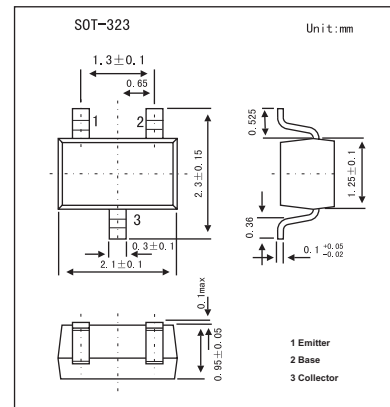


NPN Epitaxial Planar Silicon Transistor

2SC4446

■ Features

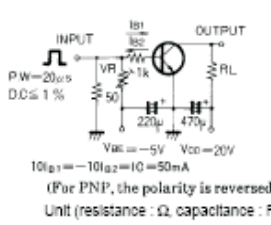
- Very small-sized package
- High VEBO.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---------------------------|-----------|-------------|------------------|
| Collector-base voltage | V_{CB0} | 60 | V |
| Collector-emitter voltage | V_{CE0} | 50 | V |
| Emitter-base voltage | V_{EB0} | 15 | V |
| Collector current | I_C | 150 | mA |
| Collector current(Pulse) | I_{CP} | 300 | mA |
| Base current | I_B | 30 | mA |
| Collector dissipation | P_C | 150 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

2SC4446

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit | |
|-----------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|----|
| Collector cutoff current | IcBO | V _{CB} = 40V, I _E =0 | | | 0.1 | μA | |
| Emitter cutoff current | I _E BO | V _{EB} = 10V, I _C =0 | | | 0.1 | μA | |
| DC current gain | h _{FE} | V _{CE} = 6V, I _C = 1mA | 135 | | 600 | | |
| Gain bandwidth product | f _T | V _{CE} = 6V, I _C = 1mA | | 130 | | MHz | |
| Collector-to-emitter saturation voltage | V _{CE(sat)} | I _C = 50mA, I _B = 5mA | | 0.15 | 0.5 | V | |
| Base-to-emitter saturation voltage | V _{BE(sat)} | I _C = 50mA, I _B = 5mA | | 0.85 | 1.2 | V | |
| Collector-to-base breakdown voltage | V _{(BR)CBO} | I _C = 10μA, I _E = 0 | 60 | | | V | |
| Collector-to-emitter breakdown voltage | V _{(BR)CEO} | I _C = 1mA, R _{BE} = ∞ | 50 | | | V | |
| Emitter-to-base breakdown voltage | V _{(BR)EBO} | I _E = 10μA, I _C = 0 | 15 | | | V | |
| Output capacitance | C _{ob} | V _{CB} = 6V, f = 1MHz | | 2.2 | | pF | |
| Turn-on time | ton |  <p> PW=20μs D.C.≤ 1% V_{BE} = -5V V_{CE} = 20V I_{C1} = -I_{B2} = I_C = 50mA (For PNP, the polarity is reversed.) Unit (resistance : Ω, capacitance : F) </p> | | 50 | | ns | |
| Storage time | tstg | | | | 590 | | ns |
| Fall time | tf | | | | 110 | | ns |

■ hFE Classification

| Marking | H | | |
|---------|---------|---------|---------|
| | 5 | 6 | 7 |
| hFE | 135~270 | 200~400 | 300~600 |