# **PZT2907A** TRANSISTOR (PNP)

## FEATURES

- Epitaxial planar die construction
- Complementary PNP Type available(PZT2222A)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-223

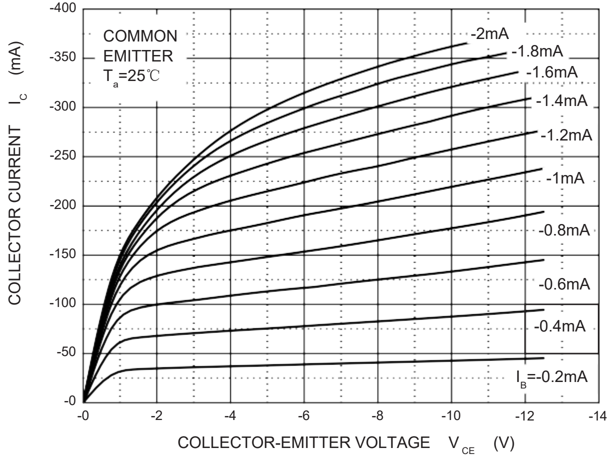
## MAXIMUM RATINGS ($T_a$=25℃ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -60 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -60 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -5 | V |
| $I_C$ | Collector Current -Continuous | -0.6 | A |
| $P_C$ | Collector Power Dissipation | 1 | W |
| $T_J$,$T_{stg}$ | Operation Junction and Storage Temperature Range | -55~+150 | ℃ |

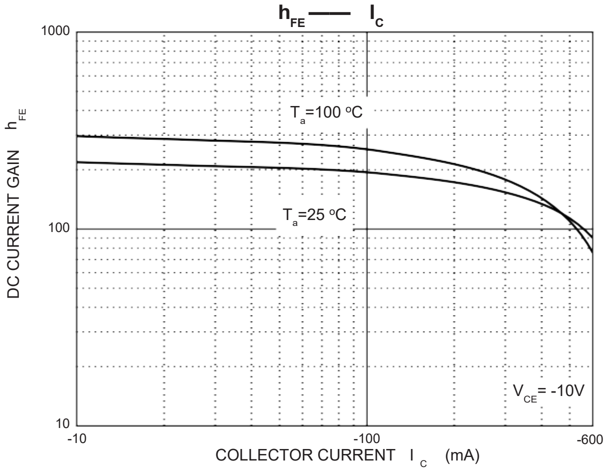
## ELECTRICAL CHARACTERISTICS ($T_a$=25℃ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$=-10μA,$I_E$=0 | -60 | | | V |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | $I_C$=-10mA,$I_B$=0 | -60 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=-10μA,$I_C$=0 | -5 | | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=-50V,$I_E$=0 | | | -10 | nA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$=-5V,$I_C$=0 | | | -50 | nA |
| **DC current gain** | $h_{FE(1)}$ | $V_{CE}$=-10V,$I_C$=-0.1mA | 75 | | | |
| | $h_{FE(2)}$ | $V_{CE}$=-10V,$I_C$=-1mA | 100 | | | |
| | $h_{FE(3)}$ | $V_{CE}$=-10V,$I_C$=-10mA | 100 | | | |
| | $h_{FE(4)}$ | $V_{CE}$=-10V,$I_C$=-150mA | 100 | | 300 | |
| | $h_{FE(5)}$ | $V_{CE}$=-10V,$I_C$=-500mA | 50 | | | |
| **Collector-emitter saturation voltage** | $V_{CE(sat)}$ | $I_C$=-150mA,$I_B$=-15mA | | | -0.4 | V |
| | $V_{CE(sat)}$ | $I_C$=-500mA,$I_B$=-50mA | | | -1.6 | V |
| **Base-emitter saturation voltage** | $V_{BE(sat)}$ | $I_C$=-150mA,$I_B$=-15mA | | | -1.3 | V |
| | $V_{BE(sat)}$ | $I_C$=-500mA,$I_B$=-50mA | | | -2.6 | V |
| **Transition frequency** | $f_T$ | $V_{CE}$=-20V,$I_C$=-50mA,f=100MHz | 200 | | | MHz |
| **Collector capacitance** | $C_c$ | $V_{CB}$=-10V,$I_E$=0,f=1MHz | | | 8 | pF |
| **Emitter capacitance** | $C_E$ | $V_{EB}$=-2V,$I_C$=0,f=1MHz | | | 30 | pF |
| **Delay time** | $t_d$ | $I_C$=-150mA $I_{B1}$=- $I_{B2}$=- 15mA | | | 12 | ns |
| **Rise time** | $t_r$ | | | | 30 | ns |
| **Storage time** | $t_S$ | | | | 300 | ns |
| **Fall time** | $t_f$ | | | | 65 | ns |

