

SOT-523

Digital Transistor (Built-in Resistors)

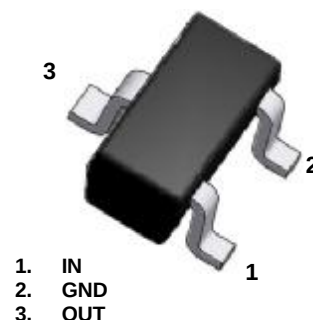
PNP Silicon Surface Mount Transistor

Green Product

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CC}	Supply Voltage	-50	V
V_{IN}	Input Voltage	-40 ~ +10	V
I_O	Output Current	-50	mA
I_{CM}	Peak Collector Current	-100	mA
P_D	Power Dissipation	150	mW
T_J	Junction to Ambient	150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

These ratings are limiting values above which the serviceability of the device may be impaired.

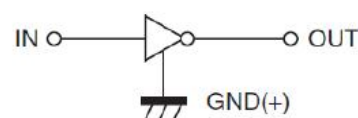
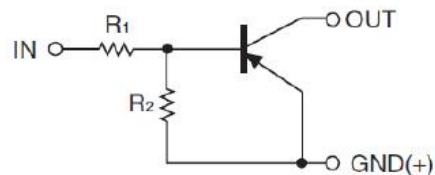


SOT-523 (SC-75A)

FEATURES:

- § Built-in resistors enable the configuration of a inverter circuit without connecting external input resistors.
- § The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- § Only the on/off conditions need to be set for operation, making device design easy.
- § RoHS Compliant
- § Green EMC
- § Matte Tin(Sn) Lead Finish
- § Weight: approx. 0.002g

ELECTRICAL SYMBOL:

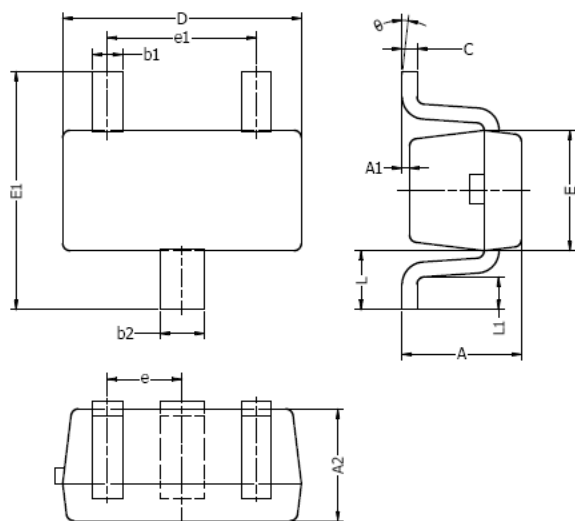
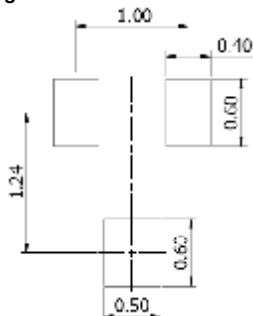


DEVICE MARKING CODE:

Device Type	Device Marking
DTA114EE	14

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

Parameter	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
Input Voltage	$V_{I(\text{off})}$	$V_{CC} = -5\text{V}$, $I_O = -100\mu\text{A}$	-0.5			V
	$V_{I(\text{on})}$	$V_O = -0.3\text{V}$, $I_O = -10\text{mA}$			-3	V
Output Voltage	$V_{O(\text{on})}$	$I_O / I_I = -10\text{mA}/-0.5\text{mA}$			-0.3	V
Input Current	I_I	$V_I = -5\text{V}$			-0.88	mA
Output Current	$I_{O(\text{off})}$	$V_{CC} = -50\text{V}$, $V_I = 0$			-0.5	μA
DC Current Gain	G_I	$V_O = -5\text{V}$, $I_O = -5\text{mA}$	30			
Input Resistance	R_I		7	10	13	K Ω
Resistance Ratio	R_2 / R_1		0.8	1	1.2	
Transition Frequency	f_T	$V_O = -10\text{V}$, $I_O = -5\text{mA}$ $f = 100\text{MHz}$		250		MHz

SOT-523 Package Outline

Typical Soldering Pattern:


DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
θ	0°	8°	0°	8°

NOTES:

1. Above package outline conforms to JEITA EAIJ ED-7500A SC-75A.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

NOTICE

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