



## TO-92 Plastic-Encapsulate Transistors

### MPSA93 TRANSISTOR (PNP)

#### FEATURES

Power dissipation

$P_{CM}$ : 0.625 W ( $T_{amb}=25^{\circ}C$ )

Collector current

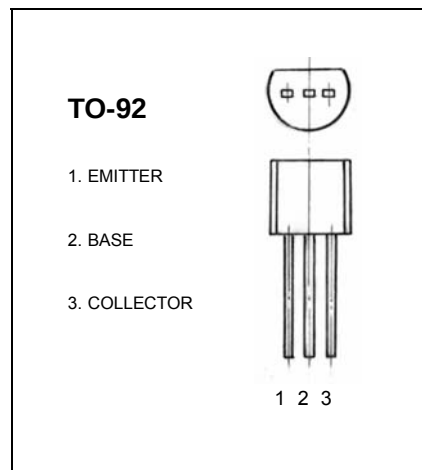
$I_{CM}$ : -0.5 A

Collector-base voltage

$V_{(BR)CBO}$ : -200 V

Operating and storage junction temperature range

$T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$



#### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}C$ unless otherwise specified)

| Parameter                            | Symbol          | Test conditions                              | MIN  | TYP | MAX   | UNIT    |
|--------------------------------------|-----------------|----------------------------------------------|------|-----|-------|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$   | $I_C = -100\mu A, I_E = 0$                   | -200 |     |       | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}^*$ | $I_C = -1mA, I_B = 0$                        | -200 |     |       | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$   | $I_E = -100\mu A, I_C = 0$                   | -5   |     |       | V       |
| Collector cut-off current            | $I_{CBO}$       | $V_{CB} = -160V, I_E = 0$                    |      |     | -0.25 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$       | $V_{EB} = -3V, I_C = 0$                      |      |     | -0.1  | $\mu A$ |
| DC current gain                      | $h_{FE}^*$      | $V_{CE} = -10V, I_C = -1mA$                  | 25   |     |       |         |
|                                      |                 | $V_{CE} = -10V, I_C = -10mA$                 | 40   |     |       |         |
|                                      |                 | $V_{CE} = -10V, I_C = -30mA$                 | 25   |     |       |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}^*$ | $I_C = -20mA, I_B = -2mA$                    |      |     | -0.4  | V       |
| Base-emitter saturation voltage      | $V_{BE(sat)}^*$ | $I_C = -20mA, I_B = -2mA$                    |      |     | -0.9  | V       |
| Transition frequency                 | $f_T$           | $V_{CE} = -20V, I_C = -10mA$<br>$f = 100MHz$ | 50   |     |       | MHz     |

\* Pulse test: Pulse width  $\leq 300\mu s$ , Duty cycle  $\leq 2\%$ .