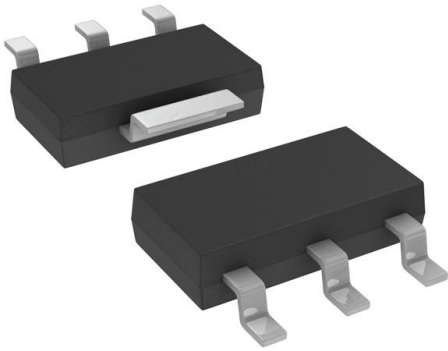


NSVPZTA92T1G Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	NSVPZTA92T1G-DG
Manufacturer	onsemi
Manufacturer Product Number	NSVPZTA92T1G
Description	TRANS PNP 300V 0.5A SOT223
Detailed Description	Bipolar (BJT) Transistor PNP 300 V 500 mA 50MHz 1 .5 W Surface Mount SOT-223 (TO-261)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

NSVPZTA92T1G

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

300 V

Current - Collector Cutoff (Max):

250nA

Power - Max:

1.5 W

Operating Temperature:

-65°C ~ 150°C (TJ)

Package / Case:

TO-261-4, TO-261AA

Base Product Number:

NSVPZTA92

Manufacturer:

onsemi

Product Status:

Active

Current - Collector (Ic) (Max):

500 mA

Vce Saturation (Max) @ Ib, Ic:

500mV @ 2mA, 20mA

DC Current Gain (hFE) (Min) @ Ic, Vce:

40 @ 30mA, 10V

Frequency - Transition:

50MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-223 (TO-261)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

High Voltage Transistor

PNP Silicon

PZTA92T1G, NSVPZTA92T1G

Features

- Complement to PZTA42T1G
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ 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	-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 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.

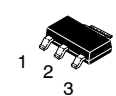
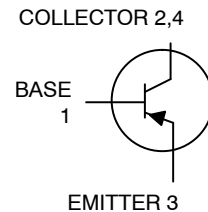
1. Device mounted on a FR-4 glass epoxy printed circuit board
1.575 in x 1.575 in x 0.0625 in; mounting pad for the collector lead = 0.93 sq in.

THERMAL CHARACTERISTICS

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

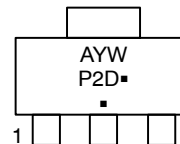
2. Device mounted on a FR-4 glass epoxy printed circuit board
1.575 in x 1.575 in x 0.0625 in; mounting pad for the collector lead = 0.93 sq in.

SOT-223 PACKAGE PNP SILICON HIGH VOLTAGE TRANSISTOR SURFACE MOUNT



SOT-223
CASE 318E
STYLE 1

MARKING DIAGRAM



P2D = Specific Device Code
 A = Assembly Location
 Y = Year
 W = Work Week
 ■ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping [†]
PZTA92T1G, NSVPZTA92T1G	SOT-223 (Pb-Free)	1,000 / Tape & Reel
NSVPZTA92T3G	SOT-223 (Pb-Free)	4,000 / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

PZTA92T1G, NSVPZTA92T1G

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristics	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage (Note 3) ($I_C = -1.0\text{ mAdc}$, $I_B = 0$)	$V_{(BR)CEO}$	-300	-	Vdc
Collector-Base Breakdown Voltage ($I_C = -100\ \mu\text{Adc}$, $I_E = 0$)	$V_{(BR)CBO}$	-300	-	Vdc
Emitter-Base Breakdown Voltage ($I_E = -100\ \mu\text{Adc}$, $I_C = 0$)	$V_{(BR)EBO}$	-5.0	-	Vdc
Collector-Base Cutoff Current ($V_{CB} = -200\text{ Vdc}$, $I_E = 0$)	I_{CBO}	-	-0.25	μAdc
Emitter-Base Cutoff Current ($V_{BE} = -3.0\text{ Vdc}$, $I_C = 0$)	I_{EBO}	-	-0.1	μAdc

ON CHARACTERISTICS

DC Current Gain ($I_C = -1.0\text{ mAdc}$, $V_{CE} = -10\text{ Vdc}$) ($I_C = -10\text{ mAdc}$, $V_{CE} = -10\text{ Vdc}$) ($I_C = -30\text{ mAdc}$, $V_{CE} = -10\text{ Vdc}$)	h_{FE}	25 40 40	- - -	-
Saturation Voltages ($I_C = -20\text{ mAdc}$, $I_B = -2.0\text{ mAdc}$) ($I_C = -20\text{ mAdc}$, $I_B = -2.0\text{ mAdc}$)	$V_{CE(sat)}$ $V_{BE(sat)}$	- -	-0.5 -0.9	Vdc

