



# BM03P05

## 主要参数 MAIN CHARACTERISTICS

|           |       |
|-----------|-------|
| $I_C$     | -3A   |
| $V_{CEO}$ | -50V  |
| $P_C$     | 550mW |

### 用途

- 静音开关
- 电池充电器
- 线性开关电源
- 电机驱动器

### APPLICATIONS

- Switching and muting
- Battery charger
- Supply line switching circuits
- motor drivers

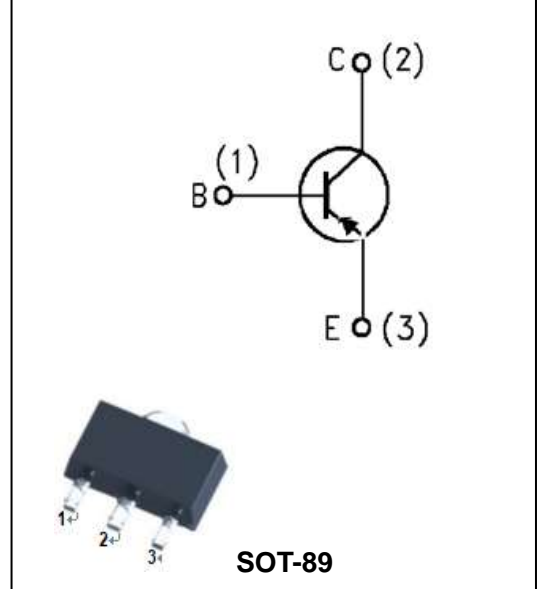
### 产品特性

- 硅外延
- 饱和压降低, 电流大
- 与 BM03N05 互补
- 环保 (RoHS) 产品

### FEATURES

- Epitaxial silicon
- Low  $V_{CE(sat)}$ , high current
- Complementary to BM03N05
- RoHS product

## 封装 Package



## 订货信息 ORDER MESSAGE

| 订货型号 Order codes      |                            |                       |                            | 印 记<br>Marking | 封 装<br>Package |
|-----------------------|----------------------------|-----------------------|----------------------------|----------------|----------------|
| 有卤-条管<br>Halogen-Tube | 无卤-条管<br>Halogen Free-Tube | 有卤-编带<br>Halogen-Reel | 无卤-编带<br>Halogen Free-Reel |                |                |
| NA                    | N/A                        | N/A                   | BM05P05-NB-AR              | 03P05          | SOT-89         |

绝对最大额定值 ABSOLUTE RATINGS ( $T_C=25^{\circ}\text{C}$ )

| 项 目<br>Parameter | 符 号<br>Symbol                          | 数 值<br>Value | 单 位<br>Unit |                    |
|------------------|--|--------------|-------------|--------------------|
| 集电极—基极直流电压       | Collector- Base Voltage ( $I_E=0$ )    | $V_{CBO}$    | -50         | V                  |
| 集电极—发射极直流电压      | Collector- Emitter Voltage ( $I_B=0$ ) | $V_{CEO}$    | -50         | V                  |
| 发射极—基极直流电压       | Emitter-Base Voltage ( $I_C=0$ )       | $V_{EBO}$    | -5          | V                  |
| 最大集电极直流电流        | Collector Current (DC)                 | $I_C$        | -3          | A                  |
| 最大集电极耗散功率        | Total Dissipation                      | $P_C$        | 550         | mW                 |
| 最高结温             | Junction Temperature                   | $T_j$        | 150         | $^{\circ}\text{C}$ |
| 贮存温度             | Storage Temperature                    | $T_{stg}$    | -55~+150    | $^{\circ}\text{C}$ |

