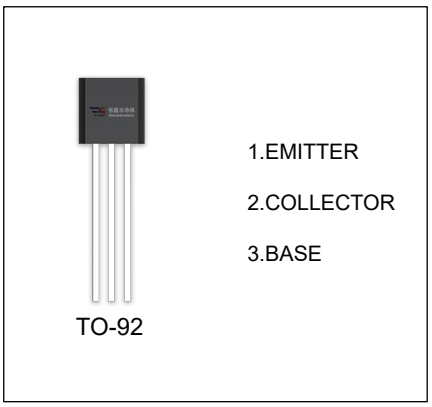
TRANSISTOR (NPN)

# BF422BF420




## FEATURES

- Low feedback capacitance.
- NPN transistors in a TO-92 plastic package.
  PNP complements: BF421 and BF423
- Class-B video output stages in colour
  television and professional monitor equipment.

## ORDERING INFORMATION

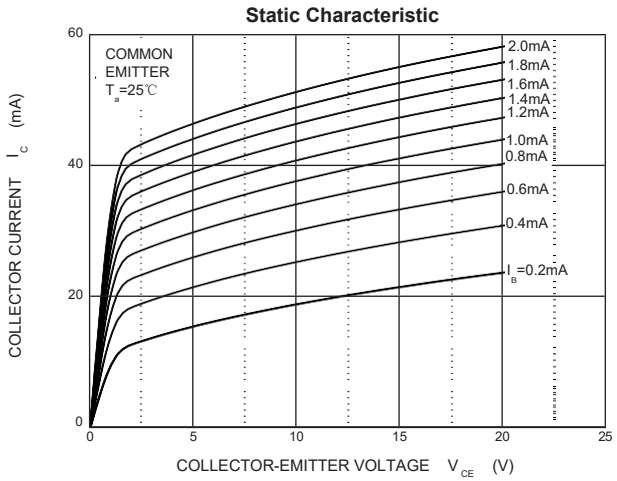
| Part Number | Package | Packing Method | Pack Quantity |
|---|---|---|---|
| BF420 | TO-92 | Bulk | 1000pcs/Bag |
| BF420-TA | TO-92 | Tape | 2000pcs/Box |
| BF422 | TO-92 | Bulk | 1000pcs/Bag |
| BF422-TA | TO-92 | Tape | 2000pcs/Box |

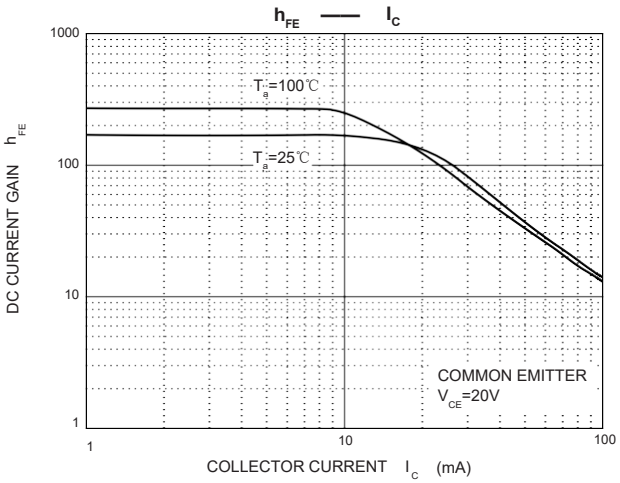
## MAXIMUM RATINGS ($T_a$=25℃ unless otherwise noted)

