PZTA92T1

Preferred Devices

High Voltage Transistor

PNP Silicon

Features

- Pb−Free Package is Available

MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	−300	Vdc
Collector-Base Voltage	V_{CBO}	−300	Vdc
Emitter-Base Voltage	V_{EBO}	−5.0	Vdc
Collector Current	I_C	−50	mAdc
Total Power Dissipation up to @ T_A = 25°C (Note 1)	P_D	1.5	W
Storage Temperature Range	T_{stg}	−65 to 150	°C
Junction Temperature	T_J	150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction−to−Ambient (Note 1)	$R_{\theta JA}$	83.3	°C/W

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.

1. Device mounted on a FR-4 glass epoxy printed circuit board 1.575 in x 1.575 in x 0.0625 in; mounting pad for the collector lead = 0.93 sq in.

ON Semiconductor®

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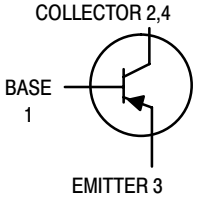
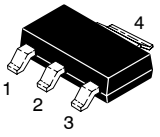
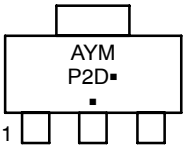
SOT−223 PACKAGE
PNP SILICON
HIGH VOLTAGE TRANSISTOR
SURFACE MOUNT





SOT−223
CASE 318E−04
STYLE 1

MARKING DIAGRAM



P2D = Specific Device Code
A = Assembly Location
Y = Year
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 3 of this data sheet.

Preferred devices are recommended choices for future use and best overall value.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (Note 2) (I_C = −1.0 mAdc, I_B = 0)	$V_{(BR)CEO}$	−300	—	Vdc
Collector-Base Breakdown Voltage (I_C = −100 μAdc, I_E = 0)	$V_{(BR)CBO}$	−300	—	Vdc
Emitter-Base Breakdown Voltage (I_E = −100 μAdc, I_C = 0)	$V_{(BR)EBO}$	−5.0	—	Vdc
Collector-Base Cutoff Current (V_{CB} = −200 Vdc, I_E = 0)	I_{CBO}	—	−0.25	μAdc
Emitter-Base Cutoff Current (V_{BE} = −3.0 Vdc, I_C = 0)	I_{EBO}	—	−0.1	μAdc
ON CHARACTERISTICS				
DC Current Gain (I_C = −1.0 mAdc, V_{CE} = −10 Vdc) (I_C = −10 mAdc, V_{CE} = −10 Vdc) (I_C = −30 mAdc, V_{CE} = −10 Vdc)	h_{FE}	 25 40 40	 — — —	—
Saturation Voltages (I_C = −20 mAdc, I_B = −2.0 mAdc) (I_C = −20 mAdc, I_B = −2.0 mAdc)	 $V_{CE(sat)}$ $V_{BE(sat)}$	 — —	 −0.5 −0.9	Vdc
DYNAMIC CHARACTERISTICS				
Collector−Base Capacitance @ f = 1.0 MHz (V_{CB} = −20 Vdc, I_E = 0)	C_{cb}	—	6.0	pF
Current−Gain — Bandwidth Product (I_C = −10 mAdc, V_{CE} = − 20 Vdc, f = 100 MHz)	f_T	50	—	MHz

