |
| $I_{\text{CEO}}$            | $V_{\text{CE}}=5.0\text{V}$                                                                                            |     | 10  | nA    |
| $I_{\text{CES}}$            | $V_{\text{CE}}=45\text{V}$                                                                                             |     | 10  | nA    |
| $I_{\text{EBO}}$            | $V_{\text{EB}}=5.0\text{V}$                                                                                            |     | 10  | nA    |
| $BV_{\text{CBO}}$           | $I_{\text{C}}=10\mu\text{A}$                                                                                           | 45  |     | V     |
| $BV_{\text{CEO}}$           | $I_{\text{C}}=10\text{mA}$                                                                                             | 45  |     | V     |
| $BV_{\text{EBO}}$           | $I_{\text{E}}=10\mu\text{A}$                                                                                           | 5.0 |     | V     |
| $V_{\text{CE}}(\text{SAT})$ | $I_{\text{C}}=10\text{mA}, I_{\text{B}}=0.5\text{mA}$                                                                  |     | 1.0 | V     |
| $V_{\text{BE}}(\text{SAT})$ | $I_{\text{C}}=10\text{mA}, I_{\text{B}}=0.5\text{mA}$                                                                  | 0.6 | 1.0 | V     |
| $h_{\text{FE}}$             | $V_{\text{CE}}=5.0\text{V}, I_{\text{C}}=10\mu\text{A}$                                                                | 100 | 300 |       |
| $h_{\text{FE}}$             | $V_{\text{CE}}=5.0\text{V}, I_{\text{C}}=500\mu\text{A}$                                                               | 150 |     |       |
| $h_{\text{FE}}$             | $V_{\text{CE}}=5.0\text{V}, I_{\text{C}}=10\text{mA}$                                                                  |     | 600 |       |
| $f_{\text{T}}$              | $V_{\text{CE}}=5.0\text{V}, I_{\text{C}}=500\text{mA}, f=30\text{MHz}$                                                 | 30  |     | MHz   |
| $C_{\text{ob}}$             | $V_{\text{CB}}=5.0\text{V}, I_{\text{E}}=0, f=1.0\text{MHz}$                                                           |     | 8.0 | pF    |
| NF                          | $V_{\text{CE}}=5.0\text{V}, I_{\text{C}}=10\text{mA}, R_{\text{S}}=10\text{k}\Omega, f=10\text{Hz to } 15.7\text{kHz}$ |     | 3.0 | dB    |

All dimensions in inches (mm).



LEAD CODE:

- 1) BASE
- 2) EMITTER
- 3) COLLECTOR