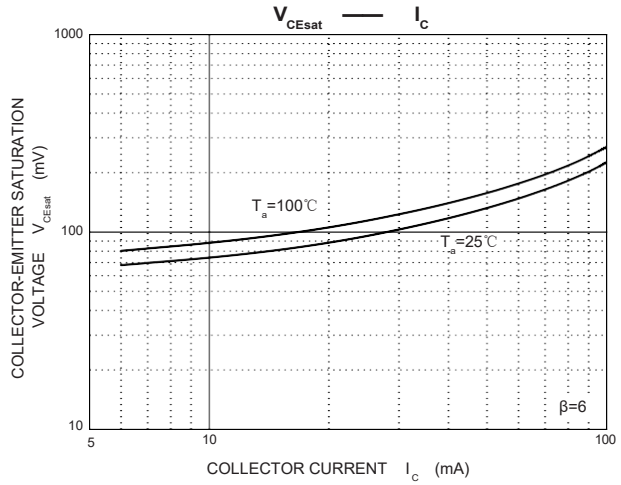
| Symbol | Parameter | BF420 | BF422 | Unit |
|---|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 300 | 250 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 300 | 250 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | | V |
| $I_C$ | Collector Current -Continuous | 100 | | mA |
| $P_C$ | Collector Power Dissipation | 0.830 | | W |
| $R_{thja}$ | Thermal resistance from junction to ambient | 151 | | ℃/W |
| $T_J$,$T_{stg}$ | Operation Junction and Storage Temperature Range | -55~150 | | ℃ |

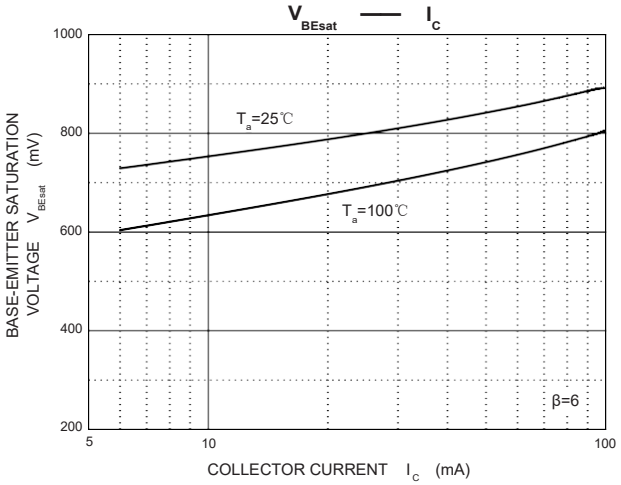
**$T_a$=25℃ unless otherwise specified**

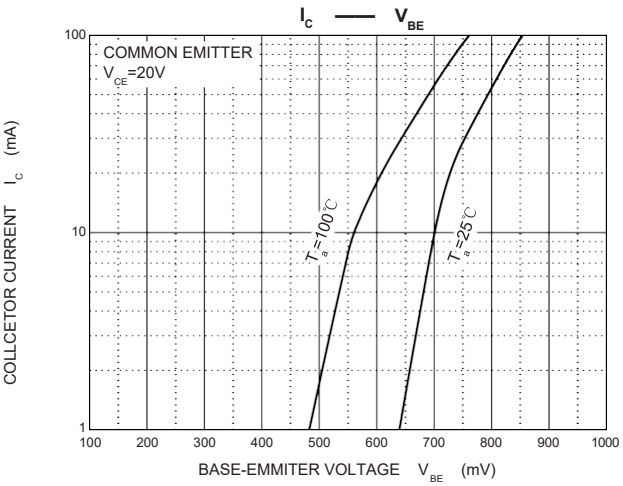
| Parameter | | Symbol | Test conditions | MIN | MAX | UNIT |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | BF420<br>BF422 | $V_{(BR)CBO}$ | $I_C$=100μA, $I_E$=0 | 300<br>250 | | V |
| Collector-emitter breakdown voltage | BF420<br>BF422 | $V_{(BR)CEO}$ | $I_C$= 1mA , $I_B$=0 | 300<br>250 | | V |
| Emitter-base breakdown voltage | | $V_{(BR)EBO}$ | $I_E$=100μA, $I_C$=0 | 5 | | V |
| Collector cut-off current | | $I_{CBO}$ | $V_{CB}$=200V, $I_E$=0 | | 0.01 | μA |
| Emitter cut-off current | | $I_{EBO}$ | $V_{EB}$=5V, $I_C$=0 | | 0.05 | μA |
| DC current gain | | $h_{FE}$ | $V_{CE}$=20V, $I_C$=25mA | 50 | | |
| Collector-emitter saturation voltage | | $V_{CE(sat)}$ | $I_C$=30mA, $I_B$= 5mA | | 0.6 | V |
| Transition frequency | | $f_T$ | $V_{CE}$=10V, $I_C$= 10mA<br>f=100MHz | 60 | | MHz |
| Feedback capacitance | | $C_{re}$ | $V_{CE}$=30V,$I_C$=0,f=1MHz | | 1.6 | pF |

