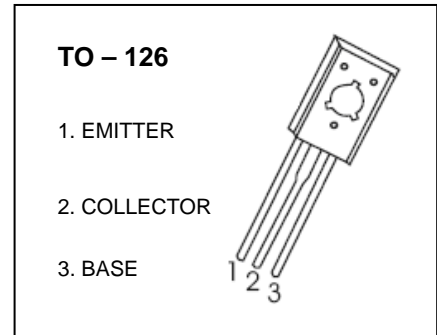


## TO-126 Plastic-Encapsulate Transistors

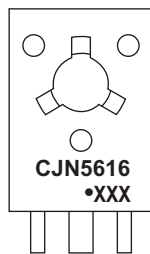
### CJN5616 TRANSISTOR (NPN)

#### FEATURES

- Low Voltage:
- High Current

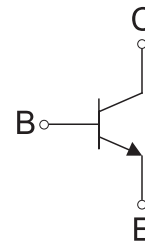


#### MARKING



CJN5616=Device code  
Solid dot= Green molding compound device, if none, the normal device  
XXX=Code

#### Equivalent Circuit



#### ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|-------------|---------|----------------|---------------|
| CJN5616     | TO-126  | Bulk           | 200pcs/Bag    |
| CJN5616-TU  | TO-126  | Tube           | 60pcs/Tube    |

#### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol          | Parameter                                   | Value    | Unit                        |
|-----------------|---|----------|-----------------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | 100      | V                           |
| $V_{CEO}$       | Collector-Emitter Voltage                   | 80       | V                           |
| $V_{EBO}$       | Emitter-Base Voltage                        | 5        | V                           |
| $I_C$           | Collector Current                           | 1        | A                           |
| $P_C$           | Collector Power Dissipation                 | 1.25     | W                           |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 100      | $^{\circ}\text{C}/\text{W}$ |
| $T_j$           | Junction Temperature                        | 150      | $^{\circ}\text{C}$          |
| $T_{stg}$       | Storage Temperature                         | -55~+150 | $^{\circ}\text{C}$          |

