

# High Voltage Transistor

## PNP Silicon

### PZTA96ST1G

#### Features

- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

#### MAXIMUM RATINGS

| Rating                                                             | Symbol    | Value       | Unit             |
|--------------------------------------------------------------------|-----------|-------------|------------------|
| Collector-Emitter Voltage                                          | $V_{CEO}$ | -450        | Vdc              |
| Collector-Base Voltage                                             | $V_{CBO}$ | -450        | Vdc              |
| Emitter-Base Voltage                                               | $V_{EBO}$ | -5.0        | Vdc              |
| Collector Current                                                  | $I_C$     | -500        | mAdc             |
| Total Power Dissipation Up to<br>$T_A = 25^\circ\text{C}$ (Note 1) | $P_D$     | 1.5         | W                |
| Storage Temperature Range                                          | $T_{stg}$ | -65 to +150 | $^\circ\text{C}$ |
| Junction Temperature                                               | $T_J$     | 150         | $^\circ\text{C}$ |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- Device mounted on a glass epoxy printed circuit board 1.575 in. x 1.575 in. x 0.059 in.; mounting pad for the collector lead min. 0.93 in<sup>2</sup>.

#### THERMAL CHARACTERISTICS

| Characteristic                                      | Symbol          | Max  | Unit             |
|-----------------------------------------------------|-----------------|------|------------------|
| Thermal Resistance,<br>Junction-to-Ambient (Note 2) | $R_{\theta JA}$ | 83.3 | $^\circ\text{C}$ |

- Device mounted on a glass epoxy printed circuit board 1.575 in. x 1.575 in. x 0.059 in.; mounting pad for the collector lead min. 0.93 in<sup>2</sup>.

#### ELECTRICAL CHARACTERISTICS (Note 3)

| Characteristic | Symbol | Min | Max | Unit |
|----------------|--------|-----|-----|------|
|----------------|--------|-----|-----|------|

#### OFF CHARACTERISTICS

|                                                                              |               |      |      |           |
|------------------------------------------------------------------------------|---------------|------|------|-----------|
| Collector-Emitter Breakdown Voltage<br>( $I_C = -1.0$ mAdc, $I_B = 0$ )      | $V_{(BR)CEO}$ | -450 | -    | Vdc       |
| Collector-Emitter Breakdown Voltage<br>( $I_C = -100$ $\mu$ Adc, $I_E = 0$ ) | $V_{(BR)CBO}$ | -450 | -    | Vdc       |
| Emitter-Base Breakdown Voltage<br>( $I_E = -10$ $\mu$ Adc, $I_C = 0$ )       | $V_{(BR)EBO}$ | -5.0 | -    | Vdc       |
| Collector-Base Cutoff Current<br>( $V_{CB} = -400$ Vdc, $I_E = 0$ )          | $I_{CBO}$     | -    | -0.1 | $\mu$ Adc |
| Emitter-Base Cutoff Current<br>( $V_{BE} = -4.0$ Vdc, $I_C = 0$ )            | $I_{EBO}$     | -    | -0.1 | $\mu$ Adc |

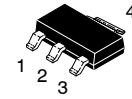
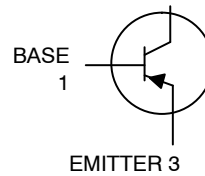
#### ON CHARACTERISTICS

|                                                                                                         |                                |    |              |     |
|---------------------------------------------------------------------------------------------------------|--------------------------------|----|--------------|-----|
| DC Current Gain (Note 4)<br>( $I_C = -10$ mAdc, $V_{CE} = -10$ Vdc)                                     | $h_{FE}$                       | 50 | 150          | -   |
| Saturation Voltages<br>( $I_C = -20$ mAdc, $I_B = -2.0$ mAdc)<br>( $I_C = -20$ mAdc, $I_B = -2.0$ mAdc) | $V_{CE(sat)}$<br>$V_{BE(sat)}$ | -  | -0.6<br>-1.0 | Vdc |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

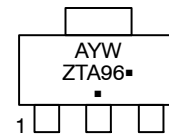
- $T_A = 25^\circ\text{C}$  unless otherwise noted.
- Pulse Test: Pulse Width  $\leq 300$   $\mu$ s; Duty Cycle = 2.0%.

COLLECTOR 2,4



SOT-223 (TO-261)  
CASE 318E  
STYLE 1

#### MARKING DIAGRAM



A = Assembly Location  
Y = Year  
W = Work Week  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

#### ORDERING INFORMATION

| Device     | Package              | Shipping <sup>†</sup> |
|------------|----------------------|-----------------------|
| PZTA96ST1G | SOT-223<br>(Pb-Free) | 1000/Tape & Reel      |

