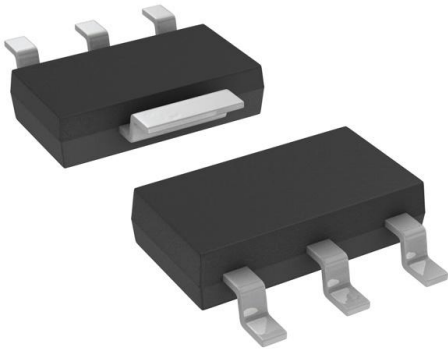


SPZT751T1G Datasheet

www.digi-electronics.com



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

DiGi Electronics Part Number	SPZT751T1G-DG
Manufacturer	onsemi
Manufacturer Product Number	SPZT751T1G
Description	TRANS PNP 60V 2A SOT223
Detailed Description	Bipolar (BJT) Transistor PNP 60 V 2 A 75MHz 800 mW 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:

SPZT751T1G

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

60 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

800 mW

Operating Temperature:

150°C (TJ)

Package / Case:

TO-261-4, TO-261AA

Base Product Number:

SPZT751

Manufacturer:

onsemi

Product Status:

Active

Current - Collector (Ic) (Max):

2 A

Vce Saturation (Max) @ Ib, Ic:

500mV @ 200mA, 2A

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

75 @ 1A, 2V

Frequency - Transition:

75MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-223 (TO-261)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0095

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

PNP Silicon Planar Epitaxial Transistor

PZT751T1

This PNP Silicon Epitaxial transistor is designed for use in industrial and consumer applications. The device is housed in the SOT-223 package which is designed for medium power surface mount applications.

Features

- High Current
- The SOT-223 Package can be soldered using wave or reflow.
- SOT-223 Package Ensures Level Mounting, Resulting in Improved Thermal Conduction, and Allows Visual Inspection of Soldered Joints. The Formed Leads Absorb Thermal Stress During Soldering, Eliminating the Possibility of Damage to the Die
- NPN Complement is PZT651T1G
- S 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}	-60	Vdc
Collector-Base Voltage	V_{CBO}	-80	Vdc
Emitter-Base Voltage	V_{EBO}	-5.0	Vdc
Collector Current	I_C	-2.0	Adc
Total Power Dissipation @ $T_A = 25^\circ\text{C}$ (Note 1) Derate above 25°C	P_D	0.8 6.4	W mW/ $^\circ\text{C}$
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.

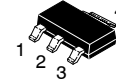
1. Device mounted on a FR-4 glass epoxy printed circuit board using minimum recommended footprint.

THERMAL CHARACTERISTICS

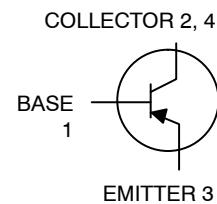
Rating	Symbol	Value	Unit
Thermal Resistance from Junction-to-Ambient in Free Air	$R_{\theta JA}$	156	$^\circ\text{C}/\text{W}$
Maximum Temperature for Soldering Purposes Time in Solder Bath	T_L	260 10	$^\circ\text{C}$ Sec

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

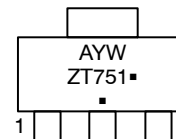
SOT-223 PACKAGE HIGH CURRENT NPN SILICON TRANSISTOR SURFACE MOUNT



SOT-223
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 [†]
PZT751T1G	SOT-223 (Pb-Free)	1,000 / Tape & Reel
SPZT751T1G	SOT-223 (Pb-Free)	1,000 / 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.

PZT751T1**ELECTRICAL CHARACTERISTICS** ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector–Emitter Breakdown Voltage ($I_C = -10\text{ mAdc}$, $I_B = 0$)	$V_{(BR)CEO}$	-60	-	Vdc
Collector–Emitter Breakdown Voltage ($I_C = -100\ \mu\text{Adc}$, $I_E = 0$)	$V_{(BR)CBO}$	-80	-	Vdc
Emitter–Base Breakdown Voltage ($I_E = -10\ \mu\text{Adc}$, $I_C = 0$)	$V_{(BR)EBO}$	-5.0	-	Vdc
Base–Emitter Cutoff Current ($V_{EB} = -4.0\text{ Vdc}$)	I_{EBO}	-	-0.1	μAdc
Collector–Base Cutoff Current ($V_{CB} = -80\text{ Vdc}$, $I_E = 0$)	I_{CBO}	-	-100	nAdc
ON CHARACTERISTICS (Note 2)				
DC Current Gain ($I_C = -50\text{ mAdc}$, $V_{CE} = -2.0\text{ Vdc}$) ($I_C = -500\text{ mAdc}$, $V_{CE} = -2.0\text{ Vdc}$) ($I_C = -1.0\text{ Adc}$, $V_{CE} = -2.0\text{ Vdc}$) ($I_C = -2.0\text{ Adc}$, $V_{CE} = -2.0\text{ Vdc}$)	h_{FE}	75 75 75 40	- - - -	-
Collector–Emitter Saturation Voltages ($I_C = -2.0\text{ Adc}$, $I_B = -200\text{ mAdc}$) ($I_C = -1.0\text{ Adc}$, $I_B = -100\text{ mAdc}$)	$V_{CE(sat)}$	- -	-0.5 -0.3	Vdc
Base–Emitter Voltages ($I_C = -1.0\text{ Adc}$, $V_{CE} = -2.0\text{ Vdc}$)	$V_{BE(on)}$	-	-1.0	Vdc
Base–Emitter Saturation Voltage ($I_C = -1.0\text{ Adc}$, $I_B = -100\text{ mAdc}$)	$V_{BE(sat)}$	-	-1.2	Vdc
Current–Gain–Bandwidth ($I_C = -50\text{ mAdc}$, $V_{CE} = -5.0\text{ Vdc}$, $f = 100\text{ MHz}$)	f_T	75	-	MHz

