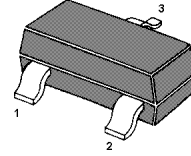
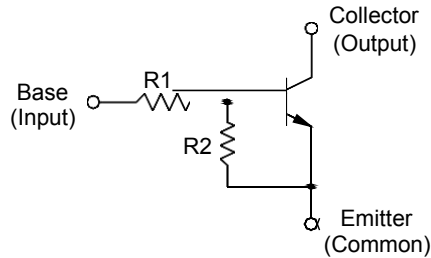


NPN Silicon Epitaxial Planar Transistor

for switching and interface circuit and drive
circuit applications



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

Features

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

Resistor Values

| Type | Marking | R1 (KΩ) | R2 (KΩ) |
|-------------|---------|---------|---------|
| MMBTRC101SS | NA | 4.7 | 4.7 |
| MMBTRC102SS | NB | 10 | 10 |
| MMBTRC103SS | NC | 22 | 22 |
| MMBTRC104SS | ND | 47 | 47 |
| MMBTRC105SS | NF | 2.2 | 47 |
| MMBTRC106SS | NE | 4.7 | 47 |

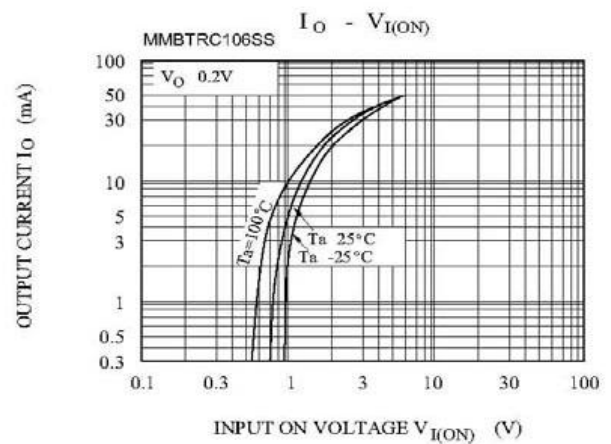
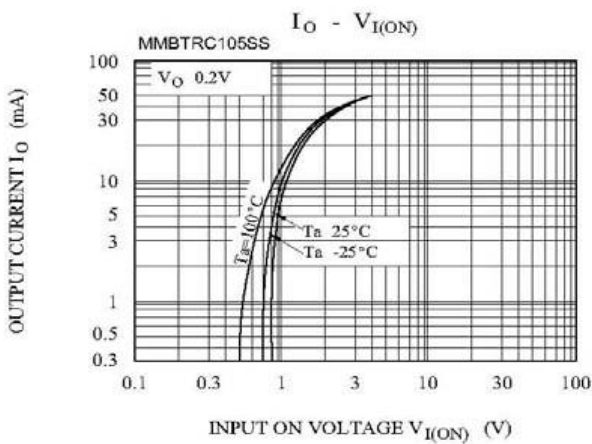
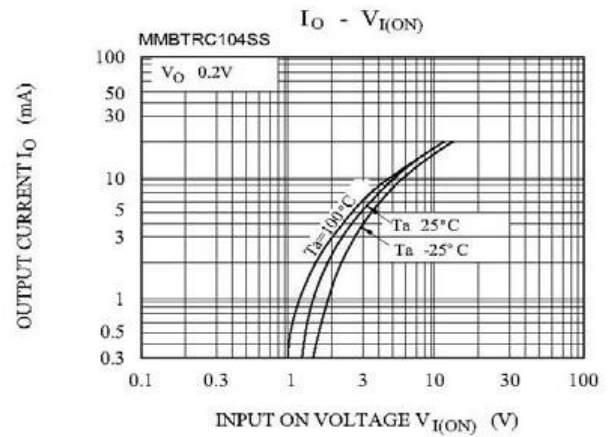
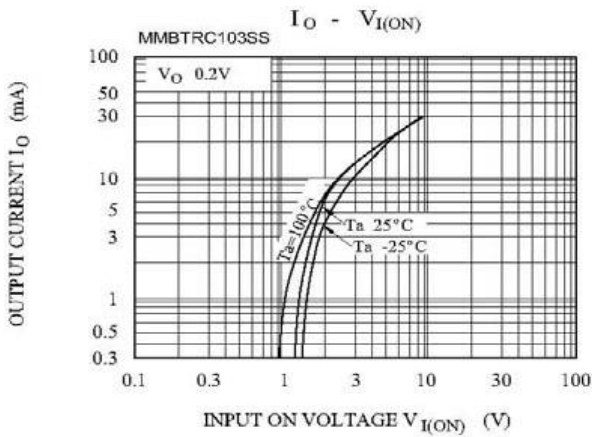
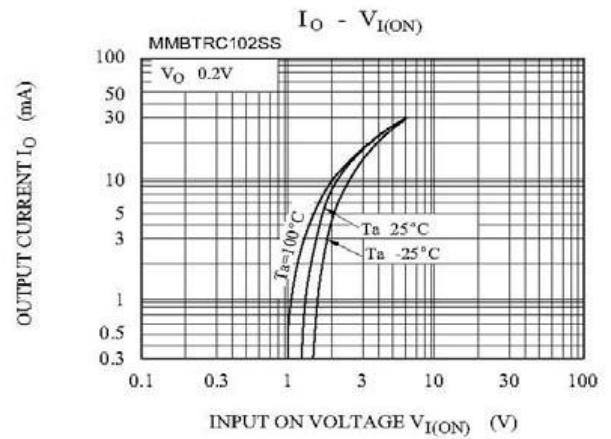
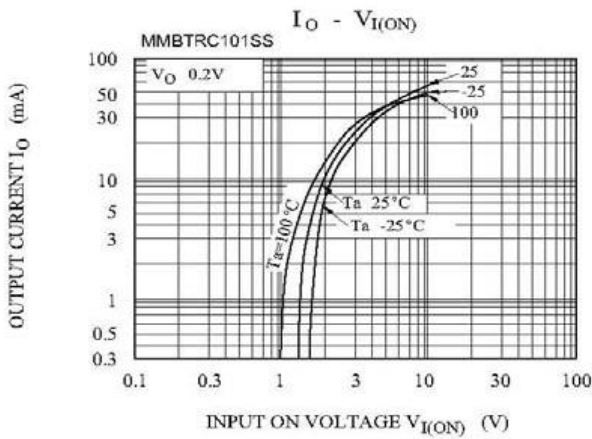
Absolute Maximum Ratings (T_a = 25 °C)