## 电特性 ELECTRICAL CHARACTERISTIC

| 项 目<br>Parameter | 测试条件<br>Tests conditions              | 最小值<br>Value(min) | 最大值<br>Value(max) | 单 位<br>Unit |
|------------------|---------------------------------------|-------------------|-------------------|-------------|
| $BV_{CBO}$       | $I_C=-100\text{ }\mu\text{A}$ ,       | -50               |                   | V           |
| $BV_{CEO}$       | $I_C=-10\text{mA}$                    | -50               |                   | V           |
| $BV_{EBO}$       | $I_E=-100\text{ }\mu\text{A}, I_C=0$  | -5                |                   | V           |
| $I_{CBO}$        | $V_{CB}=-50\text{V}, I_E=0$           |                   | -100              | nA          |
| $I_{CES}$        | $V_{CB}=-50\text{V}, I_E=0$           |                   | -100              | nA          |
| $I_{EBO}$        | $V_{EB}=-5\text{V}, I_C=0$            |                   | -100              | nA          |
| $h_{FE}(1)$      | $V_{CE}=-2\text{V}, I_C=-0.1\text{A}$ | 200               |                   |             |
| $h_{FE}(2)$      | $V_{CE}=-2\text{V}, I_C=-0.5\text{A}$ | 200               |                   |             |
| $h_{FE}(3)$      | $V_{CE}=-2\text{V}, I_C=-1\text{A}$   | 200               | 450               |             |
| $h_{FE}(4)$      | $V_{CE}=-2\text{V}, I_C=-2\text{A}$   | 130               |                   |             |
| $h_{FE}(5)$      | $V_{CE}=-2\text{V}, I_C=-3\text{A}$   | 80                |                   |             |
| $V_{cesat1}$     | $I_C=-500\text{mA}, I_B=-50\text{mA}$ |                   | -90               | mV          |
| $V_{cesat2}$     | $I_C=-1\text{A}, I_B=-50\text{mA}$    |                   | -180              | mV          |
| $V_{cesat3}$     | $I_C=-2\text{A}, I_B=-100\text{mA}$   |                   | -320              | mV          |
| $V_{cesat4}$     | $I_C=-2\text{A}, I_B=-200\text{mA}$   |                   | -270              | mV          |
| $V_{cesat5}$     | $I_C=-3\text{A}, I_B=-300\text{mA}$   |                   | -390              | mV          |
| $V_{besat1}$     | $I_C=-2\text{A}, I_B=-100\text{mA}$   |                   | -1.1              | V           |
| $V_{besat2}$     | $I_C=-3\text{A}, I_B=-300\text{mA}$   |                   | -1.2              | V           |
| $V_{beon}$       | $V_{CE}=-2\text{V}, I_C=-1\text{A}$   |                   | -1.1              | V           |

## 热特性 THERMAL CHARACTERISTIC

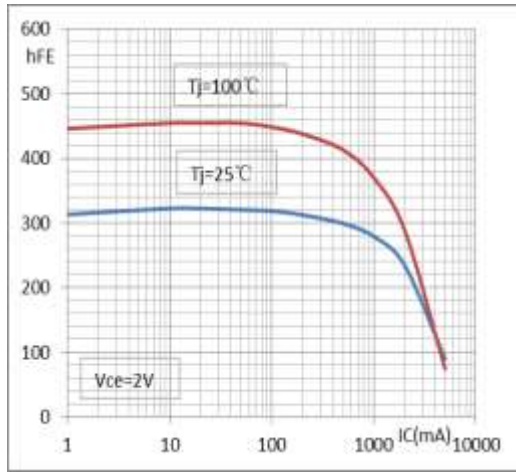
| 项 目<br>Parameter                                       | 符 号<br>Symbol | 最小值<br>Value(min) | 最大值<br>Value(max) | 单 位<br>Unit          |
|--|---------------|-------------------|-------------------|----------------------|
| 结到环境的热阻<br>Thermal Resistance, Junction-to-Ambient     | $R_{th(j-a)}$ | -                 | 225               | $^{\circ}\text{C/W}$ |
| 结到环境的热阻 (a)<br>Thermal Resistance, Junction-to-Ambient | $R_{th(j-a)}$ | -                 | 80                | $^{\circ}\text{C/W}$ |

(a) Device mounted on a ceramic printed-circuit board 7 cm<sup>2</sup>, single-sided copper, tinplated.

