NPN Silicon Transistor

# 产品规格书

| 批 准          | 审 核          | 校 核          | 编 制          |
|--------------|--------------|--------------|--------------|
| 申东春          | 纪春华          | 朴致均          | 郑羿           |
| 2018. 03. 02 | 2018. 03. 02 | 2018. 03. 02 | 2018. 03. 02 |

#### 规格书更改履历:

| 序号 | 更改内容 | 履历号 | 更改时间         | 责任人 |
|----|------|-----|--------------|-----|
| 1  | 新规制定 | 000 | 2018. 03. 02 | 郑羿  |
|    |      |     |              |     |
|    |      |     |              |     |
|    |      |     |              |     |

# KBC817 16/25/40C

**PIN Connection** 



**NPN Silicon Transistor** 

#### **Descriptions**

- High current application
- Switching application

#### **Features**

- Suitable for AF-Driver stage and low power Output stage
- Complementary pair with KBC807

# **Ordering Information**

| Type NO. | Marking                        | Package Code |
|----------|--------------------------------|--------------|
| KBC817   | <u>NA□</u> <u>□</u> •<br>① ② ③ | SOT-23       |

①Device Code ②HFE Rank ③Year& Week Code • Dalian

# Collector 3 Base 1

SOT-23

Ta=25°C

Emitter

# Absolute maximum ratings

| Characteristic            | Symbol         | Ratings | Unit |
|---------------------------|----------------|---------|------|
| Collector-Base voltage    | $V_{CBO}$      | 50      | V    |
| Collector-Emitter voltage | $V_{CEO}$      | 45      | V    |
| Emitter-Base voltage      | $V_{EBO}$      | 5       | V    |
| Collector current         | $I_{C}$        | 500     | mA   |
| Collector dissipation     | P <sub>C</sub> | 200     | mW   |
| Junction temperature      | T <sub>j</sub> | 150     | °C   |
| Storage temperature       | $T_{stg}$      | -55~150 | °C   |

#### **Electrical Characteristics**

Ta=25°C

| Characteristic                       | Symbol   | Test Condition                 | Min. | Typ. | Max. | Unit |
|--------------------------------------|----------|--------------------------------|------|------|------|------|
| Collector-Emitter breakdown voltage  | BVceo    | Ic=1mA, I <sub>E</sub> =0      | 45   | -    | -    | V    |
| Base-Emitter turn on voltage         | VBE(ON)  | VcE=1V, Ic=300mA               | -    | -    | 1.2  | V    |
| Collector-Emitter saturation voltage | VCE(sat) | Ic=500mA, I <sub>B</sub> =50mA | -    | -    | 700  | mV   |
| Collector cut-off current            | Ісво     | Vcb=25V, IE=0                  | -    | -    | 100  | nA   |
| DC current gain                      | *<br>hfe | VcE=1V, Ic=100mA               | 100  | -    | 630  | -    |
| Transition frequency                 | f⊤       | VcB=5V, Ic=10mA                | 100  | -    | -    | MHz  |
| Collector output capacitance         | Сор      | VcB=10V, IE=0, f=1MHz          | -    | 16   | -    | pF   |

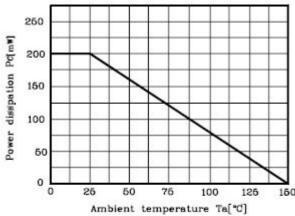
#### HFE Grade:

| Rank      | 16(A)   | 25(B)   | 40(C)   |
|-----------|---------|---------|---------|
| Range     | 100~250 | 160~400 | 250~630 |
| Mark Name | NAA.    | NAB.    | NAC.    |

# KBC817 16/25/40C

#### **Electrical Characteristic Curves**

Fig. 1 Pc - Ta



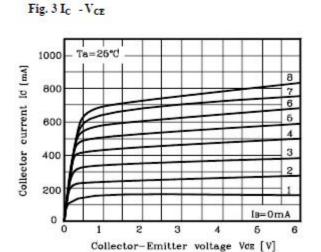


Fig. 5 hFE - Ic

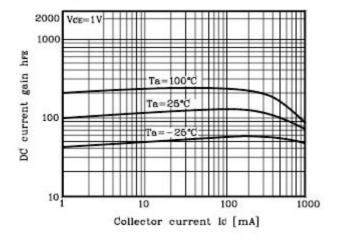


Fig. 2 Ic - VBE

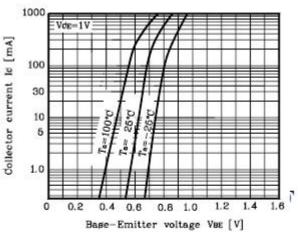
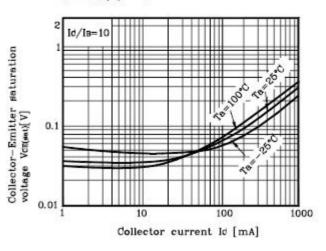
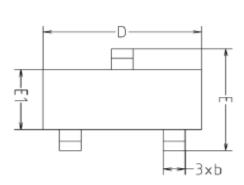


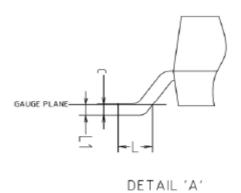
Fig. 4 V<sub>CE(zat)</sub> - I<sub>C</sub>

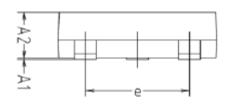


# KBC817 16/25/40C

# **Outline Dimension**



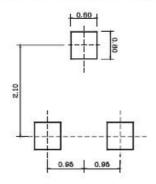






| SYMBOL  |         | NOTE    |         |       |
|---------|---------|---------|---------|-------|
| 3111000 | MINIMUM | NOMINAL | MAXIMUM | 14012 |
| A1      | 0.00    | -       | 0.10    |       |
| A2      | 0.82    | -       | 1.02    |       |
| ь       | 0.39    | 0.42    | 0.45    |       |
| c       | 0.09    | 0.12    | 0.15    |       |
| D       | 2.80    | 2.90    | 3.00    |       |
| E       | 2.20    | 2.40    | 2.60    |       |
| E1      | 1.20    | 1.30    | 1.40    |       |
| е       | 1.90BSC |         |         |       |
| L       | 0.20    | -       | -       |       |
| L1      | 0.12BSC |         |         |       |

#### **\*Recommend PCB solder land [Unit: mm]**



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