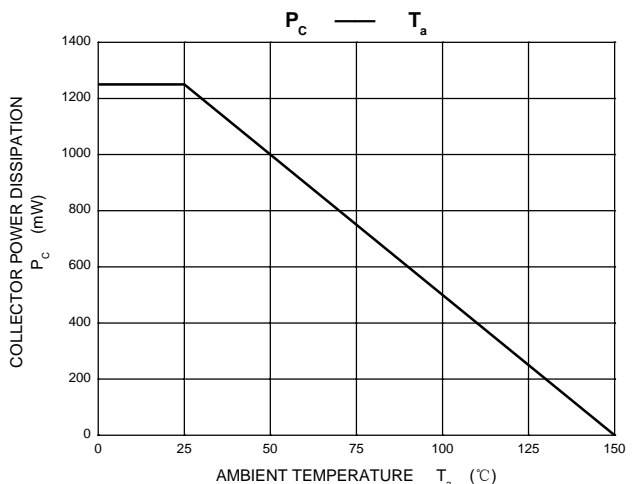
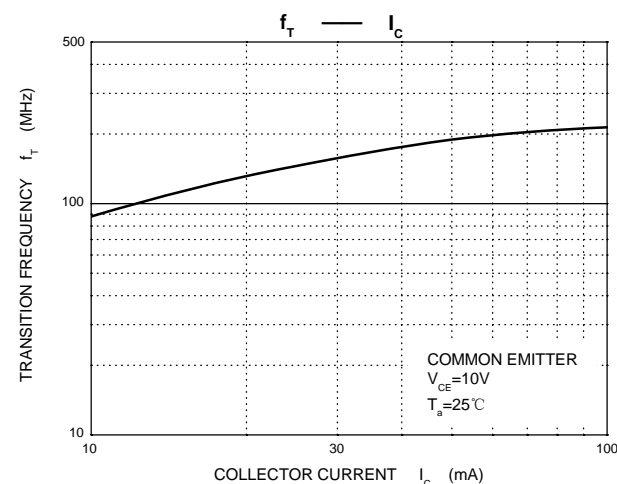
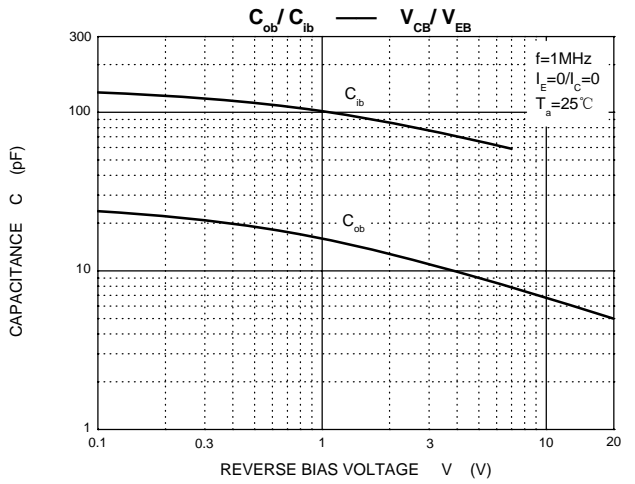
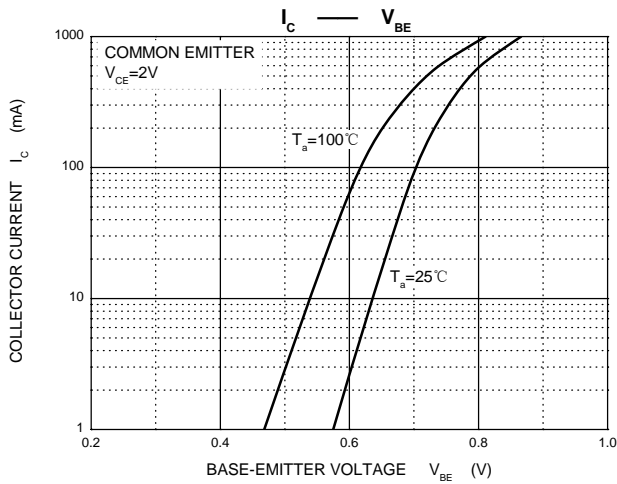