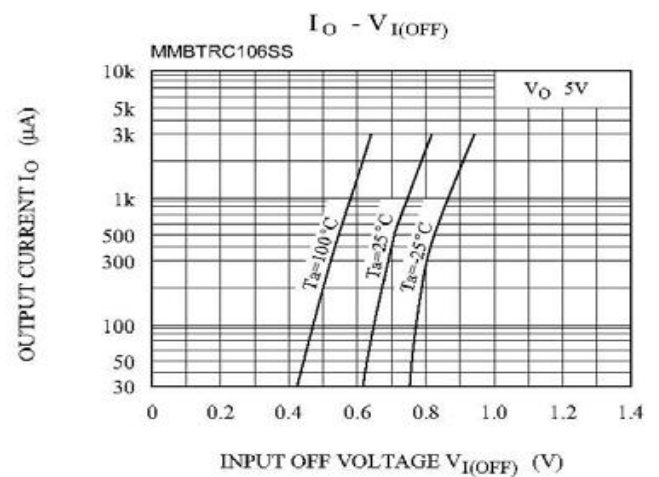
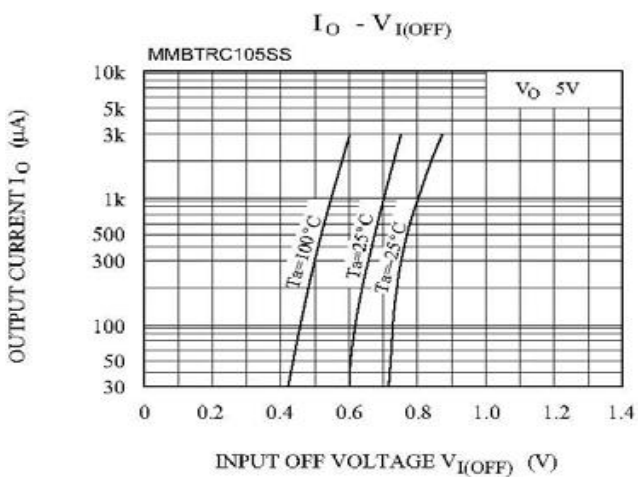
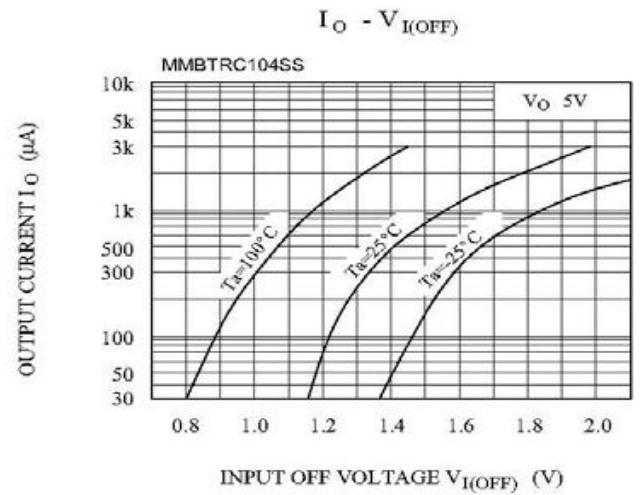
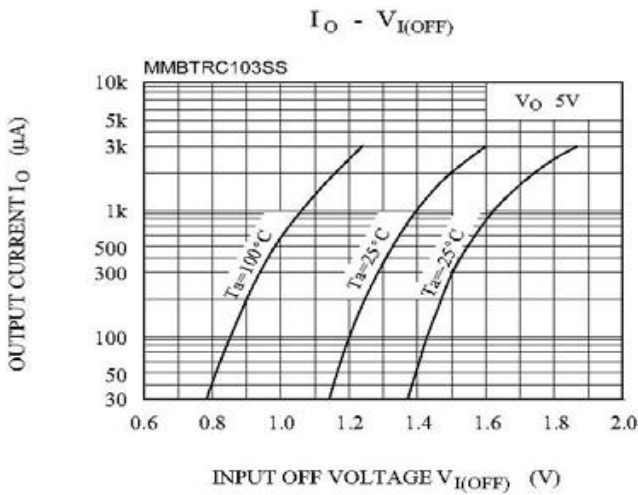
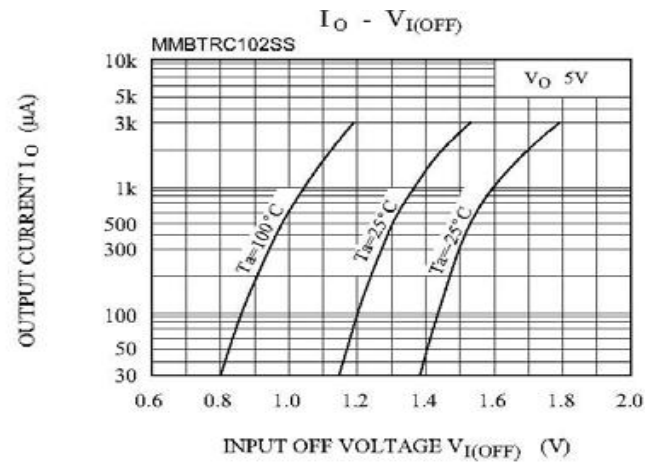
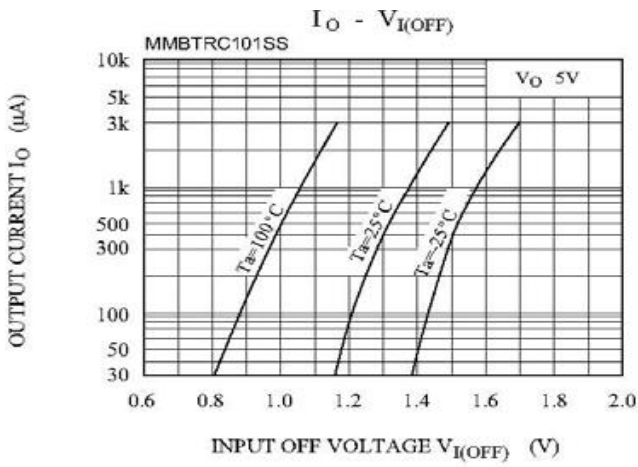
| Parameter | | Symbol | Value | Unit |
|---------------------------|-------------|------------------|---------------|------|
| Output Voltage | | V _O | 50 | V |
| Input Voltage | MMBTRC101SS | V _I | 20, -10 | V |
| | MMBTRC102SS | | 30, -10 | |
| | MMBTRC103SS | | 40, -10 | |
| | MMBTRC104SS | | 40, -10 | |
| | MMBTRC105SS | | 12, -5 | |
| | MMBTRC106SS | | 20, -5 | |
| Output Current | | I _O | 100 | mA |
| Total Power Dissipation | | P _{tot} | 200 | mW |
| Junction Temperature | | T _j | 150 | °C |
| Storage Temperature Range | | T _{stg} | - 55 to + 150 | °C |

