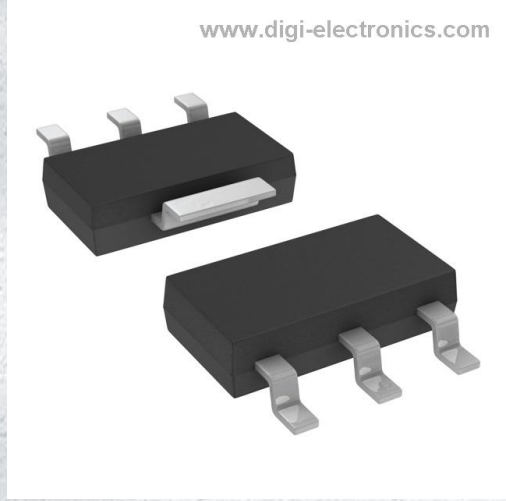
NZT753 Datasheet



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

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
NZT753	onsemi
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
PNP	4 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
100 V	300mV @ 50mA, 1A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100nA (ICBO)	100 @ 500mA, 2V
Power - Max:	Frequency - Transition:
1.2 W	75MHz
Operating Temperature:	Mounting Type:
-55°C ~ 150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
TO-261-4, TO-261AA	SOT-223-4
Base Product Number:	
NZT753	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.29.0075	

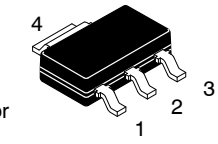
onsemi

DATA SHEET
www.onsemi.com

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°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	°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.

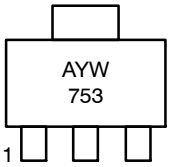
THERMAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted.) (Note 3)

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

3. Device mounted on FR−4PCB 36 mm × 18 mm × 1.5 mm; mounting pad for the collector lead min. 6 cm^2.

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.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.) (Note 4)

Symbol	Parameter	Test Conditions	Min	Max	Unit
OFF CHARACTERISTICS					
BV_{CEO}	Collector−Emitter Breakdown Voltage	I_C = −10 mA, I_B = 0	−100	−	V
BV_{CBO}	Collector−Base Breakdown Voltage	I_C = −100 μA, I_E = 0	−120	−	V
BV_{EBO}	Emitter−Base Breakdown Voltage	I_E = −100 μA, I_C = 0	−5.0	−	V
I_{CBO}	Collector−Base Cutoff Current	V_{CB} = −100 V, I_E = 0 V_{CB} = −100 V, I_E = 0, T_A = 100°C	− −	−0.1 −10	μA μA
I_{EBO}	Emitter−Base Cutoff Current	V_{EB} = −4 V, I_C = 0	−	−0.1	μA
ON CHARACTERISTICS (Note 4)					
h_{FE}	DC Current Gain	V_{CE} = −2.0 V, I_C = −50 mA V_{CE} = −2.0 V, I_C = −500 mA V_{CE} = −2.0 V, I_C = −1.0 A	70 100 55	− 300 −	
V_{CE}(sat)	Collector−Emitter Saturation Voltage	I_C = −1.0 A, I_C = −50 mA		−0.3	V
V_{BE}(sat)	Base−Emitter Saturation Voltage	I_C = −1.0 A, I_B = −100 mA		−1.25	V

ELECTRICAL CHARACTERISTICS (T_A = 25°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 V, I_C = −1.0 A	–	−1.0	V
SMALL SIGNAL CHARACTERISTICS					
f_T	Transition Frequency	V_{CE} = −5 V, I_C = −100 mA, f = 100 MHz	75	–	MHz

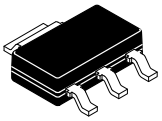
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

4. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

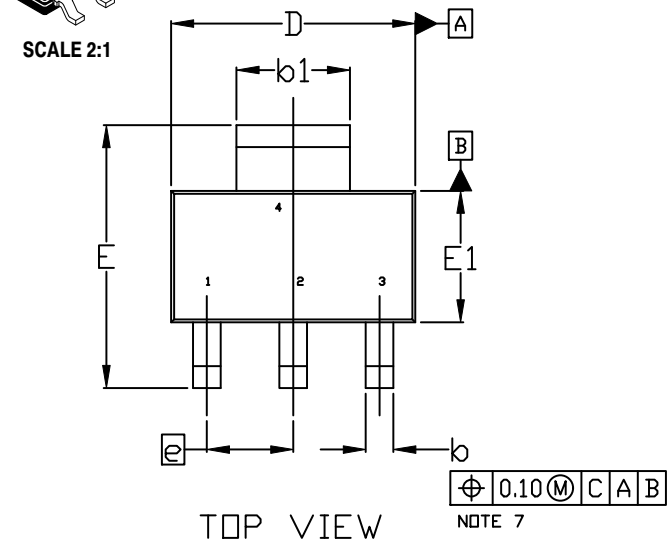
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