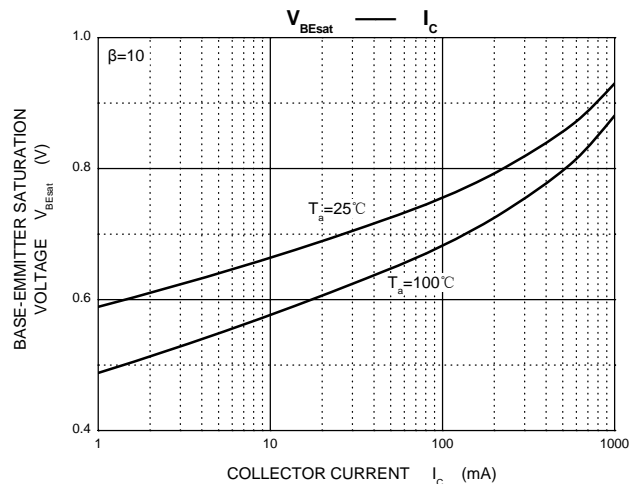
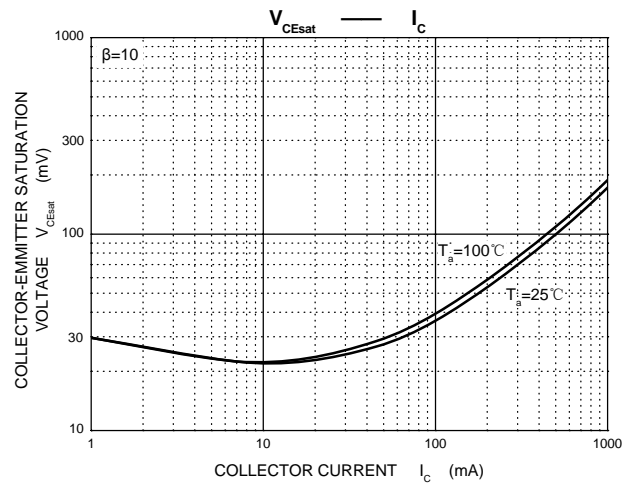
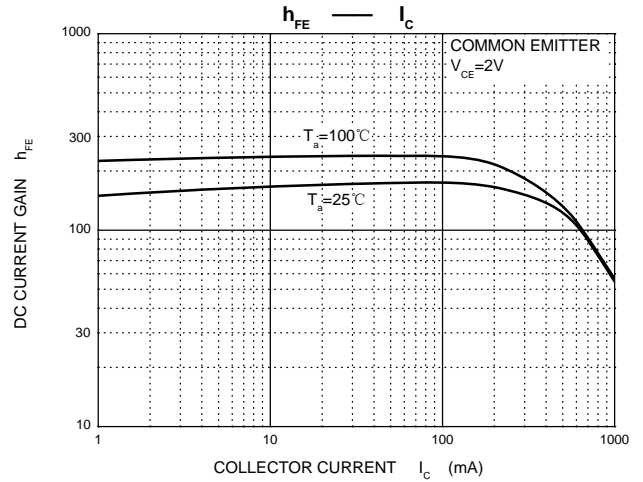
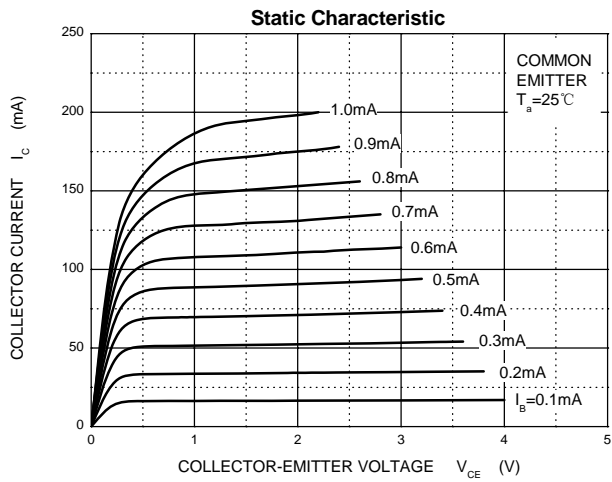
## ELECTRICAL CHARACTERISTICS

