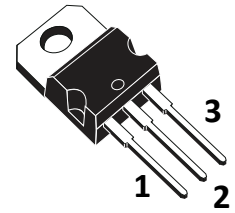




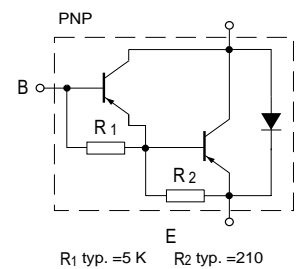
Features

- Medium Power Complementary Silicon Transistors



1.BASE
2.COLLECTOR
3.EMITTER

TO-220S



Maxmim Ratings (Ta=25 unless otherwise noted)

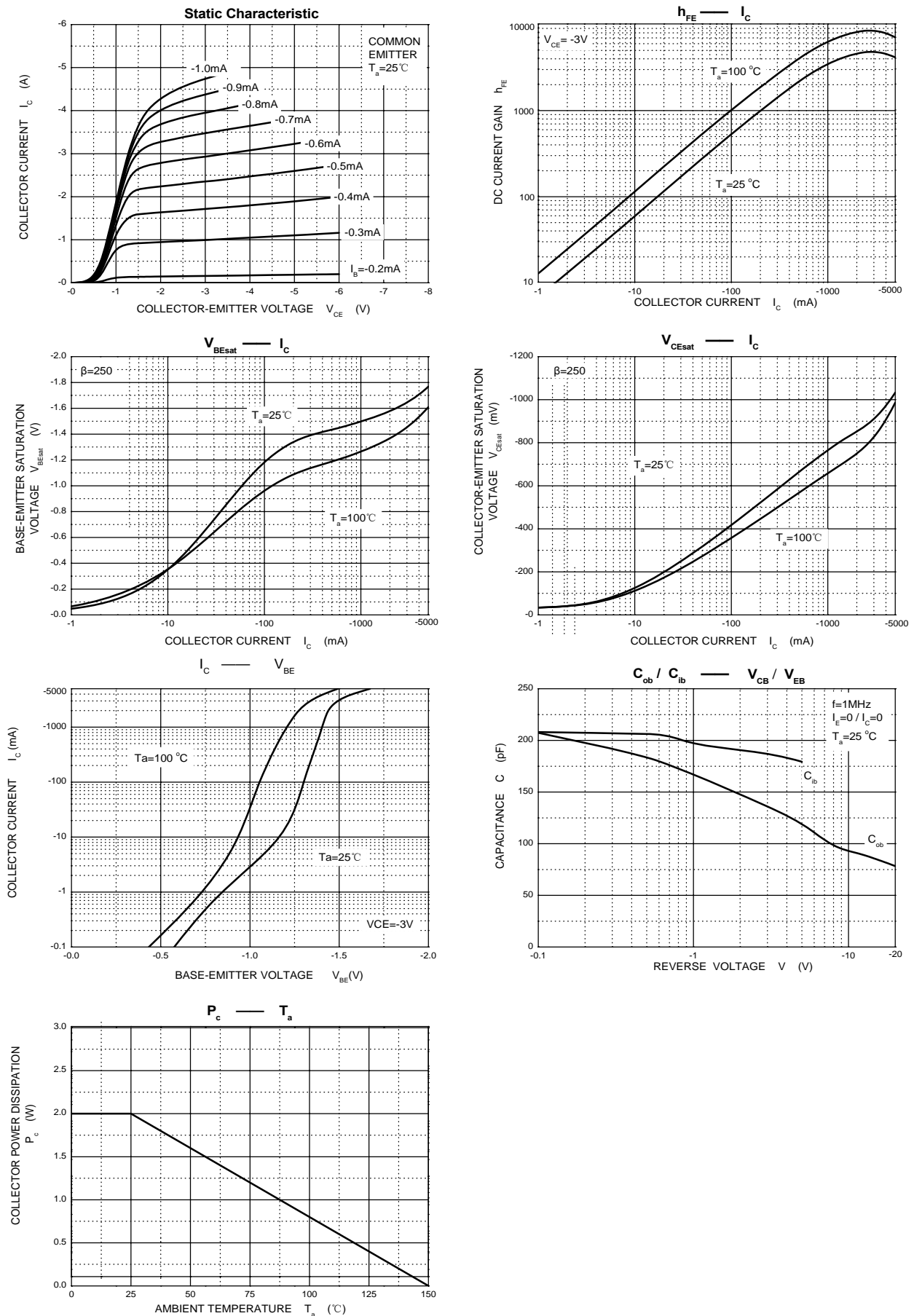
| Symbol | Parameter | Value | Unit |
|-----------------|--|----------|------|
| V_{CBO} | Collector-Base Voltage | -100 | V |
| V_{CEO} | Collector-Emitter Voltage | -100 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current | -5 | A |
| P_C | Collector Power Dissipation | 2 | W |
| $R_{\theta JA}$ | Thermal Resistance from Junction to Ambient | 62.5 | °C/W |
| T_J, T_{stg} | Operation Junction and Storage Temperature Range | -55~+150 | °C |