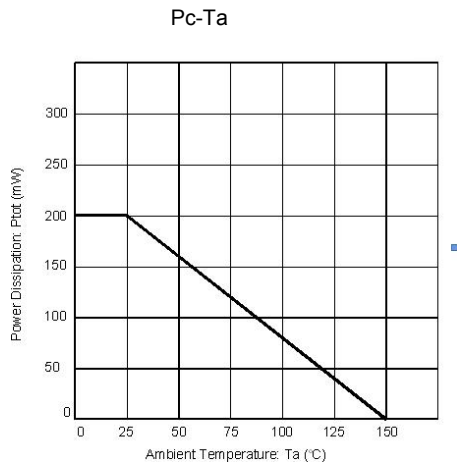
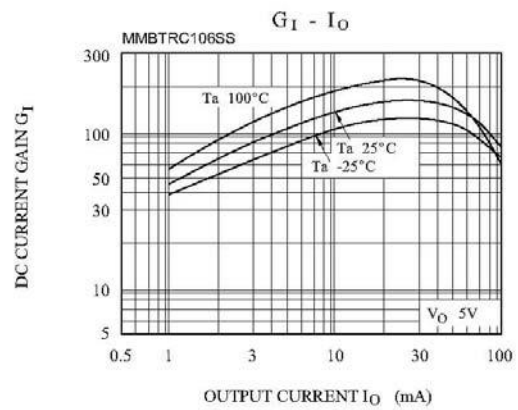
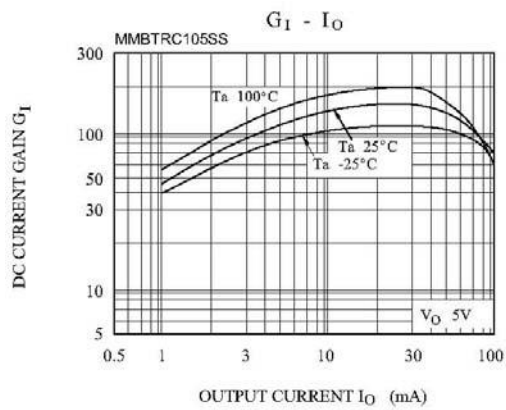
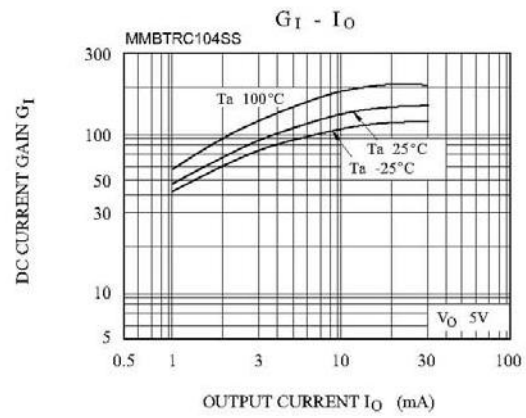
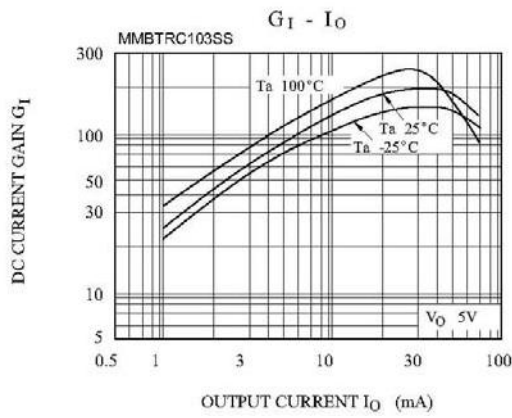
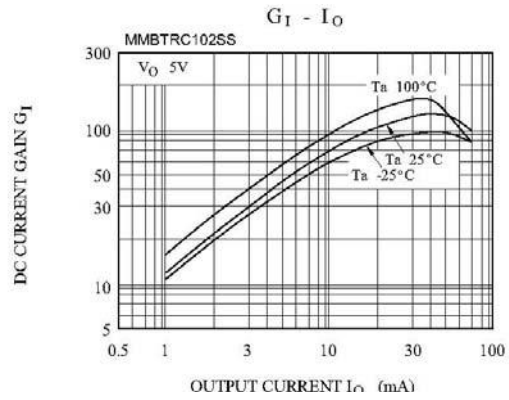
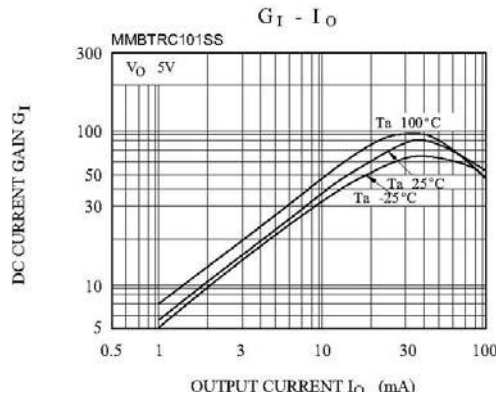
Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter | Symbol | Min. | Typ. | Max. | Unit | |
|--|--|--------------|----------------------------------|----------------------------|---|----------------------------|
| DC Current Gain at $V_o = 5\text{ V}$, $I_o = 10\text{ mA}$ | MMBTRC101SS MMBTRC102SS MMBTRC103SS MMBTRC104SS MMBTRC105SS MMBTRC106SS | G_i | 30 50 70 80 80 80 | - - - - - - | - - - - - - | - - - - - - |
| Output Cutoff Current at $V_o = 50\text{ V}$ | | $I_{O(OFF)}$ | - | - | 500 | nA |
