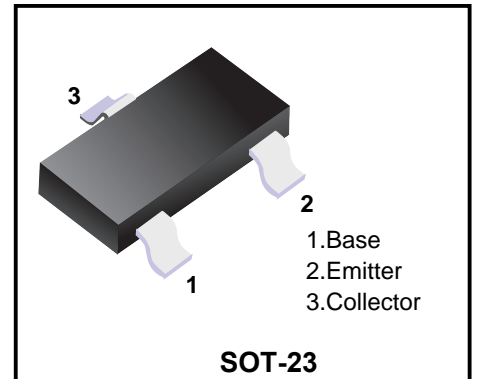


NPN Transistors

Features

- Power dissipation



Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|---------------------------------|------------------|------------|------|
| Collector to Base Voltage | V _{CB0} | 60 | V |
| Collector to Emitter Voltage | V _{CEO} | 50 | V |
| Emitter to Base Voltage | V _{EB0} | 5 | V |
| Collector Current to Continuous | I _c | 150 | mA |
| Collector Power Dissipation | P _c | 200 | mW |
| Junction Temperature | T _j | 125 | °C |
| Storage Temperature | T _{stg} | -55 to 125 | °C |

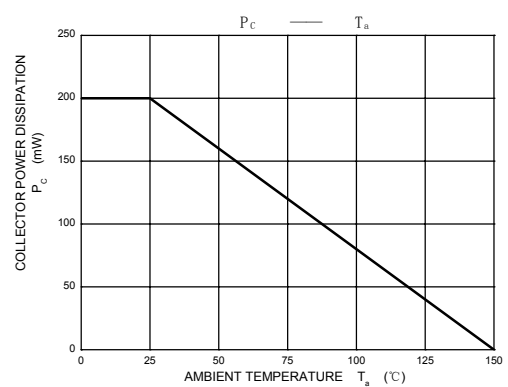
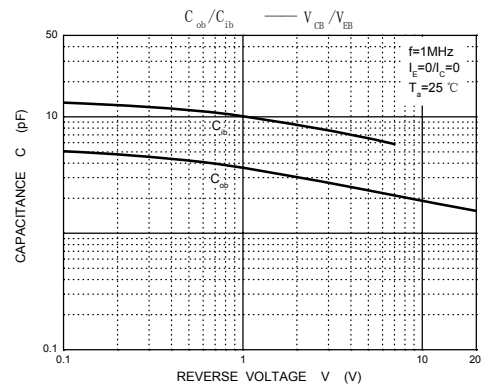
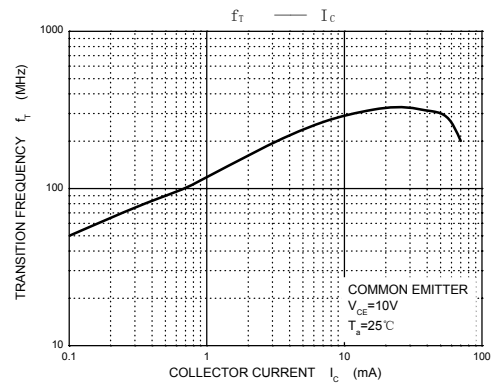
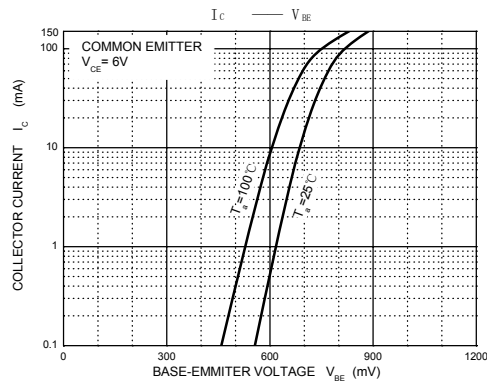
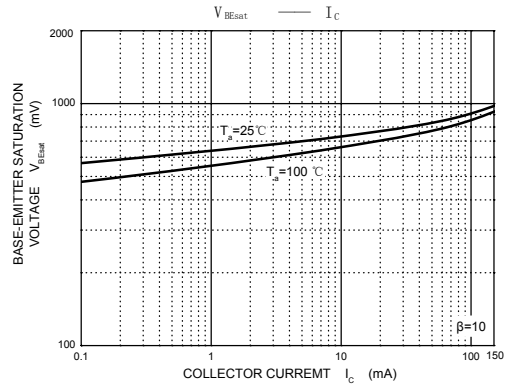
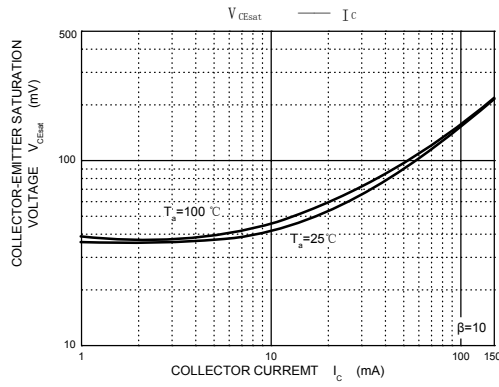
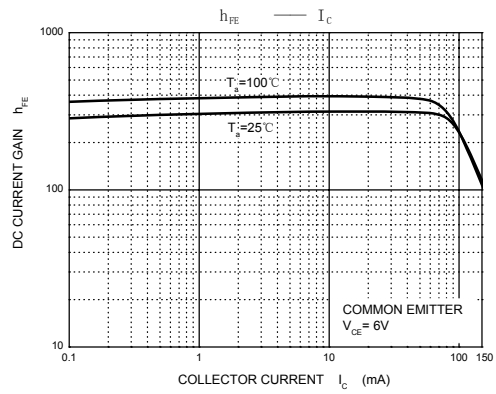
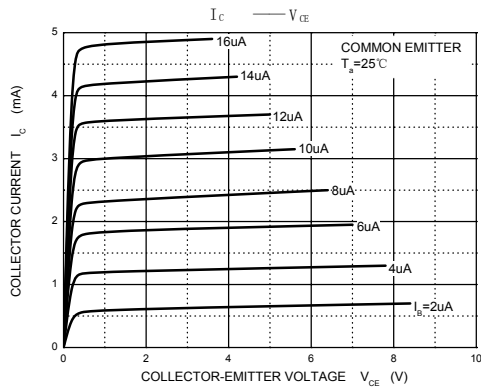
Electrical Characteristics (Ta=25°C unless otherwise specified.)

