

# 2SA1816(Tentative)

Silicon PNP epitaxial planar type

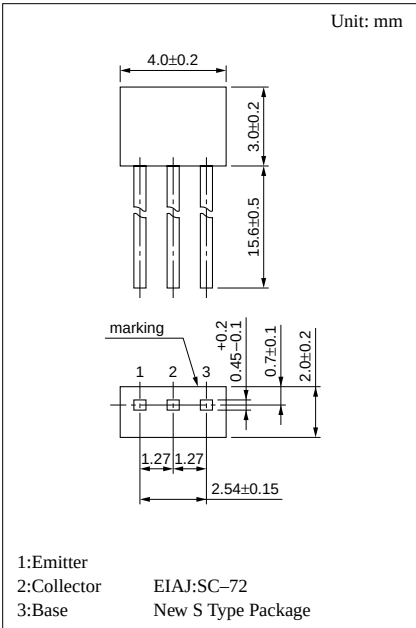
For low-frequency high breakdown voltage amplification

## Features

- High collector to emitter voltage  $V_{CEO}$ .

## Absolute Maximum Ratings (Ta=25°C)

| Parameter                    | Symbol    | Ratings    | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage    | $V_{CBO}$ | -150       | V    |
| Collector to emitter voltage | $V_{CEO}$ | -150       | V    |
| Emitter to base voltage      | $V_{EBO}$ | -5         | V    |
| Peak collector current       | $I_{CP}$  | -100       | mA   |
| Collector current            | $I_C$     | -50        | mA   |
| Collector power dissipation  | $P_C$     | 300        | mW   |
| Junction temperature         | $T_j$     | 150        | °C   |
| Storage temperature          | $T_{stg}$ | -55 ~ +150 | °C   |



## Electrical Characteristics (Ta=25°C)

| Parameter                               | Symbol        | Conditions                                                                                   | min  | typ | max | Unit    |
|-----------------------------------------|---------------|----------------------------------------------------------------------------------------------|------|-----|-----|---------|
| Collector cutoff current                | $I_{CBO}$     | $V_{CB} = -100V, I_E = 0$                                                                    |      |     | -1  | $\mu A$ |
| Collector to emitter voltage            | $V_{CEO}$     | $I_C = -100\mu A, I_B = 0$                                                                   | -150 |     |     | V       |
| Emitter to base voltage                 | $V_{EBO}$     | $I_E = -10\mu A, I_C = 0$                                                                    | -5   |     |     | V       |
| Forward current transfer ratio          | $h_{FE}^{*1}$ | $V_{CE} = -5V, I_C = -10mA$                                                                  | 90   |     | 450 |         |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -30mA, I_B = -3mA$                                                                    |      |     | -1  | V       |
| Transition frequency                    | $f_T$         | $V_{CB} = -10V, I_E = 10mA, f = 200MHz$                                                      |      | 200 |     | MHz     |
| Collector output capacitance            | $C_{ob}$      | $V_{CB} = -10V, I_E = 0, f = 1MHz$                                                           |      |     | 5   | pF      |
| Noise voltage                           | NV            | $V_{CE} = -10V, I_C = -1mA, G_V = 80dB$<br>$R_g = 100k\Omega, \text{Function} = \text{FLAT}$ |      | 150 |     | mV      |

\*1 $h_{FE}$  Rank classification

| Rank     | Q        | R         | S         | T         |
|----------|----------|-----------|-----------|-----------|
| $h_{FE}$ | 90 ~ 155 | 130 ~ 220 | 185 ~ 330 | 260 ~ 450 |