$T_a=25\text{ }^\circ\text{C}$  unless otherwise specified

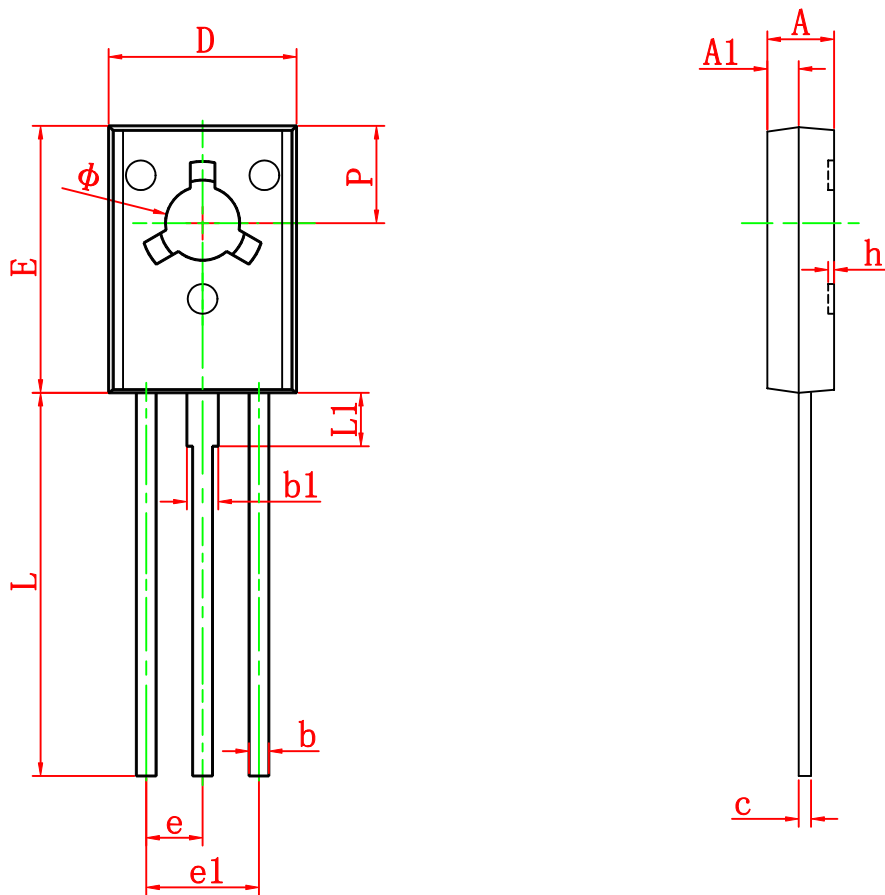
| Parameter                            | Symbol          | Test conditions                                       | Min | Typ | Max | Unit          |
|--------------------------------------|-----------------|---|-----|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$   | $I_C=100\mu\text{A}, I_E=0$                           | 100 |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}^*$ | $I_C=10\text{mA}, I_B=0$                              | 80  |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$   | $I_E=100\mu\text{A}, I_C=0$                           | 5   |     |     | V             |
| Collector cut-off current            | $I_{CBO}$       | $V_{CB}=30\text{V}, I_E=0$                            |     |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$       | $V_{EB}=5\text{V}, I_C=0$                             |     |     | 0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}^*$   | $V_{CE}=2\text{V}, I_C=5\text{mA}$                    | 40  |     |     |               |
|                                      | $h_{FE(2)}^*$   | $V_{CE}=2\text{V}, I_C=150\text{mA}$                  | 120 |     | 300 |               |
|                                      | $h_{FE(3)}^*$   | $V_{CE}=2\text{V}, I_C=500\text{mA}$                  | 25  |     |     |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}^*$ | $I_C=500\text{mA}, I_B=50\text{mA}$                   |     |     | 0.5 | V             |
| Base-emitter voltage                 | $V_{BE}^*$      | $V_{CE}=2\text{V}, I_C=500\text{mA}$                  |     |     | 1   | V             |
| Transition frequency                 | $f_T$           | $V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$ |     | 162 |     | MHz           |

\*Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2.0\%$ .

# Typical Characteristics



# TO-126 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min                       | Max    | Min                  | Max   |
| A      | 2.500                     | 2.900  | 0.098                | 0.114 |
| A1     | 1.100                     | 1.500  | 0.043                | 0.059 |
| b      | 0.660                     | 0.860  | 0.026                | 0.034 |
| b1     | 1.170                     | 1.370  | 0.046                | 0.054 |
| c      | 0.450                     | 0.600  | 0.018                | 0.024 |
| D      | 7.400                     | 7.800  | 0.291                | 0.307 |
| E      | 10.600                    | 11.000 | 0.417                | 0.433 |
| e      | 2.290 TYP                 |        | 0.090 TYP            |       |
| e1     | 4.480                     | 4.680  | 0.176                | 0.184 |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| L      | 15.300                    | 15.700 | 0.602                | 0.618 |
| L1     | 2.100                     | 2.300  | 0.083                | 0.091 |
| P      | 3.900                     | 4.100  | 0.154                | 0.161 |
| $\Phi$ | 3.000                     | 3.200  | 0.118                | 0.126 |