

## Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

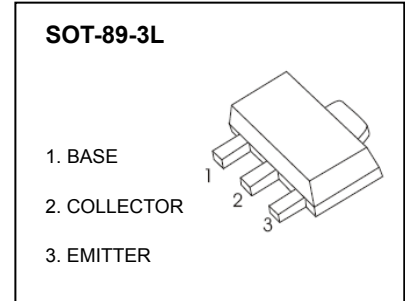
### FEATURES

- Complementary Type FCX493

MARKING:593

MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$  unless otherwise noted)

| Symbol          | Parameter                                   | Value    | Unit                 |
|-----------------|---------------------------------------------|----------|----------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | -120     | V                    |
| $V_{CEO}$       | Collector-Emitter Voltage                   | -100     | V                    |
| $V_{EBO}$       | Emitter-Base Voltage                        | -5       | V                    |
| $I_C$           | Collector Current                           | -1       | A                    |
| $P_C$           | Collector Power Dissipation                 | 1        | W                    |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 125      | $^{\circ}\text{C/W}$ |
| $T_J$           | Junction Temperature                        | 150      | $^{\circ}\text{C}$   |
| $T_{stg}$       | Storage Temperature                         | -55~+150 | $^{\circ}\text{C}$   |



ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$  unless otherwise specified)

| Parameter                            | Symbol           | Test conditions                                               | Min  | Typ | Max  | Unit          |
|--------------------------------------|------------------|---------------------------------------------------------------|------|-----|------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$    | $I_C=-100\mu\text{A}$ , $I_E=0$                               | -120 |     |      | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$    | $I_C=-10\text{mA}$ , $I_B=0$                                  | -100 |     |      | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$    | $I_E=-100\mu\text{A}$ , $I_C=0$                               | -5   |     |      | V             |
| Collector cut-off current            | $I_{CBO}$        | $V_{CB}=-100\text{V}$ , $I_E=0$                               |      |     | -0.1 | $\mu\text{A}$ |
| Collector cut-off current            | $I_{CES}$        | $V_{CES}=-100\text{V}$ , $I_E=0$                              |      |     | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$        | $V_{EB}=-4\text{V}$ , $I_C=0$                                 |      |     | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}^*$    | $V_{CE}=-5\text{V}$ , $I_C=-1\text{mA}$                       | 100  |     |      |               |
|                                      | $h_{FE(2)}^*$    | $V_{CE}=-5\text{V}$ , $I_C=-250\text{mA}$                     | 100  |     |      |               |
|                                      | $h_{FE(3)}^*$    | $V_{CE}=-5\text{V}$ , $I_C=-0.5\text{A}$                      | 100  |     | 300  |               |
|                                      | $h_{FE(4)}^*$    | $V_{CE}=-5\text{V}$ , $I_C=-1\text{A}$                        | 50   |     |      |               |
| Collector-emitter saturation voltage | $V_{CE(sat)1}^*$ | $I_C=-250\text{mA}$ , $I_B=-25\text{mA}$                      |      |     | -0.2 | V             |
|                                      | $V_{CE(sat)2}^*$ | $I_C=-500\text{mA}$ , $I_B=-50\text{mA}$                      |      |     | -0.3 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}^*$  | $I_C=-500\text{mA}$ , $I_B=-50\text{mA}$                      |      |     | -1.1 | V             |
| Base-emitter voltage                 | $V_{BE}^*$       | $V_{CE}=-5\text{V}$ , $I_C=-1\text{mA}$                       |      |     | -1   | V             |
| Transition frequency                 | $f_T$            | $V_{CE}=-10\text{V}$ , $I_C=-50\text{mA}$ , $f=100\text{MHz}$ | 50   |     |      | MHz           |
| Collector output capacitance         | $C_{ob}$         | $V_{CB}=-10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$              |      | 5   |      | pF            |

\*Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycles  $\leq 2.0\%$ .

## Typical Characteristics