<sup>†</sup>For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

TYPICAL CHARACTERISTICS

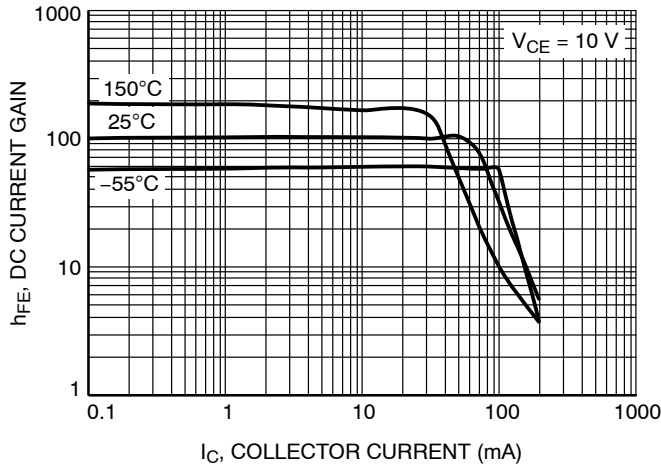


Figure 1. DC Current Gain

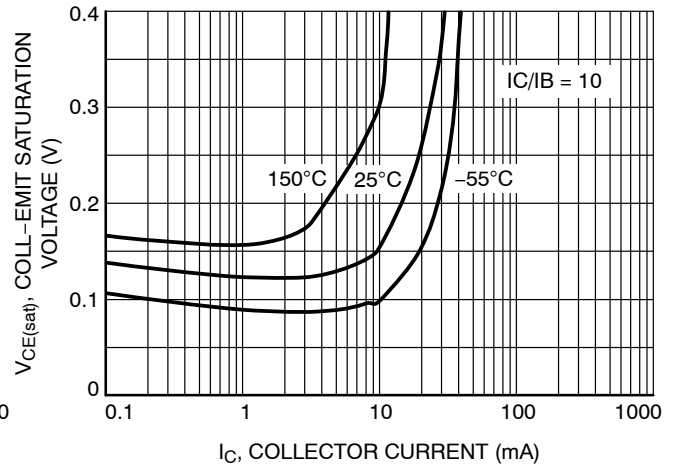


Figure 2. Collector-Emitter Saturation Voltage

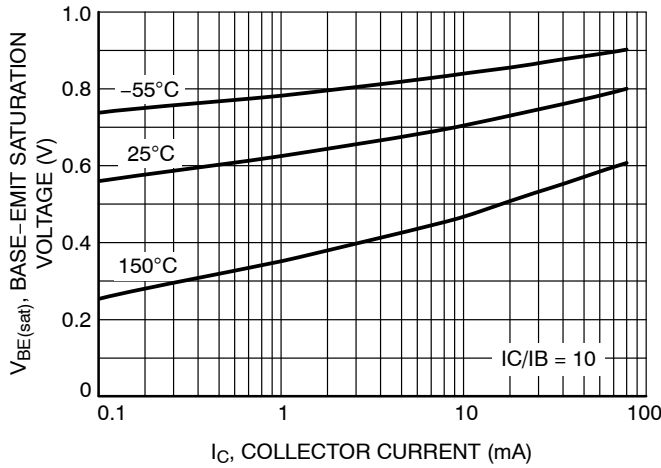


Figure 3. Base-Emitter Saturation Voltage

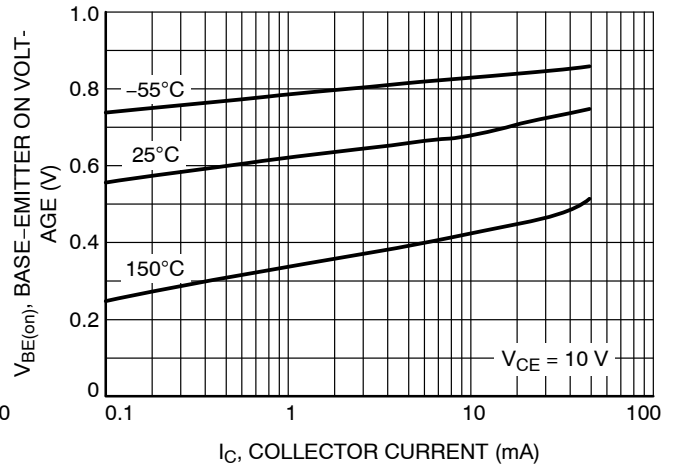


Figure 4. Base-Emitter "On" Voltage

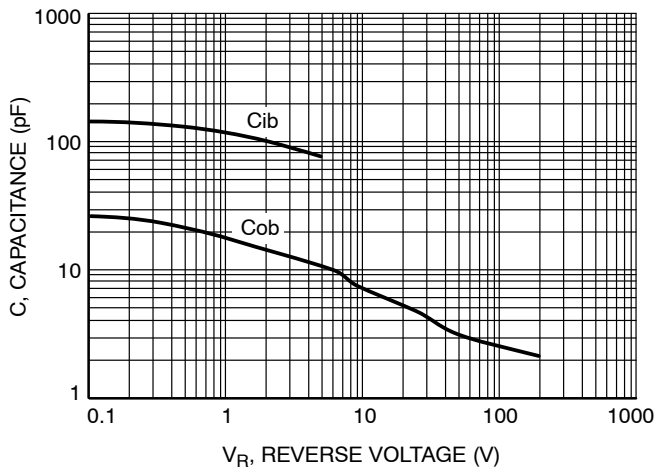


Figure 5. Capacitances

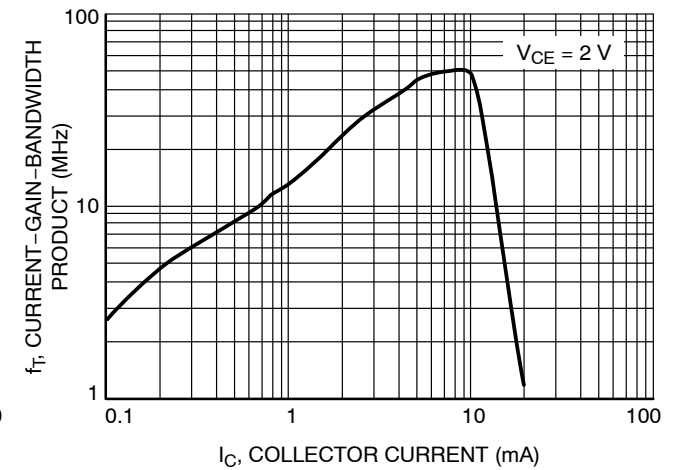


Figure 6. Current-Gain-Bandwidth Product

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