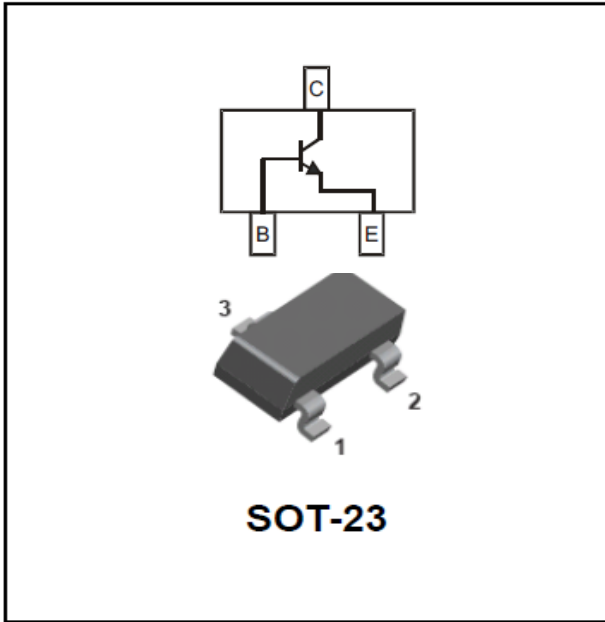


NPN Transistor



Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Marking: J6

■ Maximum Ratings (Ta=25°C unless otherwise noted)

| Item | Symbol | Unit | Conditions | Value |
|--------------------------------|-----------|------|------------|-------------|
| Collector-Base Voltage | V_{CBO} | V | | 50 |
| Collector-Emitter Voltage | V_{CEO} | V | | 45 |
| Emitter-Base Voltage | V_{EBO} | V | | 5 |
| Collector Current | I_C | A | | 0.1 |
| Collector Power Dissipation | P_C | W | | 0.2 |
| Operation Junction Temperature | T_j | °C | | 150 |
| Storage Temperature | T_{stg} | °C | | -55 to +150 |

■ Electrical Characteristics (Ta=25°C unless otherwise noted)

| Item | Symbol | Unit | Conditions | Min | Typ | Max |
|--------------------------------------|---------------|---------|-----------------------|-----|-----|------|
| Collector-base breakdown voltage | V_{CBO} | V | $I_C=100\mu A, I_E=0$ | 50 | | |
| Collector-emitter breakdown voltage | V_{CEO^*} | V | $I_C=0.1mA, I_B=0$ | 45 | | |
| Emitter-base breakdown voltage | V_{EBO} | V | $I_E=100\mu A, I_C=0$ | 5 | | |
| Collector-Base cut-off current | I_{CBO} | μA | $V_{CB}=50V, I_E=0$ | | | 0.1 |
| Collector-Emitter cut-off current | I_{CEO} | μA | $V_{CE}=35V, I_B=0$ | | | 0.1 |
| Emitter-Base cut-off current | I_{EBO} | μA | $V_{EB}=3V, I_C=0$ | | | 0.1 |
| DC current gain | h_{FE} | V | $V_{CE}=5V, I_C=1mA$ | 200 | | 1000 |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | V | $I_C=100mA, I_B=5mA$ | | | 0.3 |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | V | $I_C=100mA, I_B=5mA$ | | | 1 |



