

Features

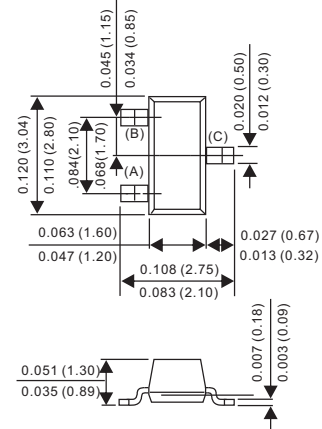
- High current capacity in compact package $I_c = 1.5A$.
- Epitaxial planar type
- Pb-Free package is available

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any
- Weight : Approximated 0.008 gram

Maximum ratings (AT $T_A = 25^\circ C$ unless otherwise noted)

| PARAMETER | Symbol | MAX. | UNIT |
|------------------------------|-----------|------|------|
| Collector-base voltage | V_{CBO} | 40 | V |
| Collector-emitter voltage | V_{CEO} | 25 | V |
| Emitter-base voltage | V_{EBO} | 5.0 | V |
| Collector current-continuoun | I_c | 1500 | mAdc |

SOT23


Dimensions in inches and (millimeters)

Thermal Characteristics

| PARAMETER | Symbol | MIN. | TYP. | MAX. | UNIT |
|---|---|-----------------|------|------|--------------|
| Total device dissipation FR-5 board (1) | $T_A = 25^\circ C$ Derate above $25^\circ C$ | P_D | | 225 | mW |
| | | | | | 1.8 |
| Thermal resistance | Junction to ambient | $R_{\theta JA}$ | | 556 | $^\circ C/W$ |
| Total device dissipation alumina substrate(2) | $T_A = 25^\circ C$ Derate above $25^\circ C$ | P_D | | 300 | mW |
| | | | | | 2.4 |
| Thermal resistance | Junction to ambient | $R_{\theta JA}$ | | 417 | $^\circ C/W$ |
| Operating Junction temperature Range | T_J | -55 | | +150 | $^\circ C$ |
| Storage temperature Range | T_{STG} | -55 | | +150 | $^\circ C$ |

1.FR-5 = 1.0 X 0.75 X 0.062 in.

2.Alumina = 0.4 X 0.3 X 0.024 in. 99.5% alumina.

Electrical Characteristics (AT $T_A = 25^\circ C$ unless otherwise noted)

Off characteristics

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|-------------------------------------|------------------|---------------|------|------|------|------|
| Collector-base breakdown voltage | $I_c = 100\mu A$ | $V_{(BR)CBO}$ | 40 | | | V |
| Collector-emitter breakdown voltage | $I_c = 1.0mA$ | $V_{(BR)CEO}$ | 25 | | | V |
| Emitter-base breakdown voltage | $I_E = 100\mu A$ | $V_{(BR)EBO}$ | 5.0 | | | V |
| Collector cutoff current | $V_{CB} = 35V$ | I_{CBO} | | | 150 | nA |
| Emitter cutoff current | $V_{EB} = 4.0V$ | I_{EBO} | | | 150 | nA |