| Input Current at $V_i = 5\text{ V}$ | MMBTRC101SS MMBTRC102SS MMBTRC103SS MMBTRC104SS MMBTRC105SS MMBTRC106SS | I_i | - - - - - - | - - - - - - | 1.8 0.88 0.36 0.18 3.6 1.8 | mA |
| Output Voltage at $I_o = 10\text{ mA}$, $I_i = 0.5\text{ mA}$ | | $V_{O(ON)}$ | - | - | 0.3 | V |
| Input Voltage (ON) at $V_o = 0.2\text{ V}$, $I_o = 5\text{ mA}$ | MMBTRC101SS MMBTRC102SS MMBTRC103SS MMBTRC104SS MMBTRC105SS MMBTRC106SS | $V_{I(ON)}$ | - - - - - - | - - - - - - | 2 2.4 3 5 1.1 1.3 | V |
| Input Voltage (OFF) at $V_o = 5\text{ V}$, $I_o = 0.1\text{ mA}$ | MMBTRC101SS~104SS MMBTRC105SS~106SS | $V_{I(OFF)}$ | 1 0.5 | - - | - - | V |
| Transition Frequency at $V_o = 10\text{ V}$, $I_o = 5\text{ mA}$ | | $f_T^{1)}$ | - | 200 | - | MHz |