DYNAMIC CHARACTERISTICS

Collector-Base Capacitance @ $f = 1.0\text{ MHz}$ ($V_{CB} = -20\text{ Vdc}$, $I_E = 0$)	C_{cb}	-	6.0	pF
Current-Gain - Bandwidth Product ($I_C = -10\text{ mAdc}$, $V_{CE} = -20\text{ Vdc}$, $f = 100\text{ MHz}$)	f_T	50	-	MHz

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.

3. Pulse Test Conditions, $t_p = 300\ \mu\text{s}$, $\delta \leq 0.02$.

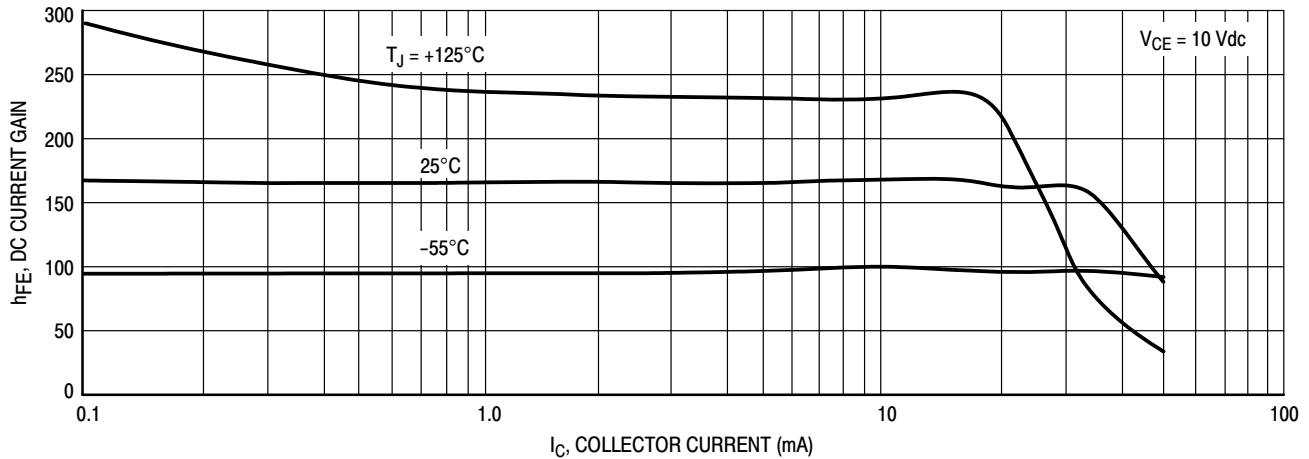


Figure 1. DC Current Gain

PZTA92T1G, NSVPZTA92T1G

