

# PZTA96ST1G

## High Voltage Transistor

### PNP Silicon

#### 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 $T_A = 25^\circ\text{C}$ (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 Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

- 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, 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
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#### OFF CHARACTERISTICS

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

#### ON CHARACTERISTICS

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

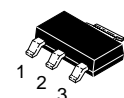
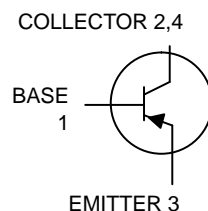
- $T_A = 25^\circ\text{C}$  unless otherwise noted.

- Pulse Test: Pulse Width  $\leq 300$   $\mu$ s; Duty Cycle = 2.0%.



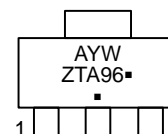
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SOT-223 (TO-261)  
CASE 318E  
STYLE 1

#### 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†
PZTA96ST1G	SOT-223 (Pb-Free)	1000/Tape & Reel

†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

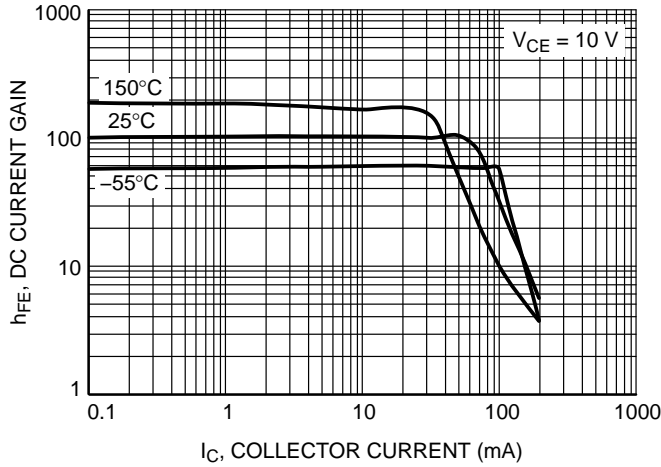


Figure 1. DC Current Gain

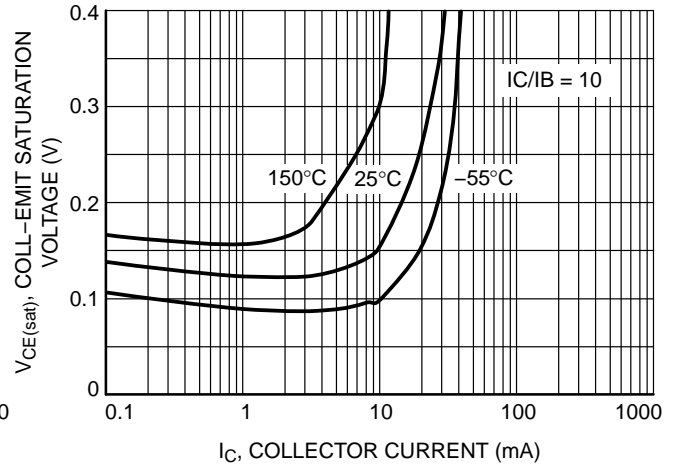


Figure 2. Collector-Emitter Saturation Voltage

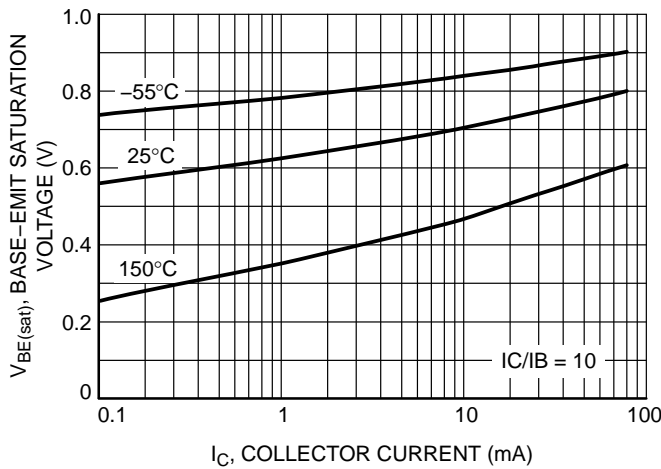


