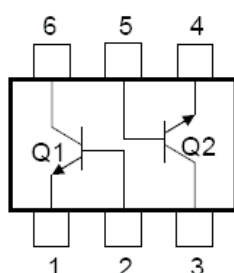


## NPN Silicon Epitaxial Transistor

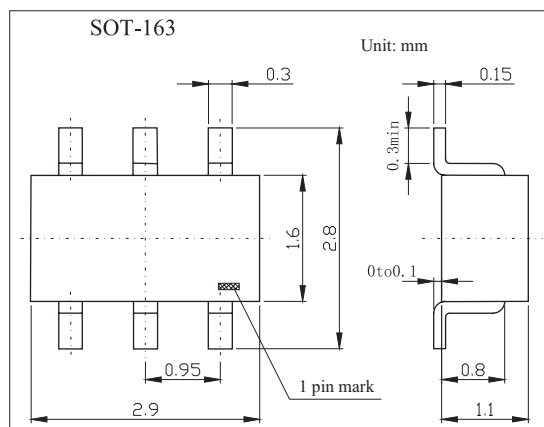
### HN1C07F

#### ■ Features

- Excellent Current Gain( $h_{FE}$ )linearity  
:  $h_{FE}=25(\text{min})$  at  $V_{CE}=6V, I_C=400\text{mA}$



1 Emitter1    4 Emitter2  
2 Base1       5 Base2  
3 Collector2   6 Collector1



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter                 | Symbol    | Rating      | Unit             |
|---------------------------|-----------|-------------|------------------|
| Collector-base voltage    | $V_{CBO}$ | 50          | V                |
| Collector-emitter voltage | $V_{CEO}$ | 50          | V                |
| Emitter-base voltage      | $V_{EBO}$ | 5           | V                |
| Collector current         | $I_C$     | 500         | mA               |
| Base current              | $I_B$     | 50          | mA               |
| power dissipation         | $P_D$     | 300         | mW               |
| Junction temperature      | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature       | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter                              | Symbol        | Testconditions                          | Min | Typ | Max  | Unit          |
|----------------------------------------|---------------|-----------------------------------------|-----|-----|------|---------------|
| Collector cutoff current               | $I_{CBO}$     | $V_{CB} = 50V, I_E = 0$                 |     |     | 0.1  | $\mu\text{A}$ |
| Emitter cutoff current                 | $I_{EBO}$     | $V_{EB} = 5V, I_C = 0$                  |     |     | 0.1  | $\mu\text{A}$ |
| DC current gain *                      | $h_{FE}$      | $V_{CE} = 1V, I_C = 100\text{mA}$       | 70  |     | 240  |               |
|                                        |               | $V_{CE} = 6V, I_C = 400\text{mA}$       | 25  |     |      |               |
| Collector-emitter saturation voltage * | $V_{CE(sat)}$ | $I_C = 100\text{mA}, I_B = 10\text{mA}$ |     | 0.1 | 0.25 | V             |
| Base emitter voltage *                 | $V_{BE}$      | $V_{CE} = 1V, I_C = 100\text{mA}$       |     | 0.8 | 1.0  | V             |
| Output capacitance                     | $C_{ob}$      | $V_{CE} = 6V, I_E = 0, f = 1\text{MHz}$ |     | 7   |      | pF            |
| Transition frequency                   | $f_T$         | $V_{CE} = 6V, I_E = 20\text{mA}$        |     | 300 |      | MHz           |

\*.  $PW \leq 350\mu\text{s}$ , duty cycle  $\leq 2\%$