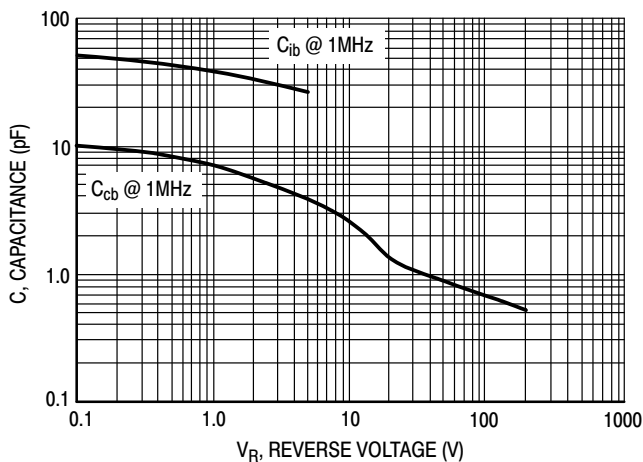


Figure 2. Capacitance

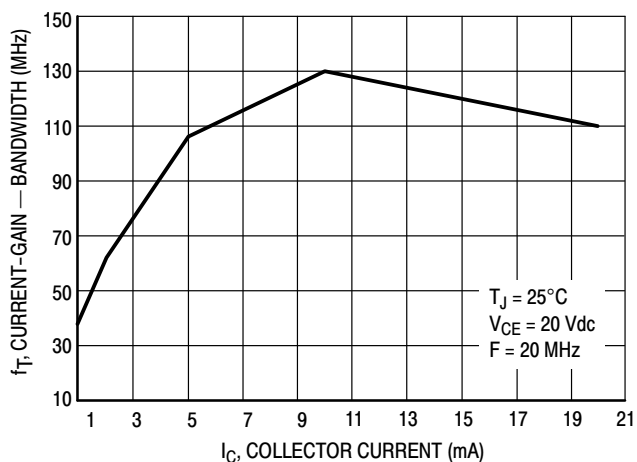


Figure 3. Current-Gain - Bandwidth

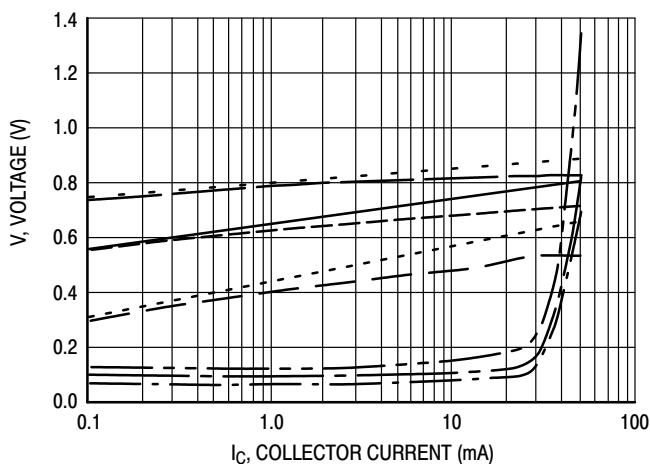


Figure 4. "ON" Voltages

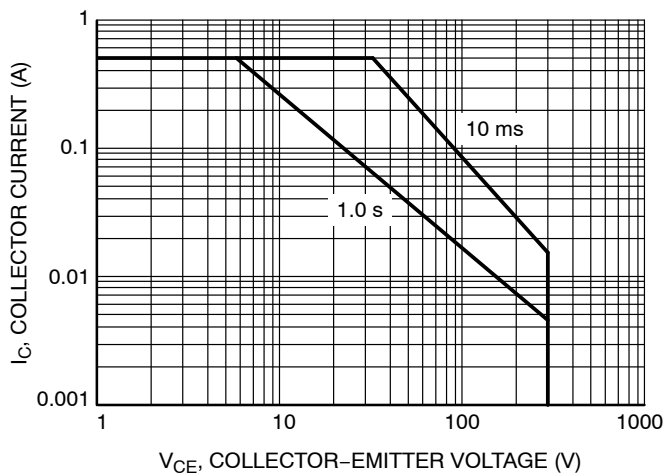


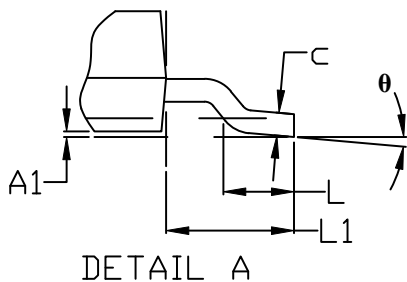
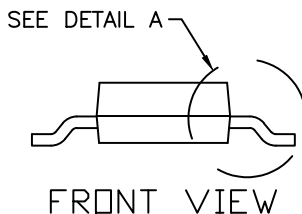
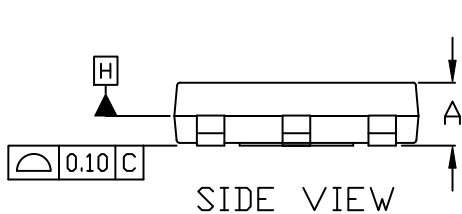
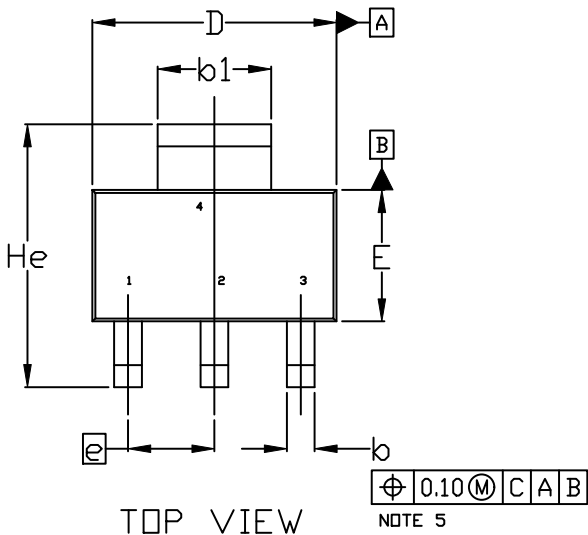
Figure 5. Safe Operating Area



