

SOT-23 Plastic-Encapsulate Transistors

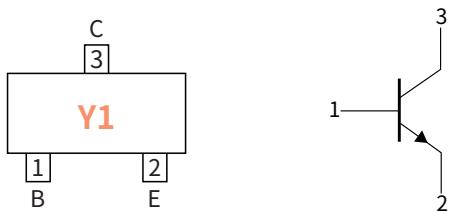
Features

- Complementary to SS8550
- Power dissipation of 300mW
- High stability and high reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

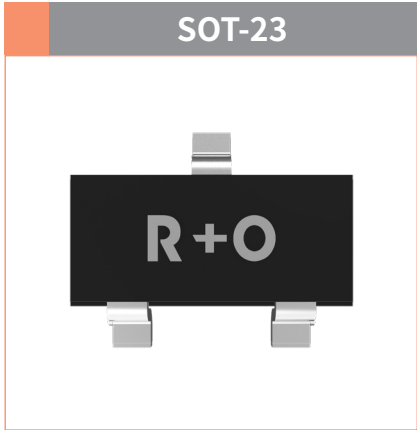
Mechanical Data

- Case: SOT-23  
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

Function Diagram



Collector-Base Voltage  
VCBO 40V  
Collector Current  
1.5 Ampere



Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                   | SYMBOL           | UNIT  | VALUE     |
|-----------------------------|------------------|-------|-----------|
| Collector-Base Voltage      | $V_{CBO}$        | V     | 40        |
| Collector-Emitter Voltage   | $V_{CEO}$        |       | 25        |
| Emitter-Base Voltage        | $V_{EBO}$        |       | 5.0       |
| Collector Current           | $I_C$            | A     | 1.5       |
| Collector Power Dissipation | $P_C$            | mW    | 300       |
| Storage temperature         | $T_{stg}$        | °C    | -55 ~+150 |
| Junction temperature        | $T_j$            | °C    | -55 ~+150 |
| Typical Thermal Resistance  | $R_{\theta J-A}$ | °C /W | 417       |

Electrical Characteristics (Ta=25°C Unless otherwise noted)

| PARAMETER                            | SYMBOL        | UNIT    | Condition                | Min | Max |
|--------------------------------------|---------------|---------|--------------------------|-----|-----|
| Collector-Base Breakdown Voltage     | $V_{(BR)CBO}$ | V       | $I_C=100\mu A, I_E=0$    | 40  | —   |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ |         | $I_C=100\mu A, I_B=0$    | 25  | —   |
| Emitter-Base Breakdown Voltage       | $V_{(BR)EBO}$ |         | $I_E=100\mu A, I_C=0$    | 5.0 | —   |
| Collector-Base cut-off current       | $I_{CBO}$     | $\mu A$ | $V_{CB}=40V, I_E=0$      | —   | 0.1 |
| Collector-Emitter cut-off current    | $I_{CEO}$     |         | $V_{CE}=20V, I_B=0$      | —   | 0.1 |
| Emitter-Base cut-off current         | $I_{EBO}$     |         | $V_{EB}=5.0V, I_C=0$     | —   | 0.1 |
| DC Current Gain                      | $h_{FE(1)}$   | —       | $I_C=100mA, V_{CE}=1.0V$ | 120 | 350 |
|                                      | $h_{FE(2)}$   |         | $I_C=800mA, V_{CE}=1.0V$ | 40  | —   |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | V       | $I_C=800mA, I_B=80mA$    | —   | 0.5 |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | V       | $I_C=800mA, I_B=80mA$    | —   | 1.2 |

