



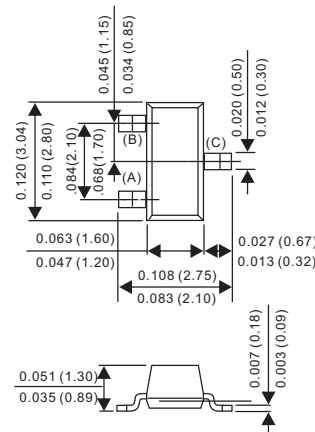
Features

- Collector current: $I_C=0.5A$



MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|--|----------------|----------|---------------|
| Collector–Base Voltage | V_{CB0} | 40 | V |
| Collector–Emitter Voltage | V_{CE0} | 25 | V |
| Emitter–Base Voltage | V_{EB0} | 5 | V |
| Collector Current — Continuous | I_C | 500 | mA |
| Collector Power Dissipation | P_C | 300 | mW |
| Thermal Resistance From Junction To Ambient | R_{thJA} | 417 | $^{\circ}C/W$ |
| Operation Junction and Storage Temperature Range | T_J, T_{stg} | -55~+150 | $^{\circ}C$ |



ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified)

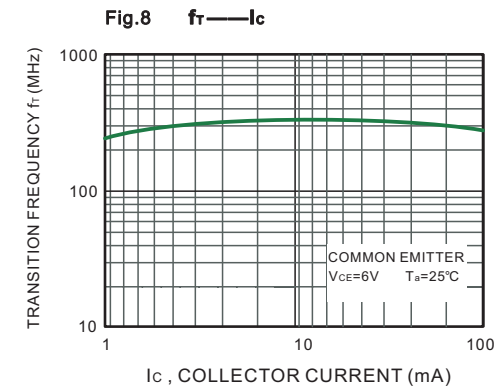
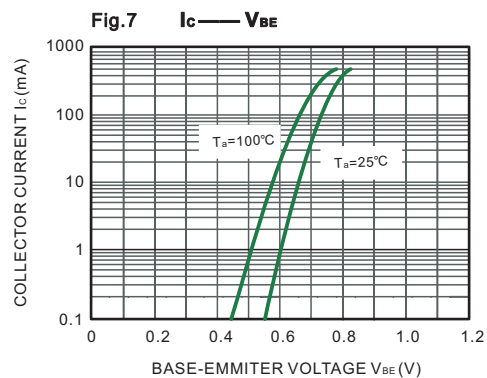
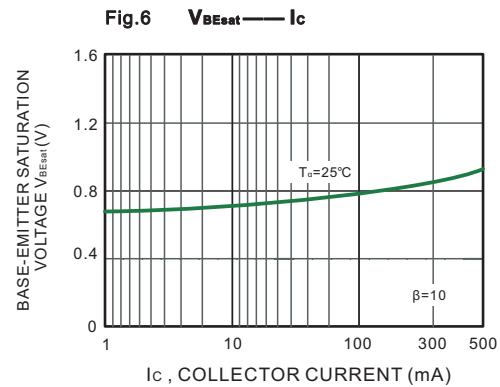
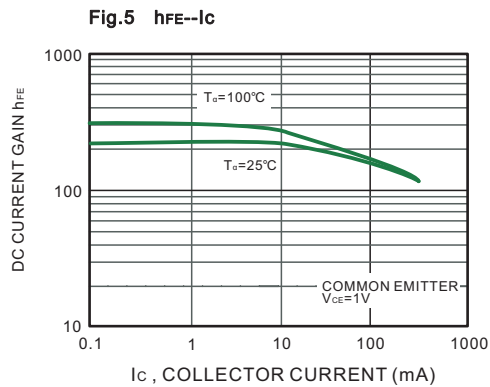
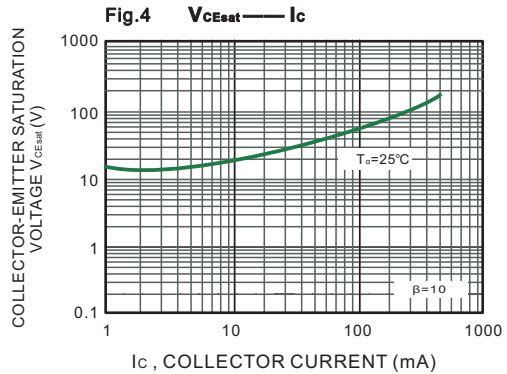
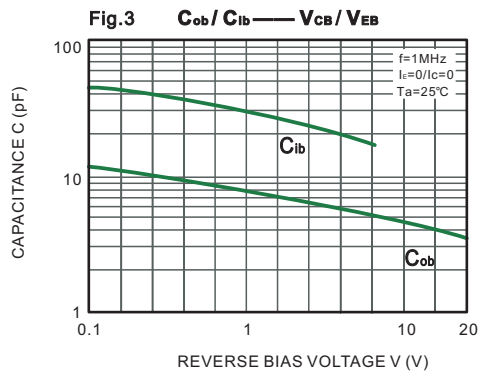
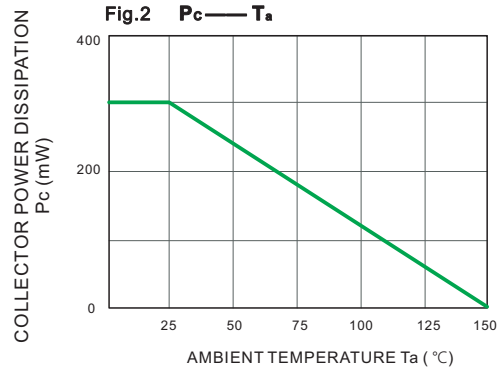
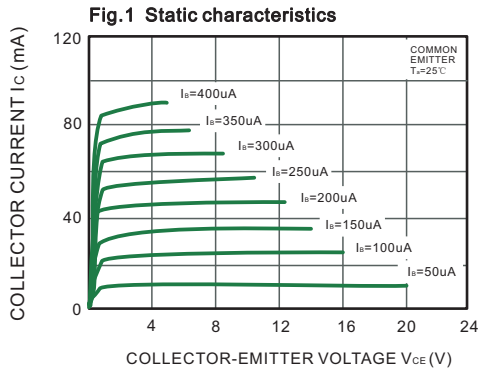
Dimensions in inches and (millimeters)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|------------------------------------|-----|-----|-----|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = 100\mu A, I_E = 0$ | 40 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = 1\text{ mA}, I_B = 0$ | 25 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = 100\mu A, I_C = 0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = 40V, I_E = 0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE} = 20V, I_B=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | | | 0.1 | μA |
| DC current gain | h_{FE1} | $V_{CE} = 1V, I_C = 50mA$ | 120 | | 400 | |
| | h_{FE2} | $V_{CE} = 1V, I_C = 500mA$ | 50 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA$ | | | 0.6 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 500mA, I_B=50mA$ | | | 1.2 | V |
| Transition frequency | f_T | $V_{CE} = 6V, I_C = 20mA, f=30MHz$ | 150 | | | MHz |