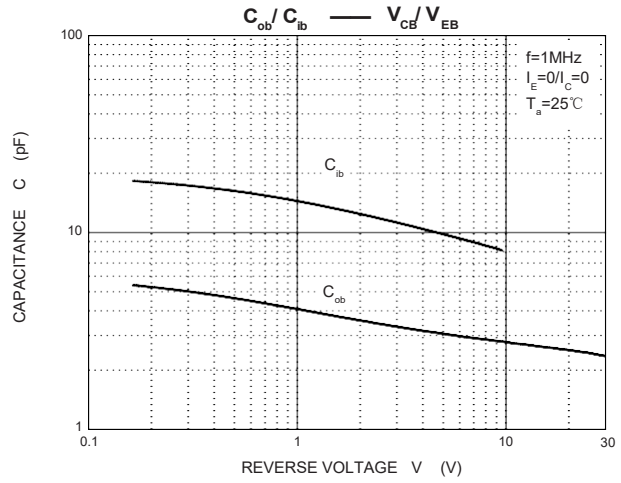

Static Characteristic
COMMON EMITTER
T_a=25℃
2.0mA
1.8mA
1.6mA
1.4mA
1.2mA
1.0mA
0.8mA
0.6mA
0.4mA
I_B=0.2mA
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_CE (V)

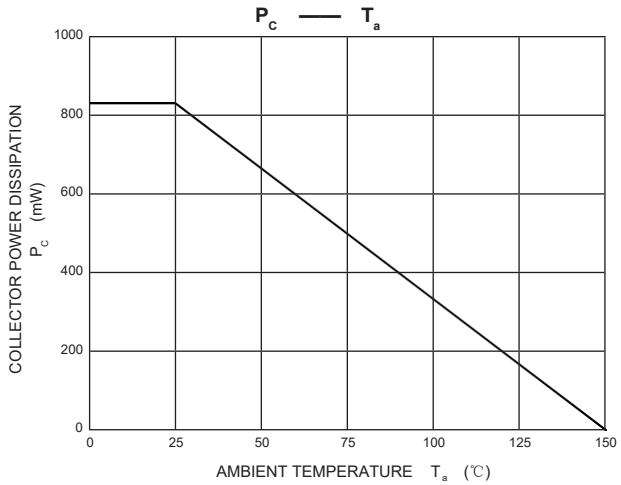

h_FE — I_C
T_a=100℃
T_a=25℃
COMMON EMITTER
V_CE=20V
DC CURRENT GAIN h_FE
COLLECTOR CURRENT I_C (mA)


V_CEsat — I_C
T_a=100℃
T_a=25℃
β=6
COLLECTOR-EMITTER SATURATION VOLTAGE V_CEsat (mV)
COLLECTOR CURRENT I_C (mA)


V_BEsat — I_C
T_a=25℃
T_a=100℃
β=6
BASE-EMITTER SATURATION VOLTAGE V_BEsat (mV)
COLLECTOR CURRENT I_C (mA)


I_C — V_BE
COMMON EMITTER
V_CE=20V
T_a=100℃
T_a=25℃
COLLCETOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_BE (mV)


C_ob / C_ib — V_CB / V_EB
f=1MHz
I_E=0/I_C=0
T_a=25℃
C_ib
C_ob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


P_C — T_a
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T_a (℃)