● Classification Of  $h_{FE}$

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

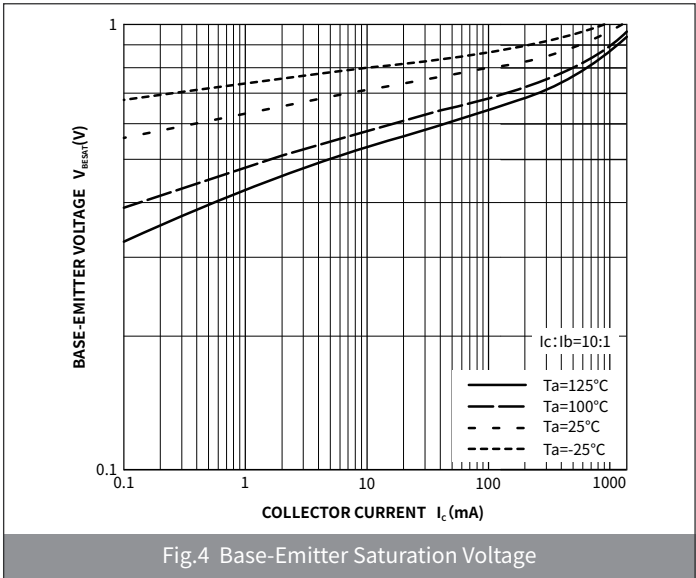
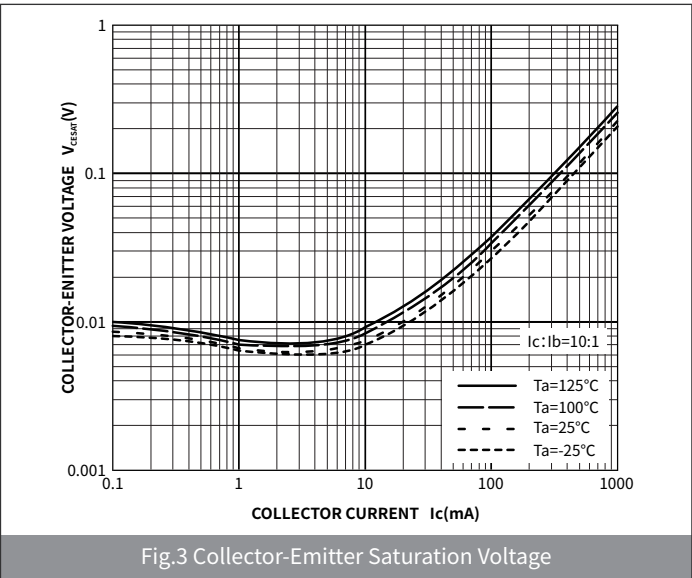
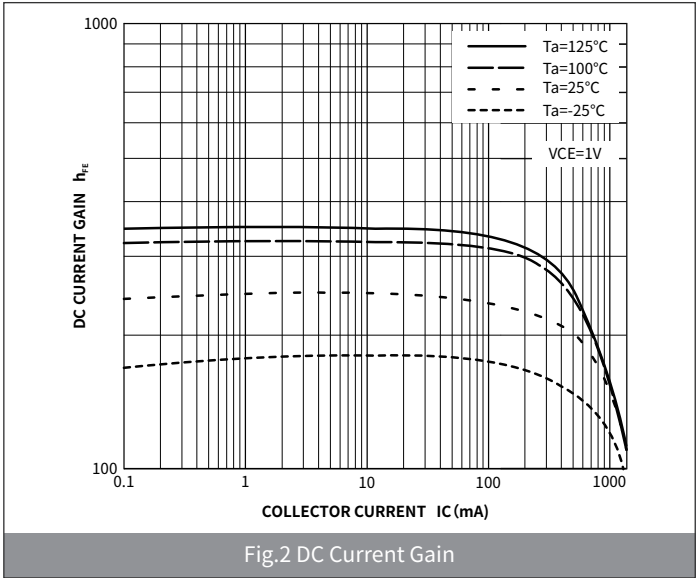
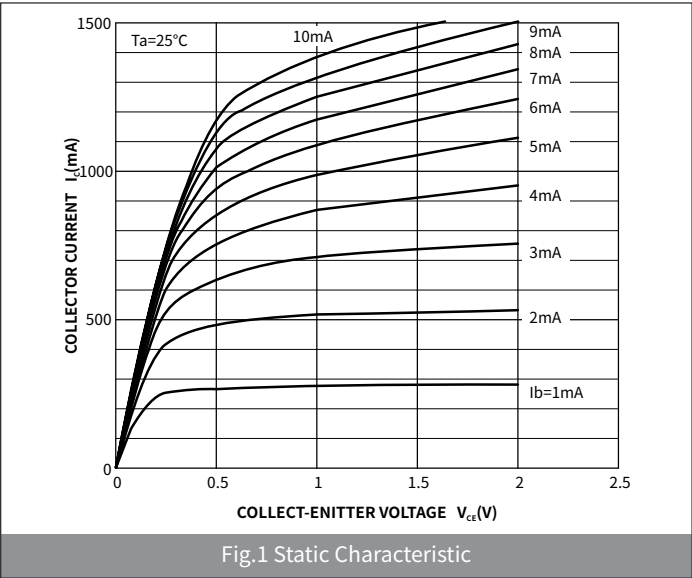
● Small-signal Characteristics

| ITEM                 | SYMBOL | Condition                       | UNIT | Min | Max |
|----------------------|--------|---------------------------------|------|-----|-----|
| Transition frequency | $f_T$  | $I_C=50mA, V_{CE}=10V, f=30MHz$ | MHz  | 100 | —   |