Figure 3. Base-Emitter Saturation Voltage

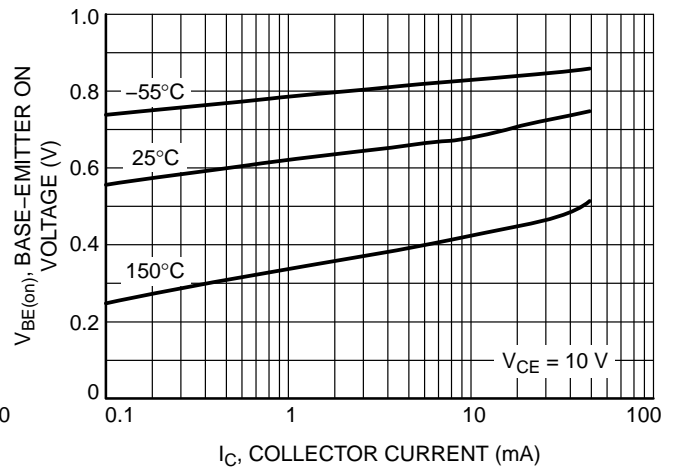


Figure 4. Base-Emitter "On" Voltage

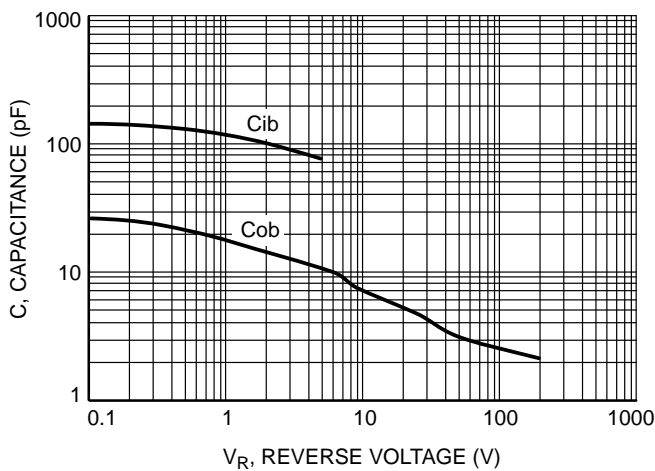


Figure 5. Capacitances

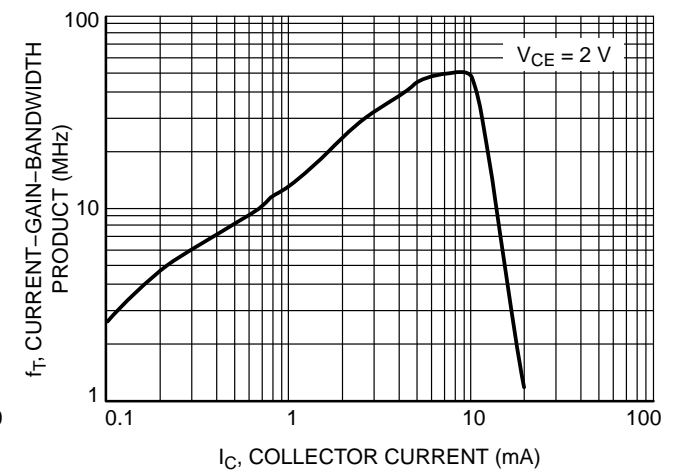
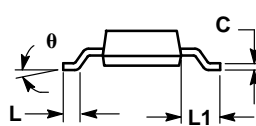
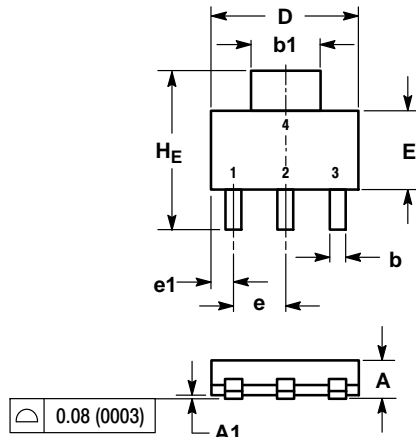


Figure 6. Current-Gain-Bandwidth Product

# PZTA96ST1G

## PACKAGE DIMENSIONS

SOT-223 (TO-261)  
CASE 318E-04  
ISSUE N



### NOTES:

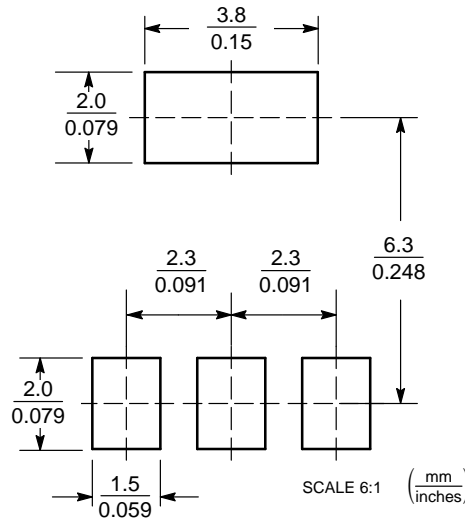
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: INCH.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.50	1.63	1.75	0.060	0.064	0.068
A1	0.02	0.06	0.10	0.001	0.002	0.004
b	0.60	0.75	0.89	0.024	0.030	0.035
b1	2.90	3.06	3.20	0.115	0.121	0.126
c	0.24	0.29	0.35	0.009	0.012	0.014
D	6.30	6.50	6.70	0.249	0.256	0.263
E	3.30	3.50	3.70	0.130	0.138	0.145
e	2.20	2.30	2.40	0.087	0.091	0.094
e1	0.85	0.94	1.05	0.033	0.037	0.041
L	0.20	---	---	0.008	---	---
L1	1.50	1.75	2.00	0.060	0.069	0.078
HE	6.70	7.00	7.30	0.264	0.276	0.287
θ	0°	---	10°	0°	---	10°


### STYLE 1:

1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

### SOLDERING FOOTPRINT\*



\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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