2. Pulse Test Conditions, t_p = 300 μs, δ 0.02.

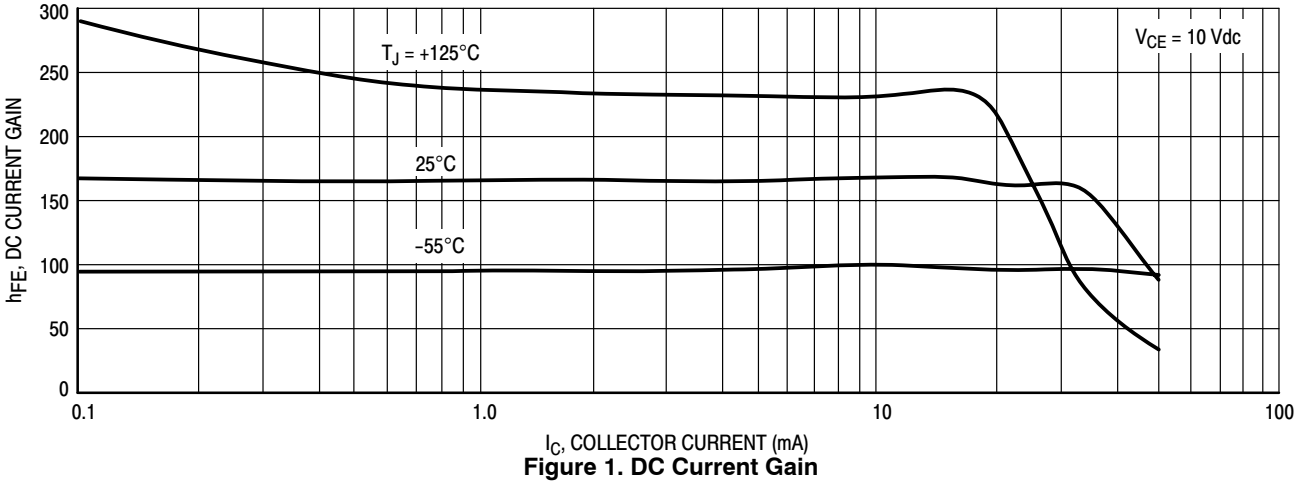


Figure 1. DC Current Gain

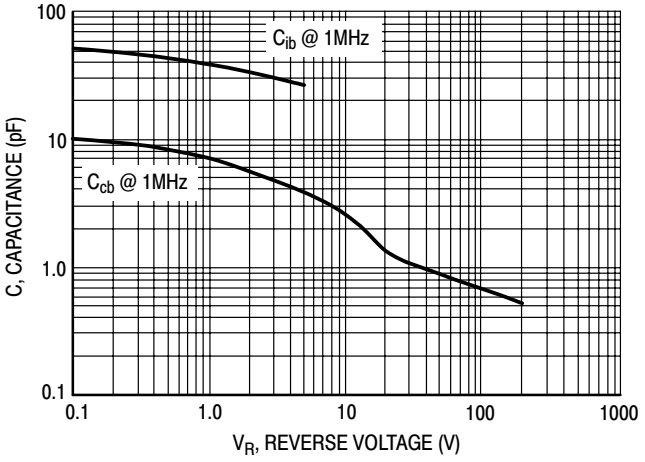


Figure 2. Capacitance

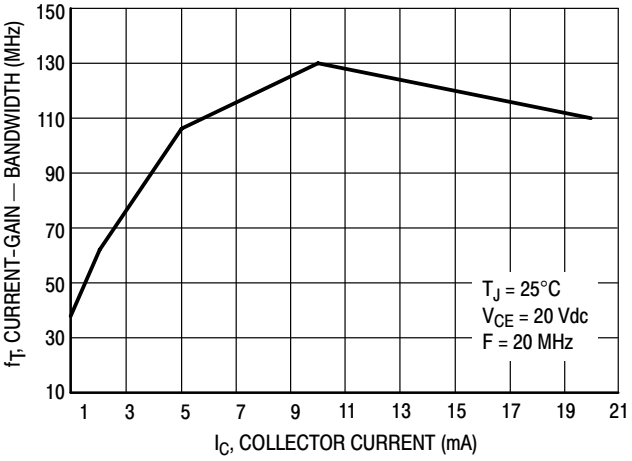
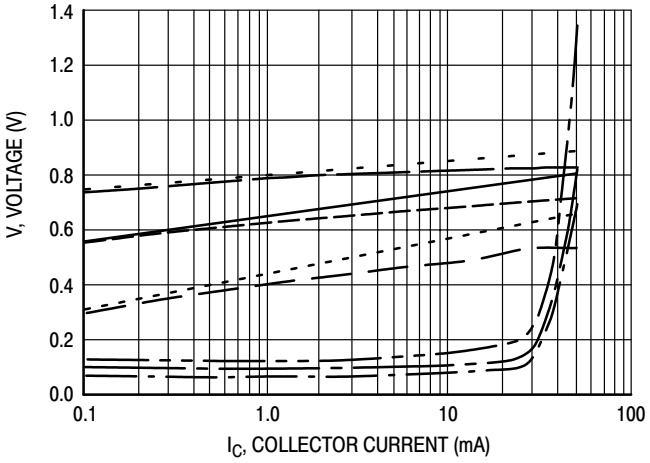