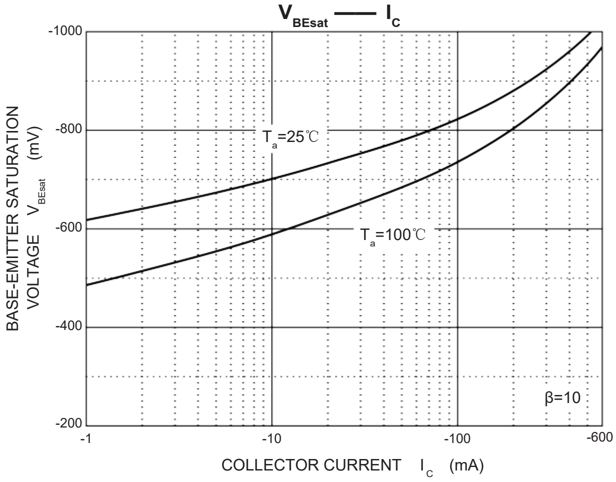
**Static Characteristic**



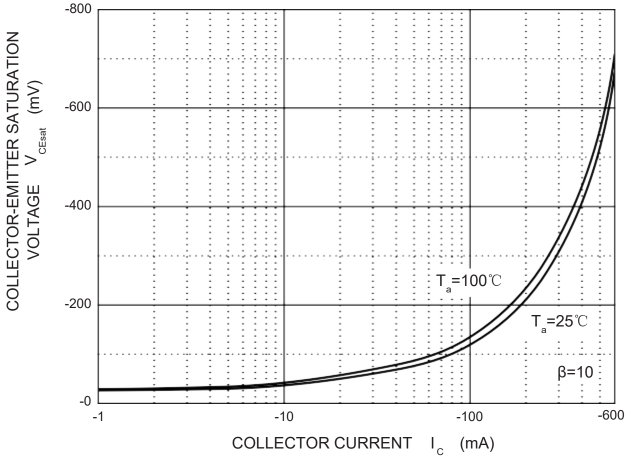
**$h_{FE}$ —— $I_C$**



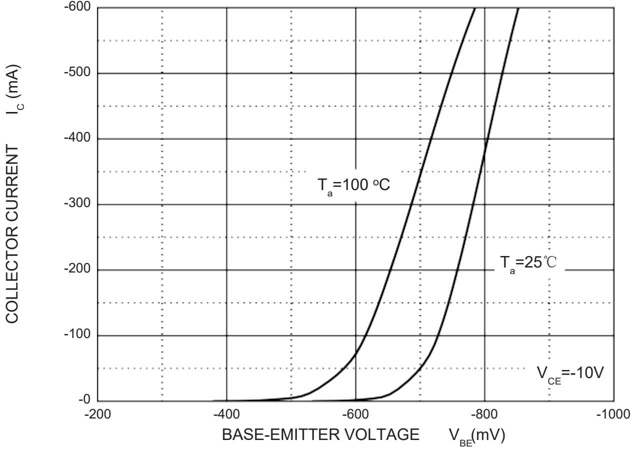
**$V_{BEsat}$ —— $I_C$**



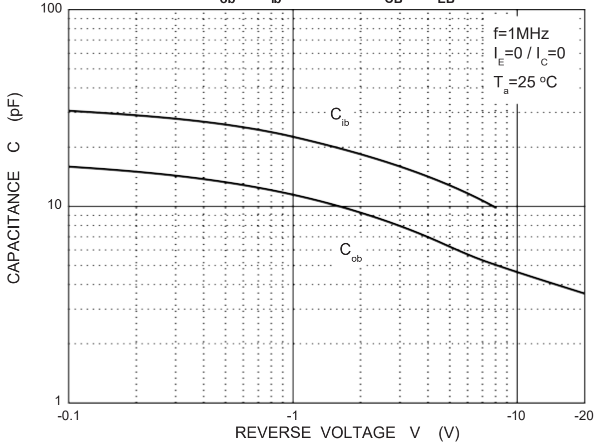
**$V_{CEsat}$ —— $I_C$**



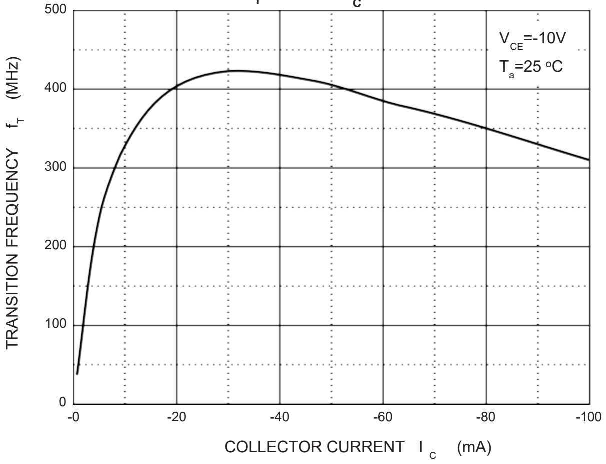
**$I_C$ —— $V_{BE}$**



**$C_{ob}$ / $C_{ib}$ —— $V_{CB}$ / $V_{EB}$**



**$f_T$ —— $I_C$**



**$P_c$ —— $T_a$**