

TO-220F Plastic-Encapsulate Transistors

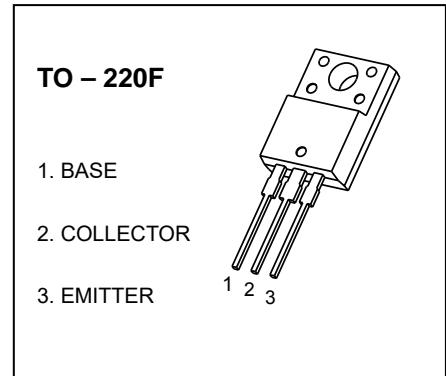
TIP42CF TRANSISTOR (PNP)

FEATURES

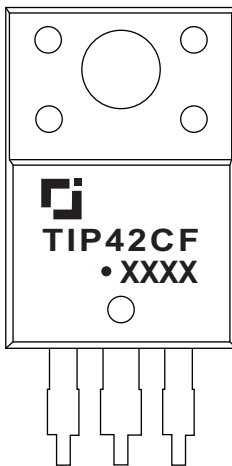
- Large current capacitance
- Complementary NPN Types:TIP41CF

APPLICATIONS

- Medium power linear switching applications

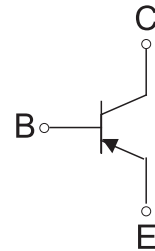


MARKING



TIP42CF=Device code
Solid dot=Green moldinn compound device,
if none,the normal device
XXXX=Code