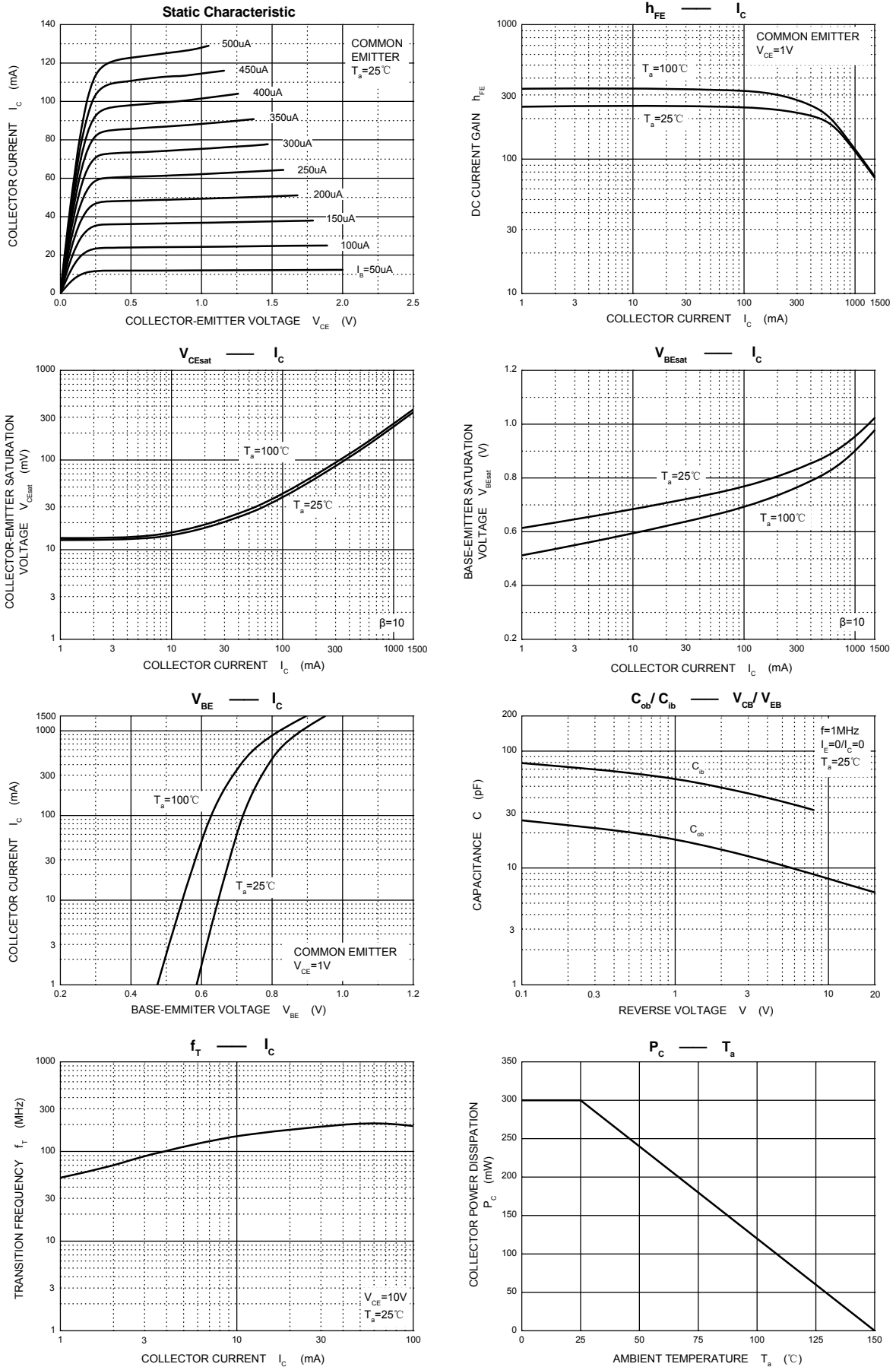
On characteristics

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|------------------------------|------------------|------|------|------|------|
| DC current gain | $I_c = 100mA, V_{CE} = 1.0V$ | h_{FE}^{*Note} | 80 | | 400 | |
| Collector-emitter saturation voltage | $I_c = 800mA, I_B = 80mA$ | $V_{CE(sat)}$ | | | 0.5 | V |

| Note | * | L | H | J |
|------|----------|--------|---------|---------|
| | h_{FE} | 80~200 | 200~350 | 300~400 |



Rating and characteristic curves





Pinning information

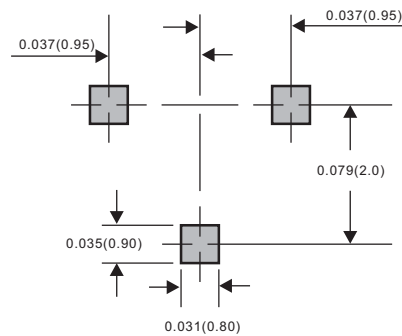
| Pin | Simplified outline | Symbol |
|---|--------------------|--------|
| PinB Base PinC Collector PinE Emitter | | |

Marking

| Type number | Marking code |
|-------------|--------------|
| SS8050 | Y1 |

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)

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