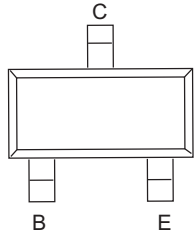
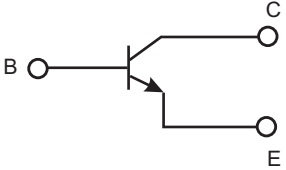
CLASSIFICATION OF h_{FE} (2)

| Rank | L | H | J |
|-------|---------|---------|---------|
| Range | 120-200 | 200-350 | 300-400 |

Rating and characteristic curves



Pinning information

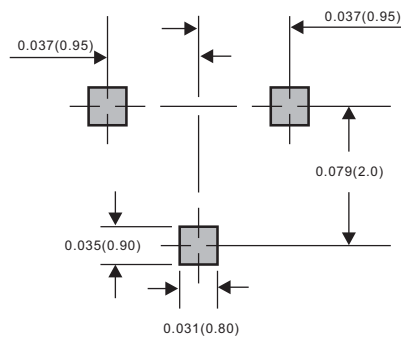
| Pin | Simplified outline | Symbol |
|---|---|---|
| PinB Base PinC Collector PinE Emitter |  |  |

Marking

| Type number | Marking code |
|-------------|--------------|
| MMBTS8050 | J3Y |

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)