1) Characteristic of transistor only.

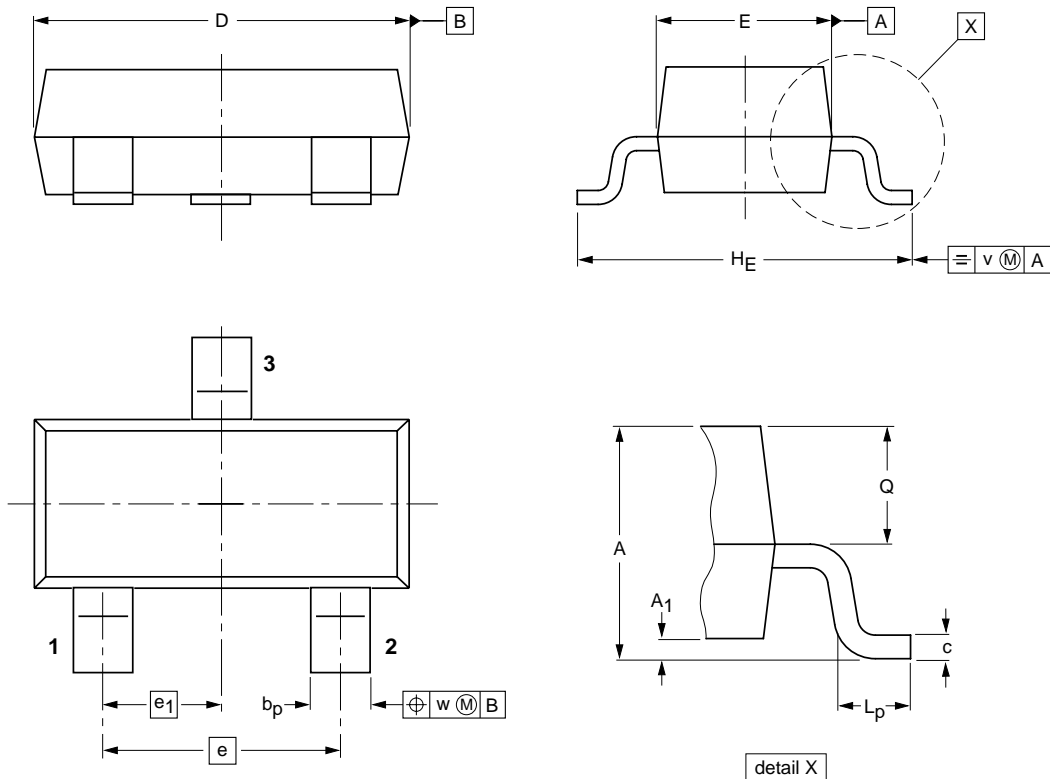






Package Outline

SOT-23



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ max. | b _p | c | D | E | e | e ₁ | H _E | L _p | Q | v | w |
|------|------------|---------------------|----------------|--------------|------------|------------|-----|----------------|----------------|----------------|--------------|-----|-----|
| mm | 1.1 0.9 | 0.1 | 0.48 0.38 | 0.15 0.09 | 3.0 2.8 | 1.4 1.2 | 1.9 | 0.95 | 2.5 2.1 | 0.45 0.15 | 0.55 0.45 | 0.2 | 0.1 |

Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SOT-23 | Tape/Reel, 7" reel | 3000 | EIA-481-1 |

单击下面可查看定价，库存，交付和生命周期等信息

[>>YFW\(佑风微\)](#)