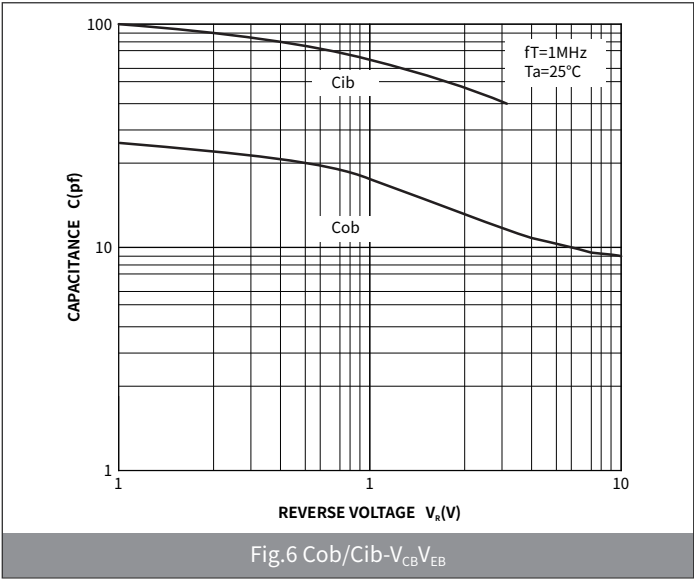
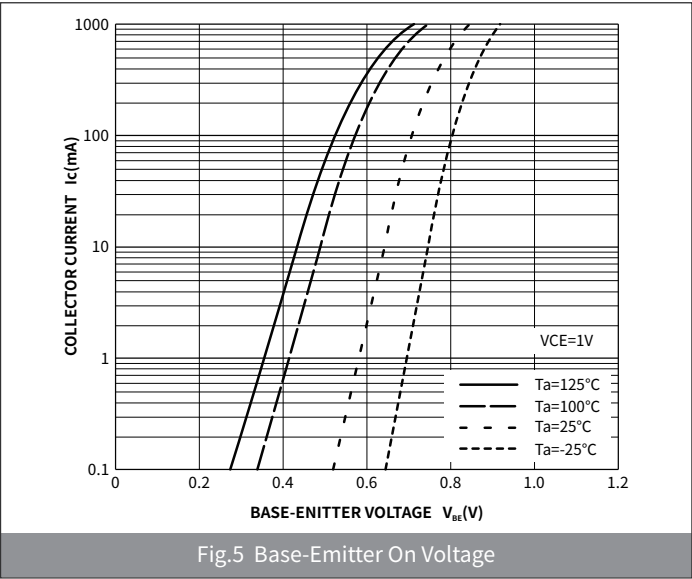
● Ordering Information

| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|---------|--------------|----------------|-----------|----------|-------------|---------------|
| SOT-23  | R1           | 0.008          | 3000      | 30000    | 120000      | 7"            |

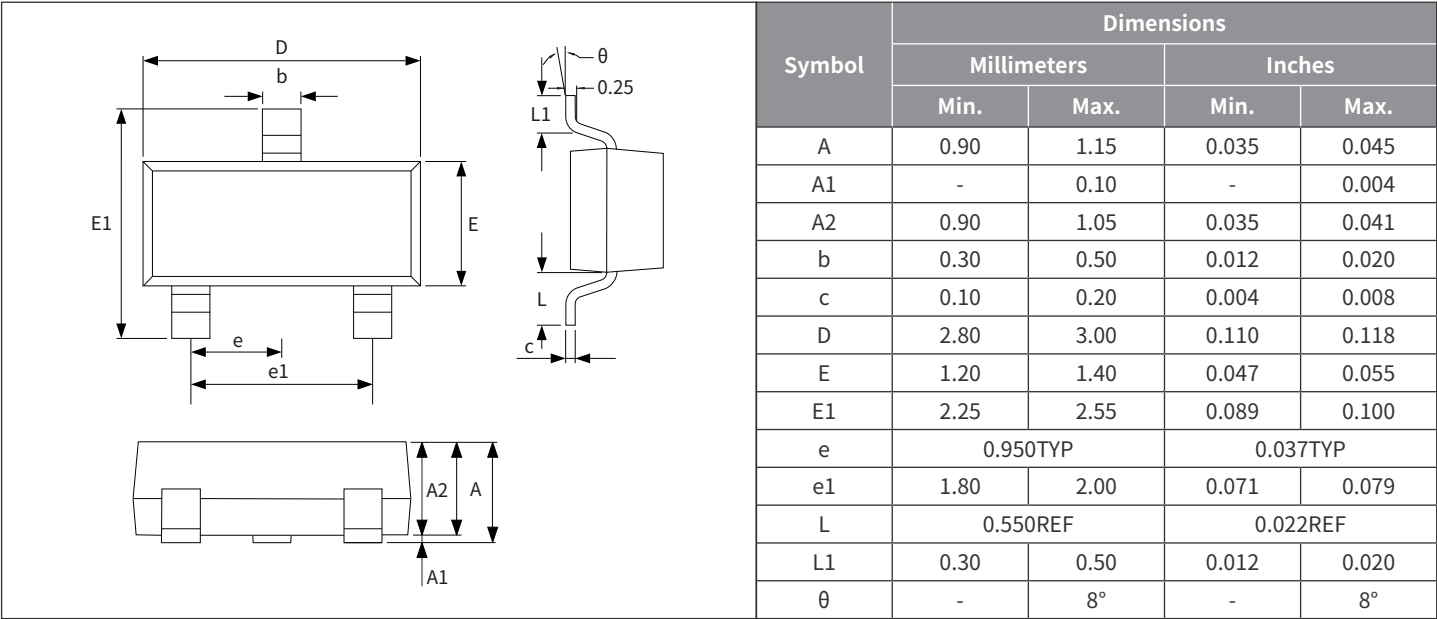
● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



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● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