Equivalent Circuit



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

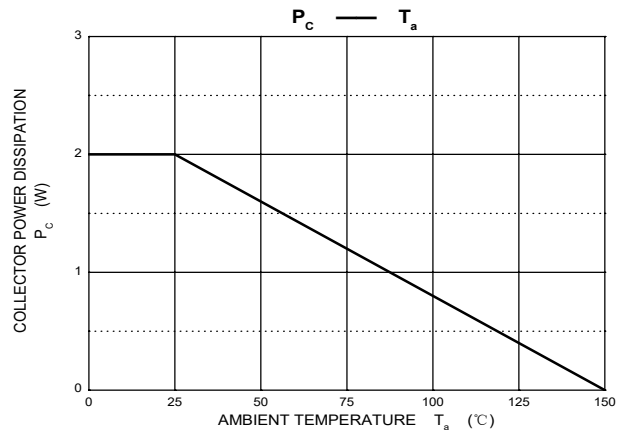
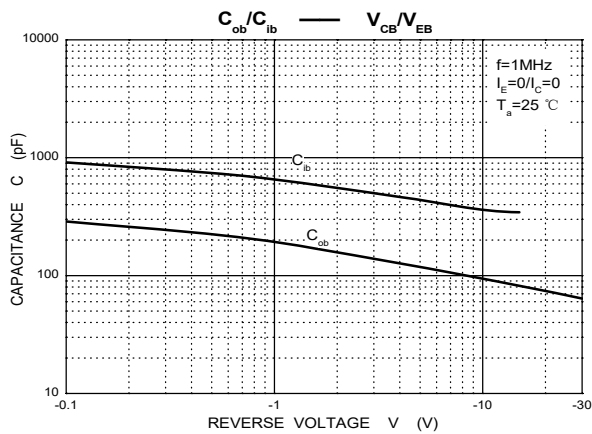
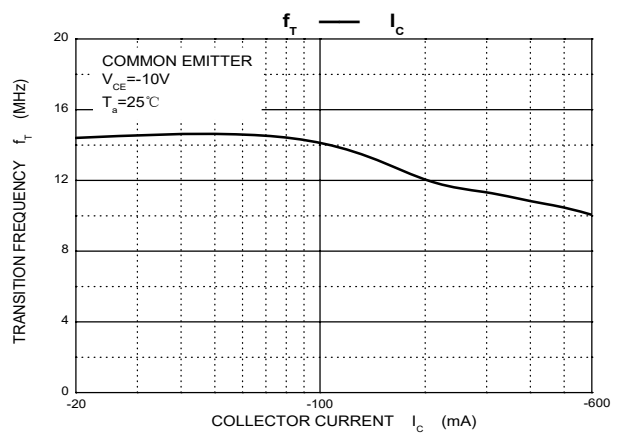
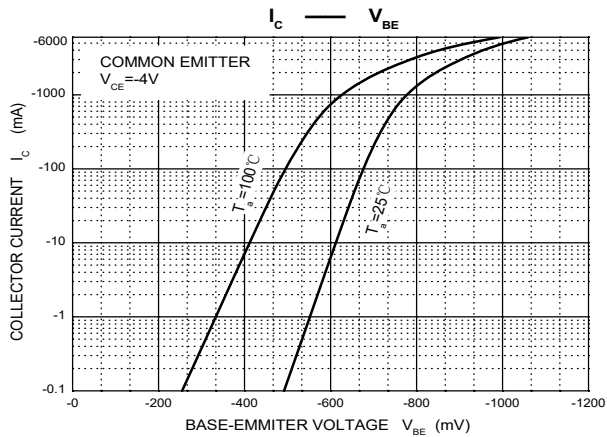
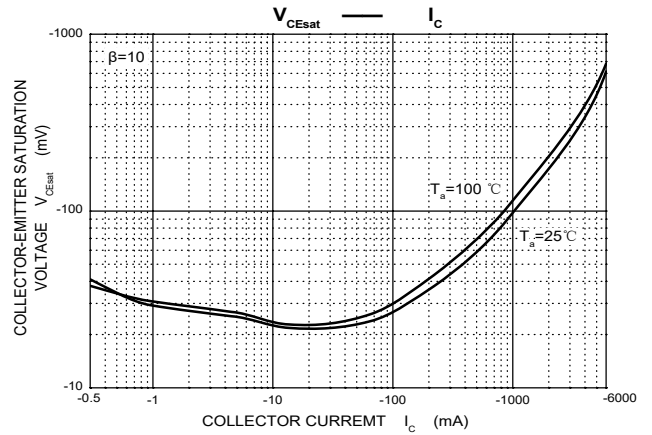
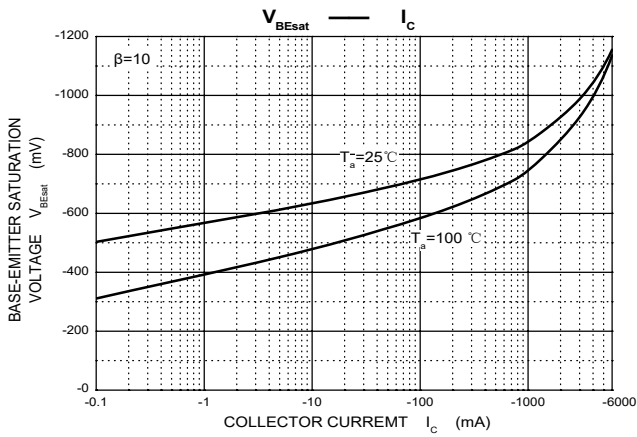
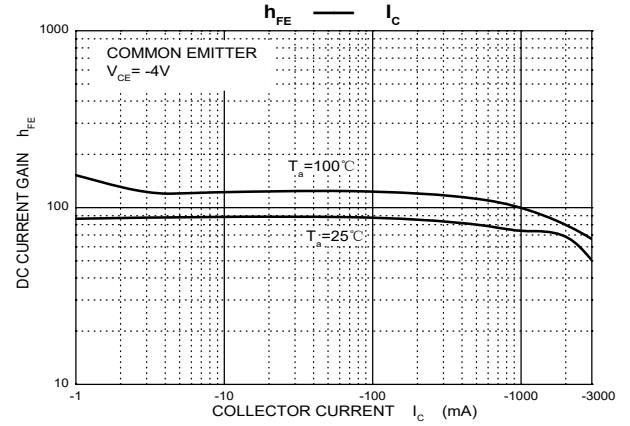
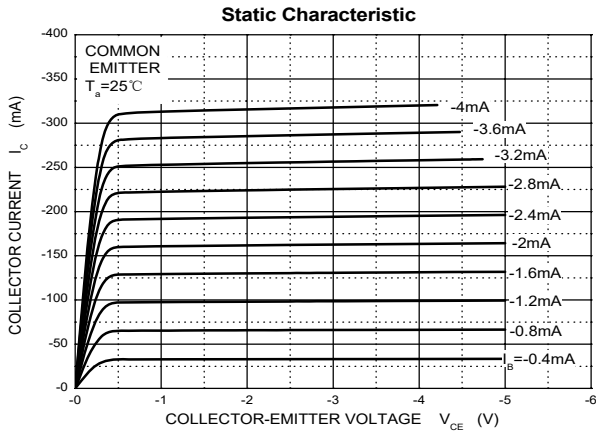
| Parameter | Symbol | Limit | Unit |
|---|-----------------|----------|-----------------------------|
| Collector-Base Voltage | V_{CBO} | -100 | V |
| Collector-Emitter Voltage | V_{CEO} | -100 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Collector Current | I_C | -6 | A |
| Collector Power Dissipation | P_C | 2 | W |
| Thermal Resistance From Junction To Ambient | $R_{\theta JA}$ | 62.5 | $^{\circ}\text{C}/\text{W}$ |
| Junction Temperature | T_j | 150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{stg} | -55~+150 | $^{\circ}\text{C}$ |