SCALE 1:1

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

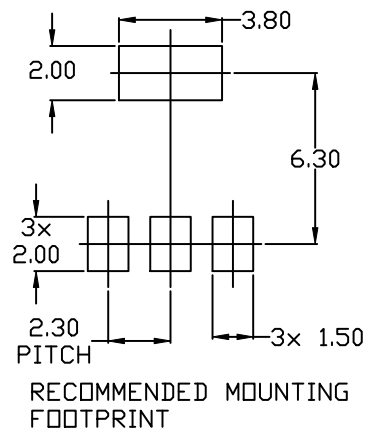
DATE 02 OCT 2018



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. DIMENSIONS D & E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS OR GATE BURRS SHALL NOT EXCEED 0.200MM PER SIDE.
4. DATUMS A AND B ARE DETERMINED AT DATUM H.
5. A1 IS DEFINED AS THE VERTICAL DISTANCE FROM THE SEATING PLANE TO THE LOWEST POINT OF THE PACKAGE BODY.
6. POSITIONAL TOLERANCE APPLIES TO DIMENSIONS b AND b1.

MILLIMETERS			
DIM	MIN.	NOM.	MAX.
A	1.50	1.63	1.75
A1	0.02	0.06	0.10
b	0.60	0.75	0.89
b1	2.90	3.06	3.20
c	0.24	0.29	0.35
D	6.30	6.50	6.70
E	3.30	3.50	3.70
e	2.30 BSC		
L	0.20	---	---
L1	1.50	1.75	2.00
He	6.70	7.00	7.30
θ	0°	---	10°



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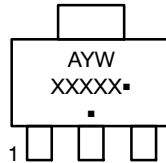
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SOT-223 (TO-261)
CASE 318E-04
ISSUE R

DATE 02 OCT 2018

- | | | | | |
|---|--|--|--|--|
| <p>STYLE 1:
 PIN 1. BASE
 2. COLLECTOR
 3. EMITTER
 4. COLLECTOR</p> | <p>STYLE 2:
 PIN 1. ANODE
 2. CATHODE
 3. NC
 4. CATHODE</p> | <p>STYLE 3:
 PIN 1. GATE
 2. DRAIN
 3. SOURCE
 4. DRAIN</p> | <p>STYLE 4:
 PIN 1. SOURCE
 2. DRAIN
 3. GATE
 4. DRAIN</p> | <p>STYLE 5:
 PIN 1. DRAIN
 2. GATE
 3. SOURCE
 4. GATE</p> |
| <p>STYLE 6:
 PIN 1. RETURN
 2. INPUT
 3. OUTPUT
 4. INPUT</p> | <p>STYLE 7:
 PIN 1. ANODE 1
 2. CATHODE
 3. ANODE 2
 4. CATHODE</p> | <p>STYLE 8:
 CANCELLED</p> | <p>STYLE 9:
 PIN 1. INPUT
 2. GROUND
 3. LOGIC
 4. GROUND</p> | <p>STYLE 10:
 PIN 1. CATHODE
 2. ANODE
 3. GATE
 4. ANODE</p> |
| <p>STYLE 11:
 PIN 1. MT 1
 2. MT 2
 3. GATE
 4. MT 2</p> | <p>STYLE 12:
 PIN 1. INPUT
 2. OUTPUT
 3. NC
 4. OUTPUT</p> | <p>STYLE 13:
 PIN 1. GATE
 2. COLLECTOR
 3. EMITTER
 4. COLLECTOR</p> | | |

GENERIC MARKING DIAGRAM*



- A = Assembly Location
- Y = Year
- W = Work Week
- XXXXX = Specific Device Code
- = Pb-Free Package

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

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