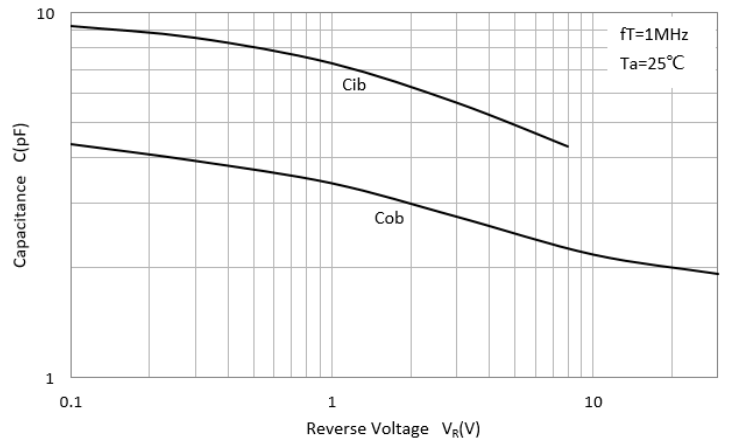
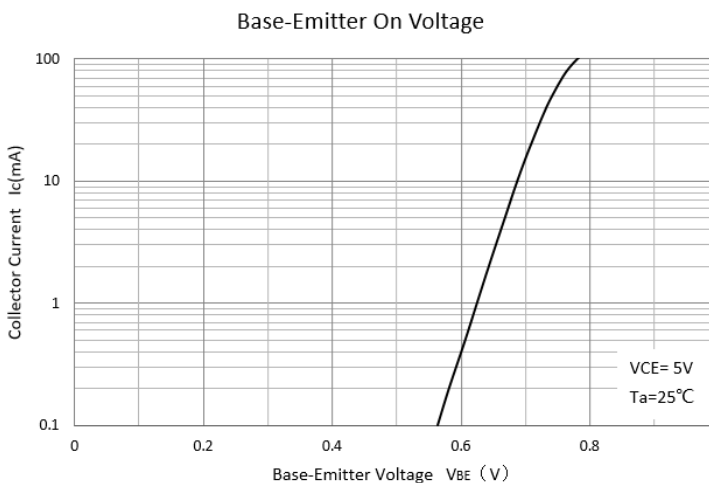
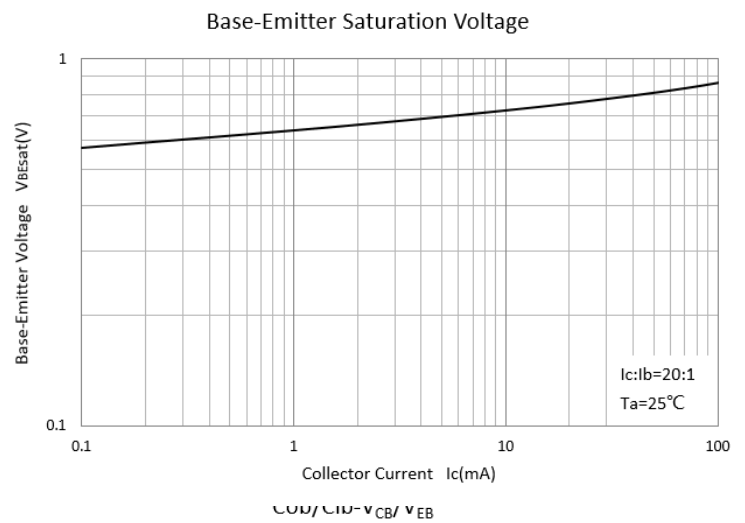
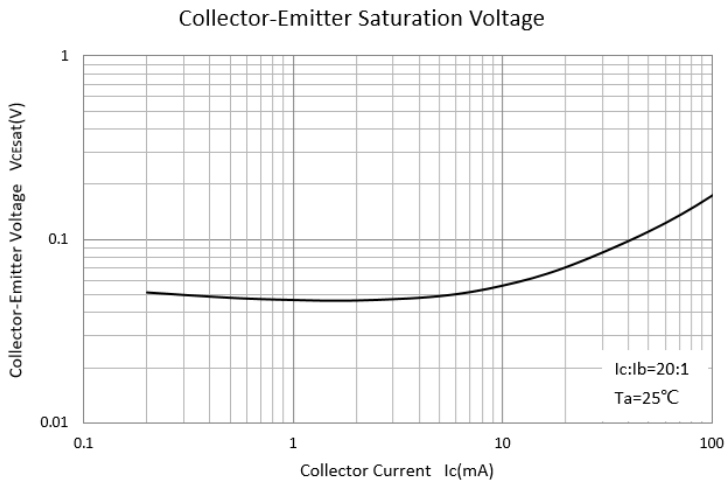
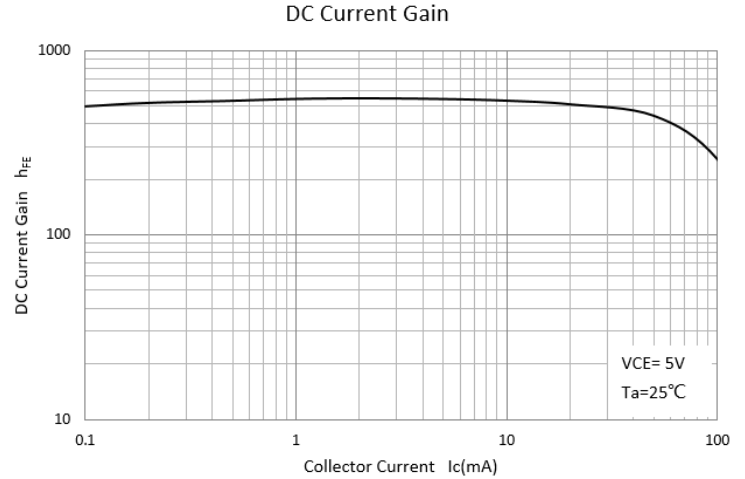
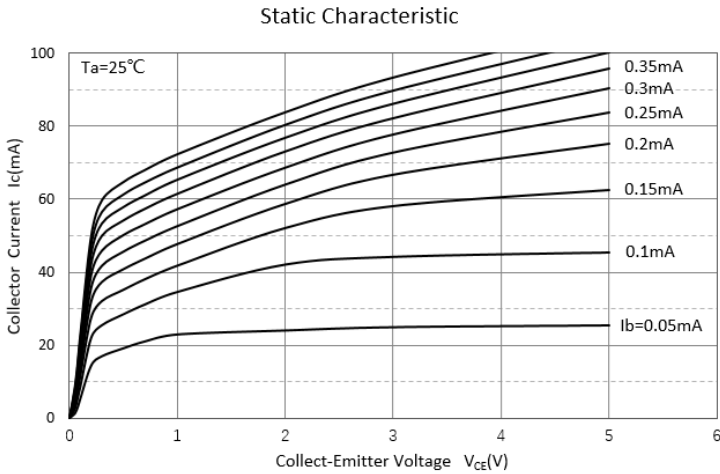
■ CLASSIFICATION OF HFE (1)