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

PZT751T1

TYPICAL CHARACTERISTICS

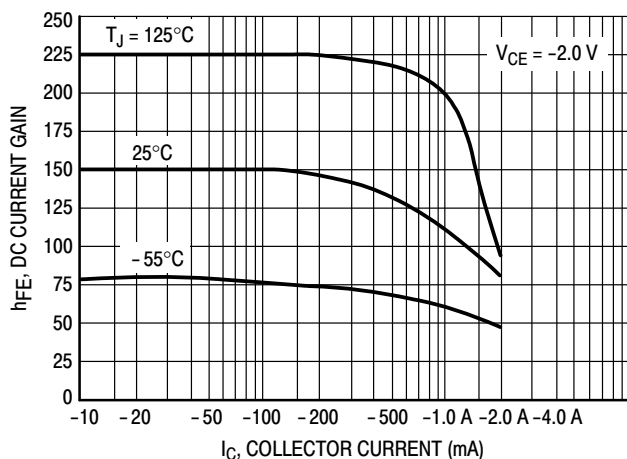


Figure 1. Typical DC Current Gain

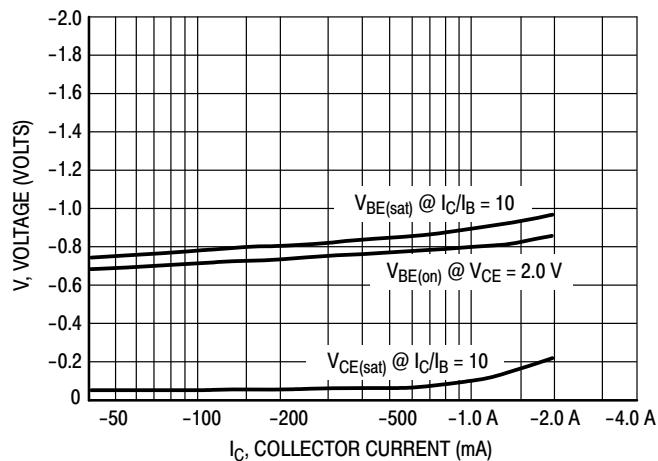


Figure 2. On Voltages

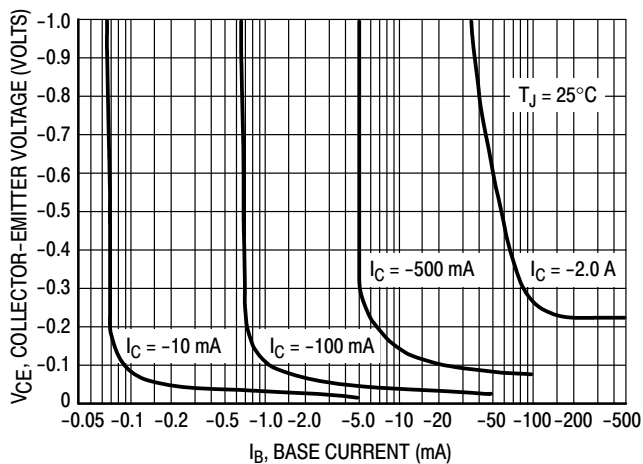


Figure 3. Collector Saturation Region

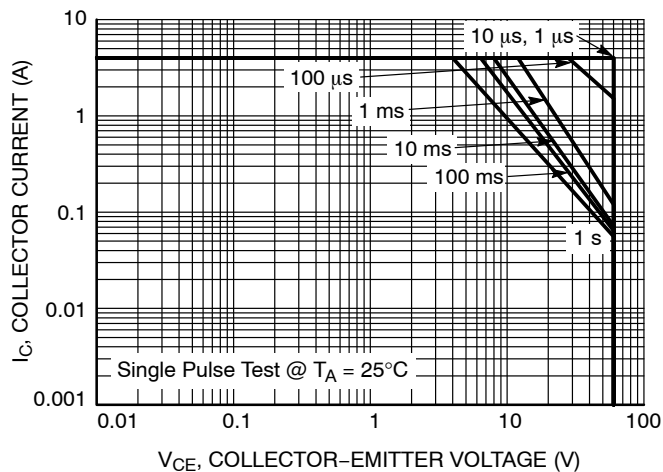


Figure 4. Safe Operating Area



SCALE 1:1

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

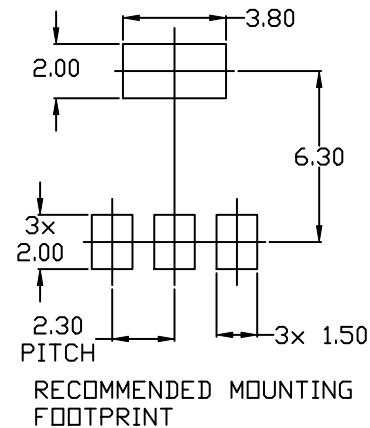
DATE 02 OCT 2018



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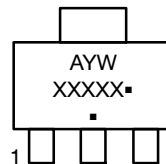
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SOT-223 (TO-261)
CASE 318E-04
ISSUE R

DATE 02 OCT 2018

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

**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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