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

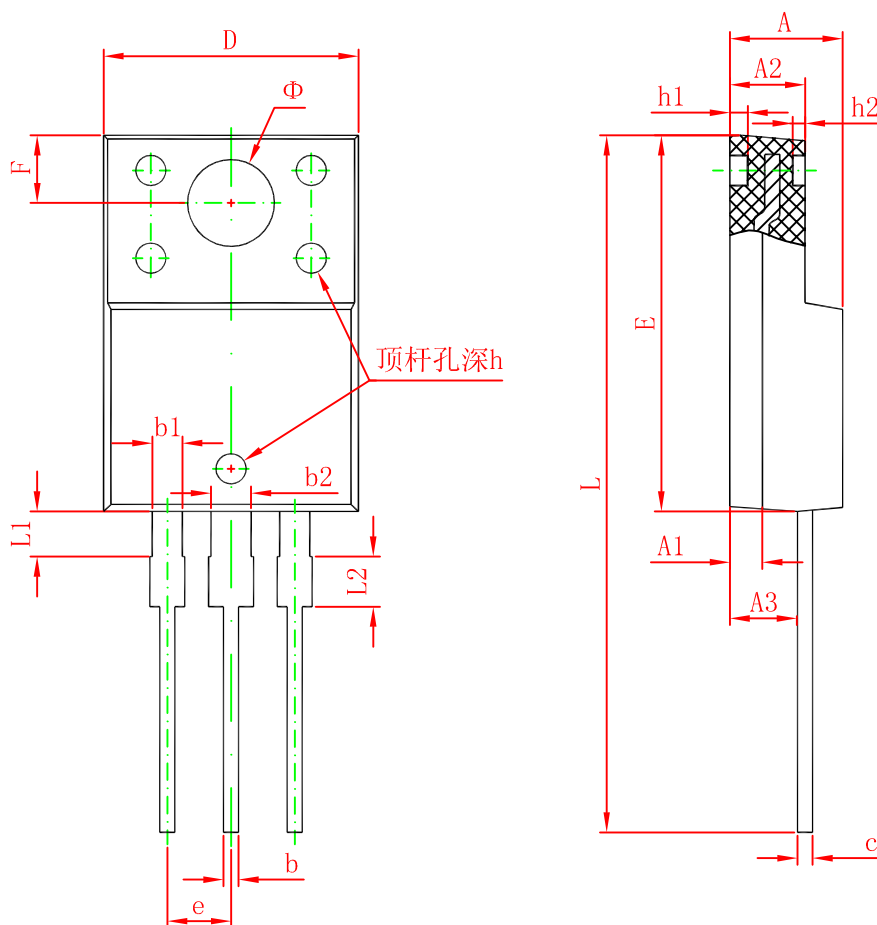
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|-------------------------|--|------|-----|------|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C =-1mA, I _E =0 | -100 | | | V |
| Collector-emitter Sustaining voltage | V _{CEO(SUS)} * | I _C =-30mA, I _B =0 | -100 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =-1mA, I _C =0 | -5 | | | V |
| Collector cut-off current | I _{CBO} | V _{CB} =-100V, I _E =0 | | | -400 | μA |
| Collector cut-off current | I _{CEO} | V _{CE} =-60V, I _B =0 | | | -700 | μA |
| Emitter cut-off current | I _{EBO} | V _{EB} =-5V, I _C =0 | | | -1 | mA |
| DC current gain | h _{FE(1)} | V _{CE} =-4V, I _C =-0.3A | 30 | | | |
| | h _{FE(2)} | V _{CE} =-4V, I _C =-3A | 15 | | 75 | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C =-6A, I _B =-0.6A | | | -1.5 | V |
| Base-emitter voltage | V _{BE} | V _{CE} =-4V, I _C =-6A | | | -2 | V |
| Transition frequency | f _T | V _{CE} =-10V, I _C =-0.5A | 3 | | | MHz |

Notes: Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

Typical Characteristics



TO-220F Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 4.300 | 4.700 | 0.169 | 0.185 |
| A1 | 1.300 REF. | | 0.051 REF. | |
| A2 | 2.800 | 3.200 | 0.110 | 0.126 |
| A3 | 2.500 | 2.900 | 0.098 | 0.114 |
| b | 0.500 | 0.750 | 0.020 | 0.030 |
| b1 | 1.100 | 1.350 | 0.043 | 0.053 |
| b2 | 1.500 | 1.750 | 0.059 | 0.069 |
| c | 0.500 | 0.750 | 0.020 | 0.030 |
| D | 9.960 | 10.360 | 0.392 | 0.408 |
| E | 14.800 | 15.200 | 0.583 | 0.598 |
| e | 2.540 TYP. | | 0.100 TYP. | |
| F | 2.700 REF. | | 0.106 REF. | |
| Φ | 3.500 REF. | | 0.138 REF. | |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| h1 | 0.800 REF. | | 0.031 REF. | |
| h2 | 0.500 REF. | | 0.020 REF. | |
| L | 28.000 | 28.400 | 1.102 | 1.118 |
| L1 | 1.700 | 1.900 | 0.067 | 0.075 |
| L2 | 1.900 | 2.100 | 0.075 | 0.083 |