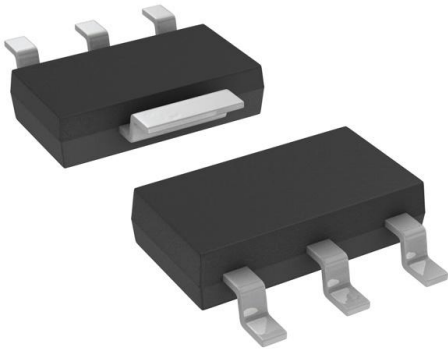


NZT753 Datasheet

www.digi-electronics.com



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

DiGi Electronics Part Number	NZT753-DG
Manufacturer	onsemi
Manufacturer Product Number	NZT753
Description	TRANS PNP 100V 4A SOT223-4
Detailed Description	Bipolar (BJT) Transistor PNP 100 V 4 A 75MHz 1.2 W Surface Mount SOT-223-4



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:

NZT753

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

100 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

1.2 W

Operating Temperature:

-55°C ~ 150°C (TJ)

Package / Case:

TO-261-4, TO-261AA

Base Product Number:

NZT753

Manufacturer:

onsemi

Product Status:

Active

Current - Collector (Ic) (Max):

4 A

Vce Saturation (Max) @ Ib, Ic:

300mV @ 50mA, 1A

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

100 @ 500mA, 2V

Frequency - Transition:

75MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-223-4

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

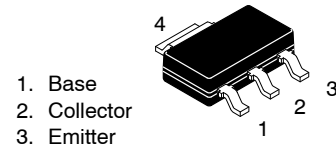
ECCN:

EAR99

PNP Current Driver Transistor

NZT753

This device is designed for power amplifier, regulator and switching circuits where speed is important. Sourced from Process 5P.



1. Base
2. Collector
3. Emitter

SOT-223
CASE 318H

ABSOLUTE MAXIMUM RATINGS

($T_A = 25^\circ\text{C}$ unless otherwise noted.) (Notes 1, 2)

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{CBO}	Collector-Base Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current - Continuous	-4.0	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +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. These ratings are based on a maximum junction temperature of 150°C .
2. These are steady limits. The factory should be consulted on application involving pulsed or low duty cycle operations.

THERMAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$ unless otherwise noted.) (Note 3)

Symbol	Parameter	Max	Unit
P_D	Total Device Dissipation Derate above 25°C	1.2 9.7	W $\text{mW}/^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	103	$^\circ\text{C}/\text{W}$

3. Device mounted on FR-4PCB $36\text{ mm} \times 18\text{ mm} \times 1.5\text{ mm}$; mounting pad for the collector lead min. 6 cm^2 .

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.) (Note 4)

Symbol	Parameter	Test Conditions	Min	Max	Unit
--------	-----------	-----------------	-----	-----	------

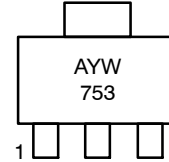
OFF CHARACTERISTICS

BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = -10\text{ mA}, I_B = 0$	-100	-	V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = -100\text{ }\mu\text{A}, I_E = 0$	-120	-	V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -100\text{ }\mu\text{A}, I_C = 0$	-5.0	-	V
I_{CBO}	Collector-Base Cutoff Current	$V_{CB} = -100\text{ V}, I_E = 0$ $V_{CB} = -100\text{ V}, I_E = 0, T_A = 100^\circ\text{C}$	-	-0.1 -10	μA μA
I_{EBO}	Emitter-Base Cutoff Current	$V_{EB} = -4\text{ V}, I_C = 0$	-	-0.1	μA

ON CHARACTERISTICS (Note 4)

h_{FE}	DC Current Gain	$V_{CE} = -2.0\text{ V}, I_C = -50\text{ mA}$ $V_{CE} = -2.0\text{ V}, I_C = -500\text{ mA}$ $V_{CE} = -2.0\text{ V}, I_C = -1.0\text{ A}$	70 100 55	- 300 -	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1.0\text{ A}, I_B = -50\text{ mA}$		-0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -1.0\text{ A}, I_B = -100\text{ mA}$		-1.25	V

MARKING DIAGRAM



- A = Assembly Location
 Y = Year
 W = Work Week
 753 = Specific Device Code

ORDERING INFORMATION

Device	Package	Shipping [†]
NZT753	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.

