



## TO-92 Plastic-Encapsulate Transistors

### MPSH10/11 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$P_{CM}$ : 0.35 W ( $T_{amb}=25^{\circ}C$ )

Collector current

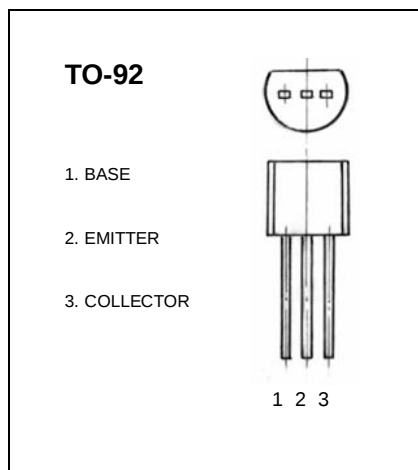
$I_{CM}$ : 0.05 A

Collector-base voltage

$V_{(BR)CBO}$ : 30 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     | $V_{(BR)CBO}$ | $I_C=100\mu A, I_E=0$               | 30  |     |      | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=1mA, I_B=0$                    | 25  |     |      | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=10\mu A, I_C=0$                | 3   |     |      | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=25V, I_E=0$                 |     |     | 0.1  | $\mu A$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE}=20V, I_B=0$                 |     |     | 0.2  | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=2V, I_C=0$                  |     |     | 0.1  | $\mu A$ |
| DC current gain                      | $h_{FE}$      | $V_{CE}=10V, I_C=4mA$               | 60  |     | 200  |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=4mA, I_B=0.4mA$                |     |     | 0.5  | V       |
| Collector-emitter voltage            | $V_{BE(on)}$  | $V_{CE}=10V, I_C=4mA$               |     |     | 0.95 | V       |
| Transition frequency                 | $f_T$         | $V_{CE}=10V, I_C=4mA$<br>$f=100MHz$ | 650 |     |      | MHz     |