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|-----------------------------------------|----------------------|-----------------------------------------------------|-----|-----|------|------|
| Collector to base breakdown voltage | V _{CB0} | I _c = 100 μ A, I _E =0 | 60 | | | V |
| Collector to emitter breakdown voltage | V _{CEO} | I _c = 0.1mA, I _B =0 | 50 | | | V |
| Collector cut to off current | I _{CBO} | V _{CB} =60V, I _E =0 | | | 0.1 | μ A |
| Collector cut to off current | I _{CEO} | V _{CE} =40V, I _B =0 | | | 1 | μ A |
| Emitter cut to off current | I _{EBO} | V _{EB} = 5V, I _c =0 | | | 0.1 | μ A |
| DC current gain | h _{FE} | V _{CE} = 6V, I _c = 2mA | 130 | | 400 | |
| Collector to emitter saturation voltage | V _{CE(sat)} | I _c =100 mA, I _B = 10mA | | | 0.25 | V |
| Base to emitter saturation voltage | V _{BE(sat)} | I _c =100 mA, I _B = 10mA | | | 1 | V |
| Transition frequency | f _T | V _{CE} =10V, I _c = 1mA, f=30MHz | 80 | | | MHz |

h_{FE} Classification

| Type | 2SC1815-L | 2SC1815-H |
|---------|-----------|-----------|
| Range | 130-200 | 200-400 |
| Marking | HFL | HF |

Typical Characteristics



Ordering information

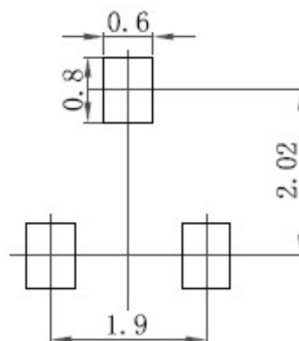
| Package | Packing Description | Base Quantity | Packing Quantity |
|---------|---------------------|---------------|-------------------------------|
| SOT-23 | Tape/Reel,7"reel | 3000pcs/Reel | 24000PCS/Box 120000PCS/Carton |

Package Dimensions

SOT-23

| Dim. | Millimeter (mm) | | mil | |
|------|-----------------|------|------|------|
| | Min. | Max. | Min. | Max. |
| A | 0.9 | 1.15 | 35 | 45 |
| A1 | 0.1 | | 3.9 | |
| bp | 0.38 | 0.48 | 15 | 19 |
| C | 0.09 | 0.15 | 3.54 | 5.9 |
| D | 2.8 | 3.0 | 110 | 118 |
| E | 1.2 | 1.4 | 47 | 55 |
| E | 1.9 | | 75 | |
| E1 | 0.95 | | 37 | |
| HE | 2.1 | 2.55 | 83 | 100 |
| Lp | 0.15 | 0.45 | 5.9 | 18 |
| Q | 0.45 | 0.55 | 18 | 22 |
| v | 0.2 | | 7.9 | |
| W | 0.1 | | 4 | |

The recommended mounting pad size



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