PZT751T1

Preferred Device

PNP Silicon Planar Epitaxial Transistor

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: 2.0 A
- 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 PZT651T1
- Pb-Free Package is Available

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

Symbol	Value	Unit
V_{CEO}	60	Vdc
V _{CBO}	80	Vdc
V_{EBO}	5.0	Vdc
Ι _C	2.0	Adc
PD	0.8 6.4	W mW/°C
T _{stg}	-65 to 150	°C
ТJ	150	°C
	V _{CEO} V _{CBO} V _{EBO} I _C P _D T _{stg}	$\begin{array}{c c} V_{CEO} & 60 \\ \hline V_{CBO} & 80 \\ \hline V_{EBO} & 5.0 \\ \hline I_C & 2.0 \\ \hline P_D & 0.8 \\ 6.4 \\ \hline T_{stg} & -65 \text{ to } 150 \\ \end{array}$

THERMAL CHARACTERISTICS

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

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.

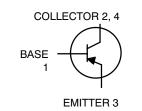
 Device mounted on a FR-4 glass epoxy printed circuit board using minimum recommended footprint.

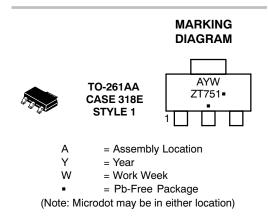


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SOT-223 PACKAGE HIGH CURRENT PNP SILICON TRANSISTOR SURFACE MOUNT





ORDERING INFORMATION

Device	Package	Shipping
PZT751T1	SOT-223	1000 / Tape & Reel
PZT751T1G	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.

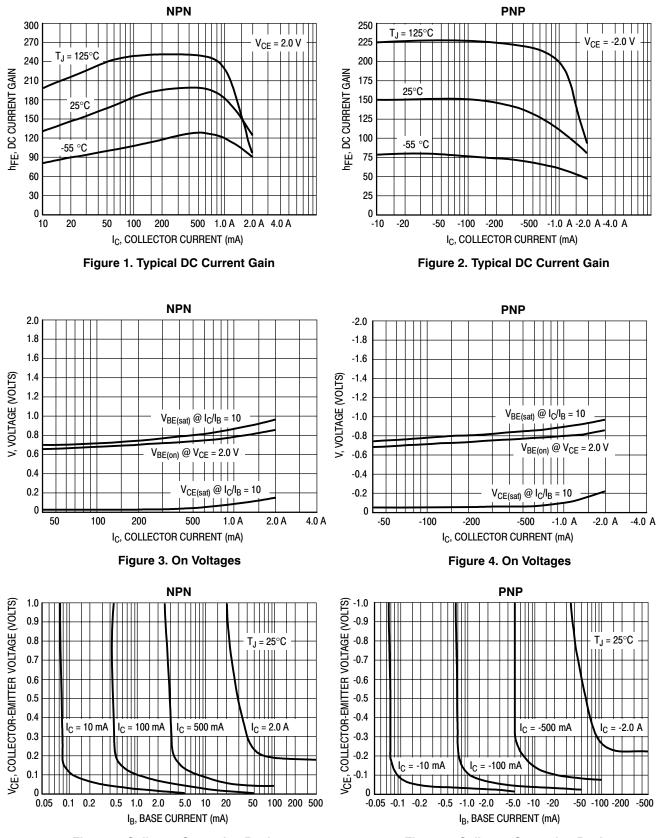
Preferred devices are recommended choices for future use and best overall value.

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ELECTRICAL CHARACTERISTICS (T_A = $25^{\circ}C$ 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 $(I_C = 100 \ \mu Adc, I_E = 0)$	V _{(BR)CBO}	80	-	Vdc
Emitter-Base Breakdown Voltage $(I_E = 10 \ \mu Adc, I_C = 0)$	V _{(BR)EBO}	5.0	-	Vdc
Base-Emitter Cutoff Current (V _{EB} = 4.0 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)				
$ \begin{array}{l} \text{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}) \end{array} $	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 ($I_C = 50 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}, f = 100 \text{ MHz}$)	fT	75	-	MHz

2. Pulse Test: Pulse Width \leq 300 µs, Duty Cycle = 2.0%.



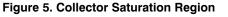
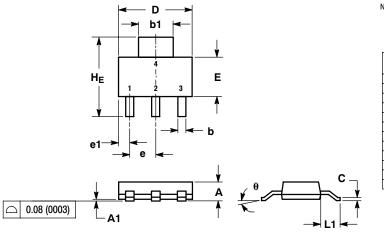


Figure 6. Collector Saturation Region

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PACKAGE DIMENSIONS

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

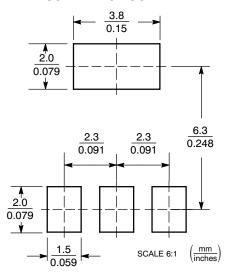


NOTES: 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982. 2. CONTROLLING DIMENSION: INCH.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
Α	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
С	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
Е	3.30	3.50	3.70	0.130	0.138	0.145
е	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
HE	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.

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