Electrcal Charcteristics (Ta=25 unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Max | Unit |
|--------------------------------------|----------------|--|------|----------|------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -1mA, I_E = 0$ | -100 | | V |
| Collector-emitter breakdown voltage | $V_{CEO(SUS)}$ | $I_C = -30mA, I_B = 0$ | -100 | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -100V, I_E = 0$ | | -0.2 | mA |
| Collector cut-off current | I_{CEO} | $V_{CE} = -50V, I_B = 0$ | | -0.5 | mA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5V, I_C = 0$ | | -2 | mA |
| DC current gain | $h_{FE(1)}$ | $V_{CE} = -3V, I_C = -0.5A$ | 1000 | | |
| | $h_{FE(2)}$ | $V_{CE} = -3V, I_C = -3A$ | 1000 | 12000 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -3A, I_B = -12mA$ $I_C = -5A, I_B = -20mA$ | | -2 -4 | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = -3V, I_C = -3A$ | | -2.5 | V |
| Output Capacitance | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 0.1MHz$ | | 300 | pF |

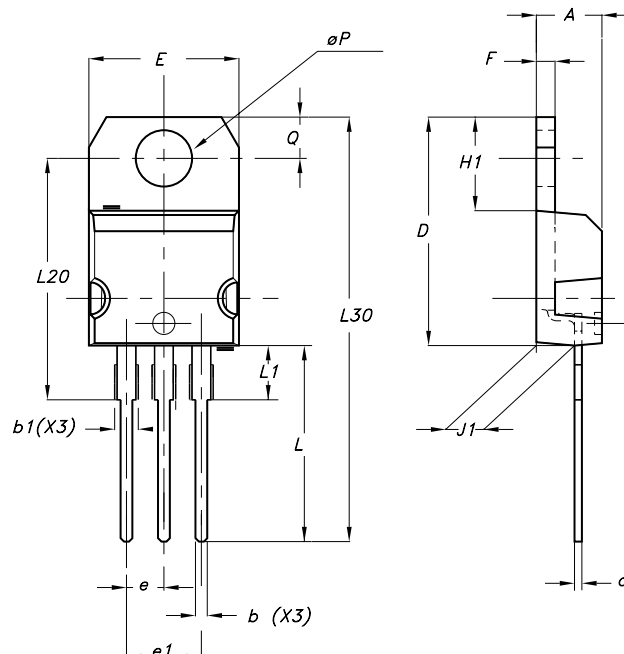


Typical Characteristics





Package Information TO-220S



| DIM. | mm. | | | inch | | |
|------|-------|-------|-------|-------|-------|-------|
| | MIN. | TYP | MAX. | MIN. | TYP. | MAX. |
| A | 4.40 | | 4.60 | 0.173 | | 0.181 |
| b | 0.61 | | 0.88 | 0.024 | | 0.034 |
| b1 | 1.15 | | 1.70 | 0.045 | | 0.066 |
| c | 0.49 | | 0.70 | 0.019 | | 0.027 |
| D | 15.25 | | 15.75 | 0.60 | | 0.620 |
| E | 10 | | 10.40 | 0.393 | | 0.409 |
| e | 2.40 | | 2.70 | 0.094 | | 0.106 |
| e1 | 4.95 | | 5.15 | 0.194 | | 0.202 |
| F | 1.23 | | 1.32 | 0.048 | | 0.052 |
| H1 | 6.20 | | 6.60 | 0.244 | | 0.256 |
| J1 | 2.40 | | 2.72 | 0.094 | | 0.107 |
| L | 13 | | 14 | 0.511 | | 0.551 |
| L1 | 3.50 | | 3.93 | 0.137 | | 0.154 |
| L20 | | 16.40 | | | 0.645 | |
| L30 | | 28.90 | | | 1.137 | |
| øP | 3.75 | | 3.85 | 0.147 | | 0.151 |
| Q | 2.65 | | 2.95 | 0.104 | | 0.116 |



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