| RANK | L | H |
|-------|---------|----------|
| RANGE | 200-450 | 450-1000 |

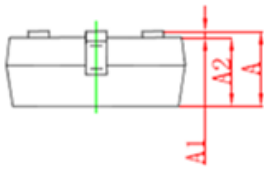
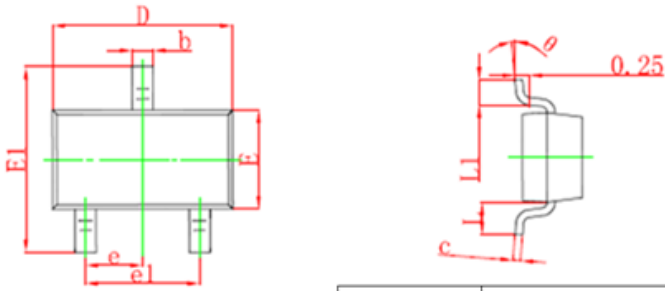
■ Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| S9014 | F2 | Approximate 0.008 | 3000 | 30000 | 120000 | 7" reel |

■ Characteristics (Typical)

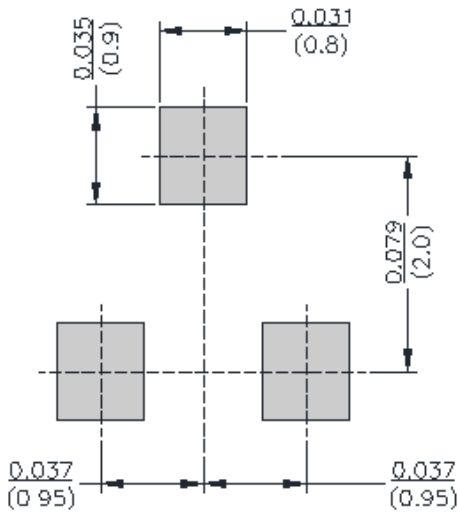


■SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.100 | 0.200 | 0.004 | 0.008 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950TYP | | 0.037TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550REF | | 0.022REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

■SOT-23 Soldering Footprint





Disclaimer

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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