



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

## TO-92 Plastic-Encapsulate Transistors

### S9016 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$P_{CM}$ : 0.3 W ( $T_{amb}=25^{\circ}C$ )

Collector current

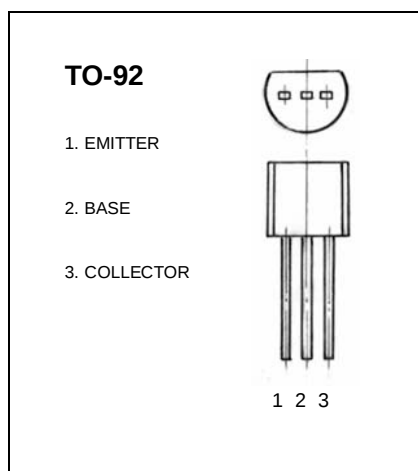
$I_{CM}$ : 0.025 A

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  | $V_{(BR)CEO}$ | $I_C=0.1mA, I_B=0$                 | 20  |     |     | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=100\mu A, I_C=0$              | 5   |     |     | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=30V, I_E=0$                |     |     | 0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=3V, I_C=0$                 |     |     | 0.1 | $\mu A$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=5V, I_C=1mA$               | 28  |     | 270 |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=10mA, I_B=1mA$                |     |     | 0.3 | V       |
| Transition frequency                 | $f_T$         | $V_{CE}=5V, I_C=1mA$<br>$f=100MHz$ | 300 |     |     | MHz     |

#### CLASSIFICATION OF $h_{FE(1)}$

| Rank  | D     | E     | F     | G      | H      | I       | J       |
|-------|-------|-------|-------|--------|--------|---------|---------|
| Range | 28-45 | 39-60 | 54-80 | 72-108 | 97-146 | 132-198 | 180-270 |