Nzt753**ELECTRICAL CHARACTERISTICS** ($T_A = 25^\circ\text{C}$ unless otherwise noted.) (Note 4) (continued)

Symbol	Parameter	Test Conditions	Min	Max	Unit
--------	-----------	-----------------	-----	-----	------

ON CHARACTERISTICS (Note 4)

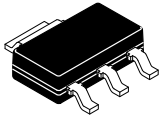
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = -2.0\text{ V}, I_C = -1.0\text{ A}$	-	-1.0	V
--------------	-------------------------	---	---	------	---

SMALL SIGNAL CHARACTERISTICS

f_T	Transition Frequency	$V_{CE} = -5\text{ V}, I_C = -100\text{ mA}, f = 100\text{ MHz}$	75	-	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.

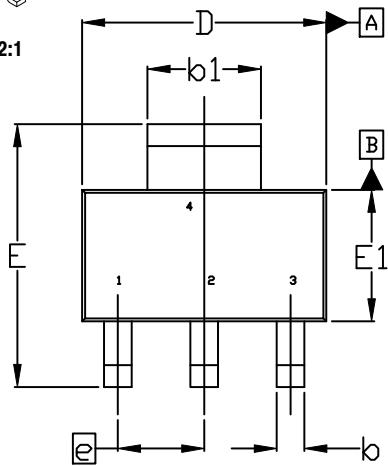
4. Pulse Test: Pulse Width $\leq 300\ \mu\text{s}$, Duty Cycle $\leq 2.0\%$.



SOT-223
CASE 318H
ISSUE B

DATE 13 MAY 2020

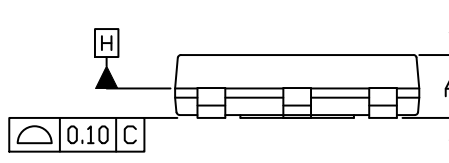
SCALE 2:1



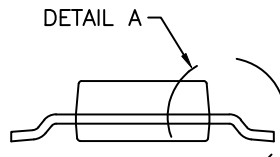
TOP VIEW

$\text{C} \text{ A} \text{ B}$

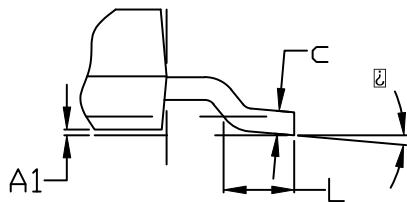
NOTE 7



SIDE VIEW

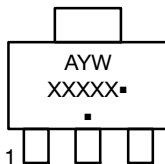


END VIEW



DETAIL A

GENERIC MARKING DIAGRAM*



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

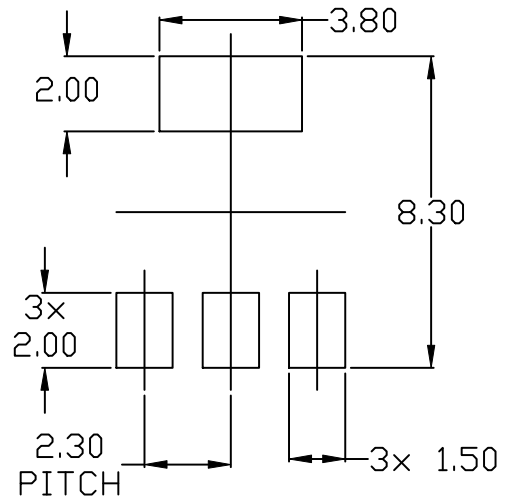
(Note: Microdot may be in either location)

*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.

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2009.
2. CONTROLLING DIMENSION: MILLIMETERS
3. DIMENSIONS D & E1 ARE DETERMINED AT DATUM H. DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. SHALL NOT EXCEED 0.23mm PER SIDE.
4. LEAD DIMENSIONS b AND b1 DO NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION IS 0.08mm PER SIDE.
5. DATUMS A AND B ARE DETERMINED AT DATUM H.
6. A1 IS DEFINED AS THE VERTICAL DISTANCE FROM THE SEATING PLANE TO THE LOWEST POINT OF THE PACKAGE BODY.
7. POSITIONAL TOLERANCE APPLIES TO DIMENSIONS b AND b1.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	---	---	1.80
A1	0.02	0.06	0.11
b	0.60	0.74	0.88
b1	2.90	3.00	3.10
c	0.24	---	0.35
D	6.30	6.50	6.70
E	6.70	7.00	7.30
E1	3.30	3.50	3.70
e	2.30 BSC		
L	0.25	---	---
∠	0°	---	10°



RECOMMENDED MOUNTING FOOTPRINT

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

DOCUMENT NUMBER:	98ASH70634A	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.
DESCRIPTION:	SOT-223	PAGE 1 OF 1

onsemi and ONSEMI are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.

onsemi, **Onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:

Technical Library: www.onsemi.com/design/resources/technical-documentation
onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support

For additional information, please contact your local Sales Representative at www.onsemi.com/support/sales

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we strictly control the quality of products and services. Welcome your RFQ to

Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.