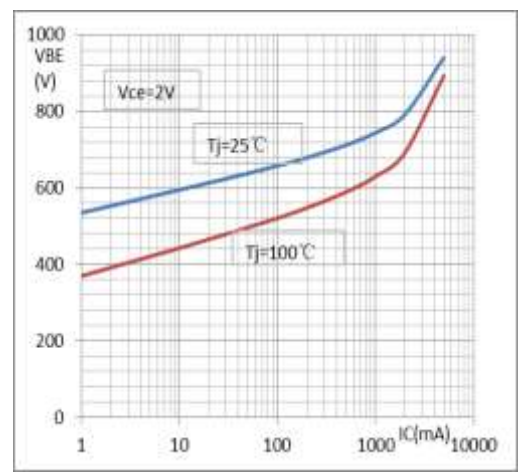


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

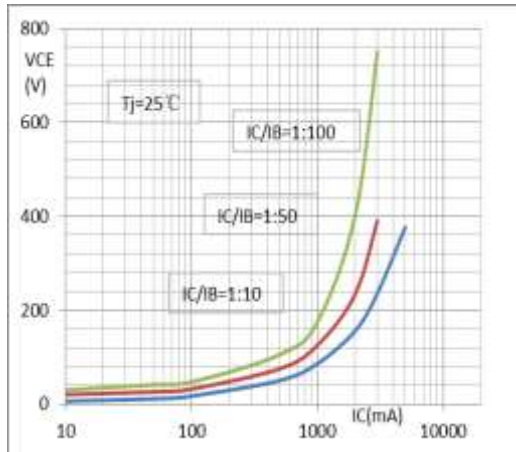
$h_{FE} - I_C$



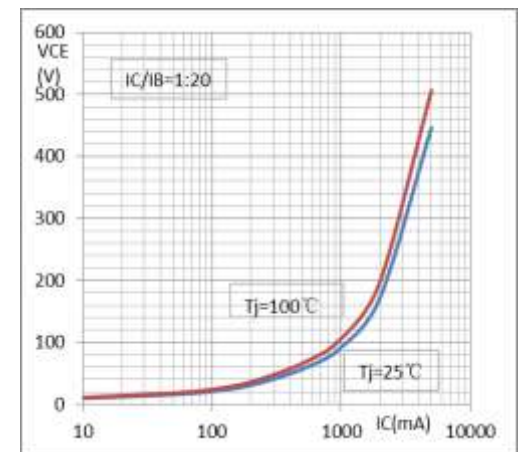
$V_{BEon} - I_C$



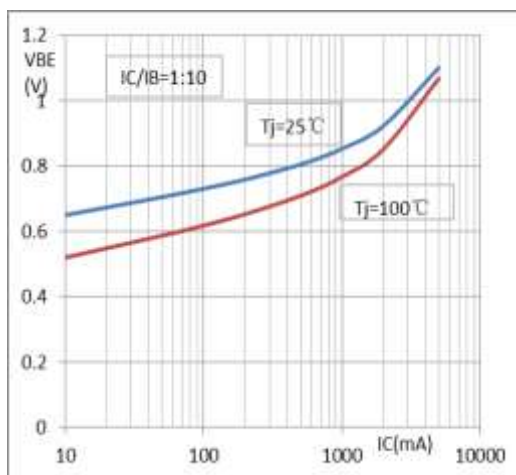
$V_{CE(sat)} - I_C$



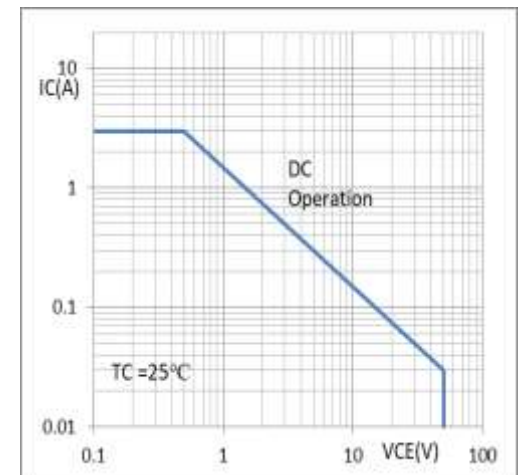
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



SOA

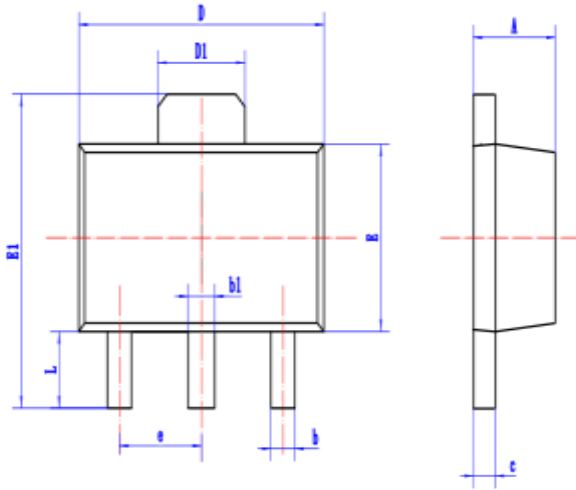




外形尺寸 PACKAGE MECHANICAL DATA  
SOT-89

BM03P05

单位 Unit : mm



| SYMBOL | MM       |      |
|--------|----------|------|
|        | MIN      | MAX  |
| A      | 1.30     | 1.70 |
| b      | 0.30     | 0.55 |
| b1     | 0.35     | 0.65 |
| c      | 0.30     | 0.50 |
| D      | 4.30     | 4.70 |
| D1     | 1.55 REF |      |
| E      | 2.30     | 2.60 |
| E1     | 3.90     | 4.30 |
| e      | 1.50 TYP |      |
| L      | 0.80     | 1.20 |



## 注意事项

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3. 在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
4. 本说明书如有版本变更不另外告知。

## NOTE

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this. specification sheet and is subject to change without prior notice.

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