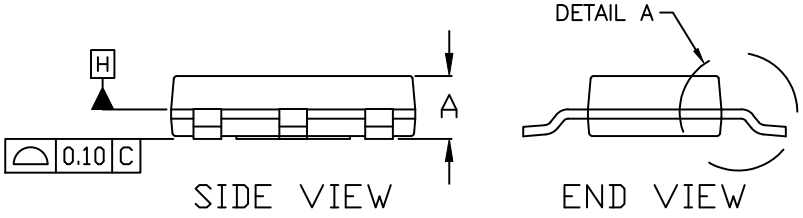
SOT−223
CASE 318H
ISSUE B

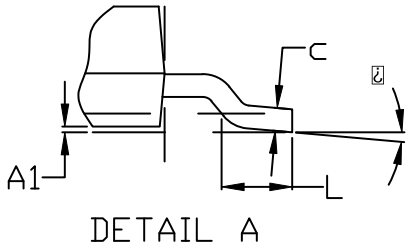
DATE 13 MAY 2020



SCALE 2:1

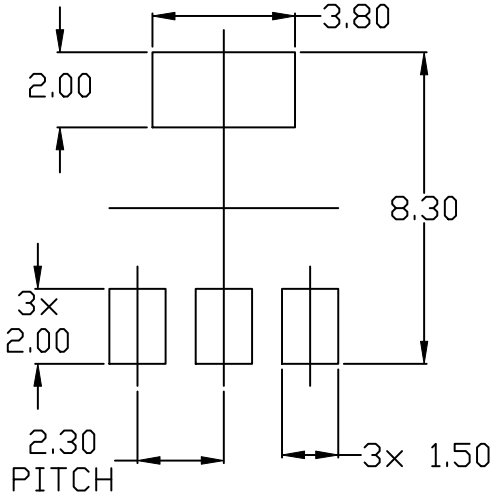






NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2009.
2. CONTROLLING DIMENSION: MILLIMETERS
3. DIMENSIONS D & E1 ARE DETERMINED AT DATUM H. DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. SHALL NOT EXCEED 0.23mm PER SIDE.
4. LEAD DIMENSIONS b AND b1 DO NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBBAR 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.

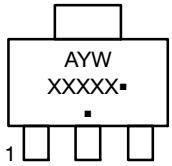
	MILLIMETERS		
DIM	MIN.	NOM.	MAX.
A	---	---	1.80
A1	0.02	0.06	0.11
b	0.60	0.74	0.88
b1	2.90	3.00	3.10
c	0.24	---	0.35
D	6.30	6.50	6.70
E	6.70	7.00	7.30
E1	3.30	3.50	3.70
e	2.30 BSC		
L	0.25	---	---
θ	0°	---	10°



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, SOLDERRM/D.

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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DESCRIPTION:	**SOT−223**		**PAGE 1 OF 1**

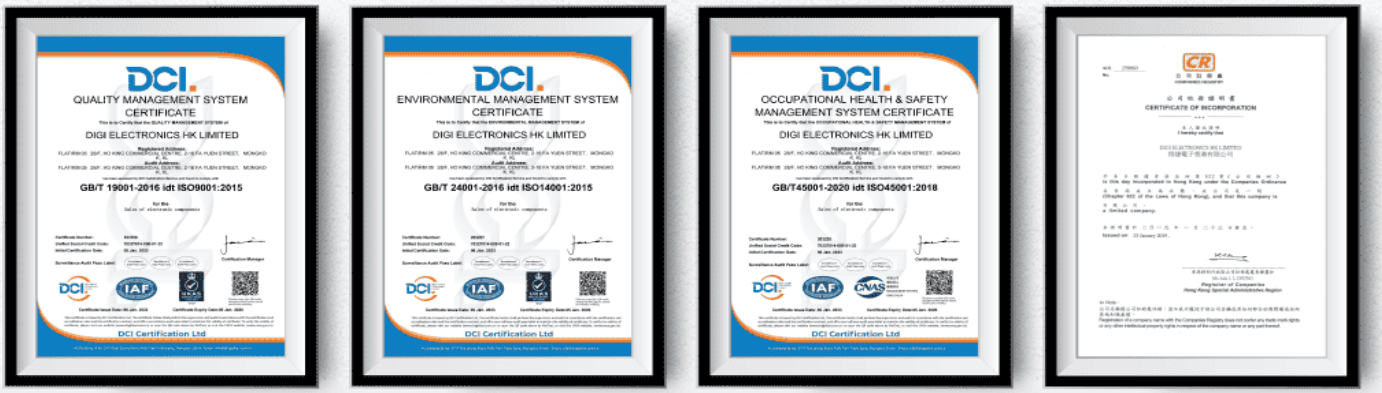
ADDITIONAL INFORMATION

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 striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com



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RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.