Figure 3. Current−Gain — Bandwidth



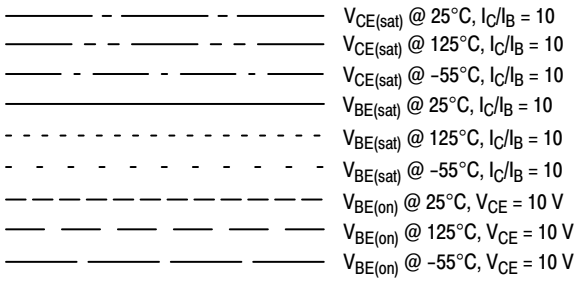


Figure 4. "ON" Voltages

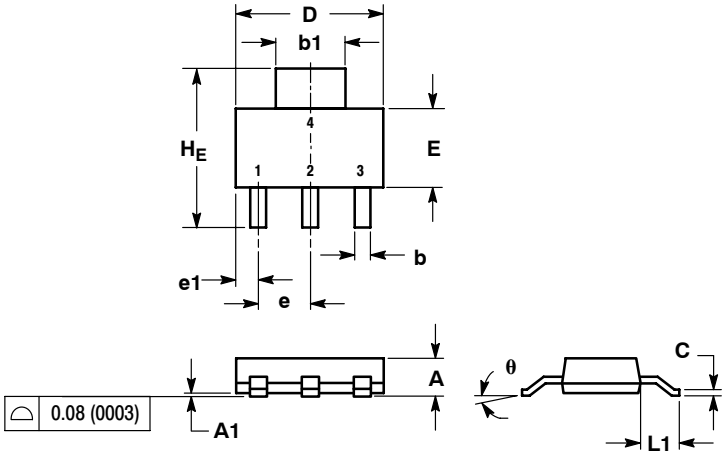
ORDERING INFORMATION

Device	Package	Shipping†
PZTA92T1	SOT−223	1000 / Tape & Reel
PZTA92T1G	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.

PACKAGE DIMENSIONS

SOT−223 (TO−261)
CASE 318E−04
ISSUE L

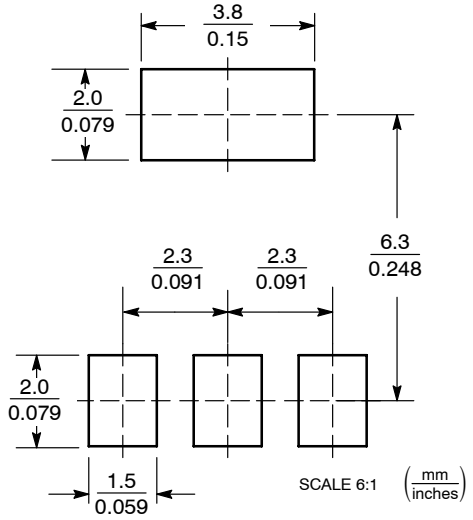


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	MILLIMETERS			INCHES		
DIM	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
L1	1.50	1.75	2.00	0.060	0.069	0.078
H_E	6.70	7.00	7.30	0.264	0.276	0.287
θ	0°	–	10°	0°	–	10°

STYLE 1:
PIN 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.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303−675−2175 or 800−344−3860 Toll Free USA/Canada
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