

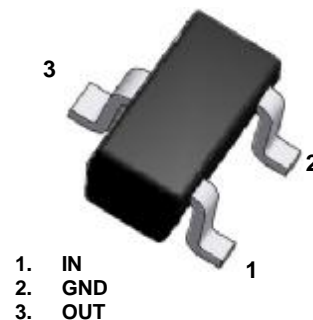
## SOT-523 Digital Transistor (Built-in Resistors) PNP Silicon Surface Mount Transistor

Green Product

### Absolute Maximum Ratings (T<sub>A</sub> = 25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V <sub>CC</sub>	Supply Voltage	-50	V
V <sub>IN</sub>	Input Voltage	-40 ~ +6	V
I <sub>O</sub>	Output Current	-70	mA
I <sub>CM</sub>	Peak Collector Current	-100	mA
P <sub>D</sub>	Power Dissipation	150	mW
T <sub>J</sub>	Junction to Ambient	150	°C
T <sub>STG</sub>	Storage Temperature Range	-55 to +150	°C

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

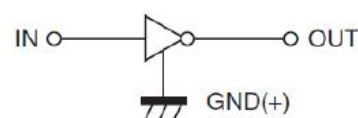
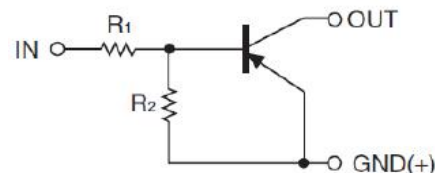


SOT-523 (SC-75A)

### FEATURES:

- § Built-in resistors enable the configuration of an 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:



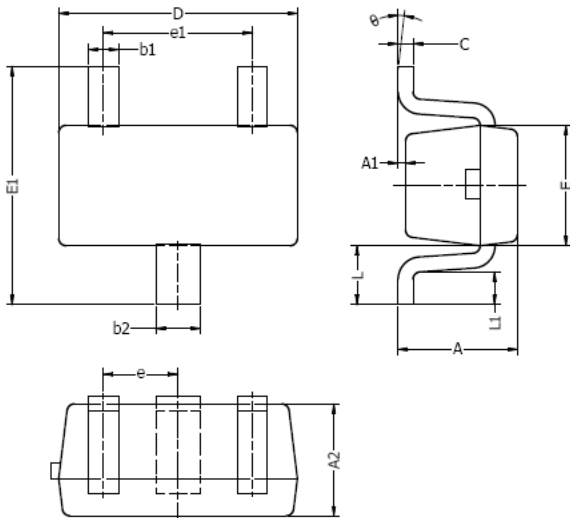
### DEVICE MARKING CODE:

Device Type	Device Marking
DTA114YE	54

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

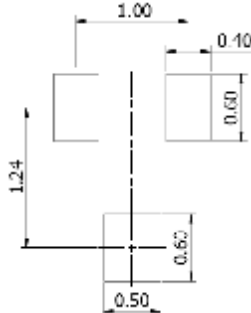
Parameter	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
Input Voltage	$V_{I(off)}$	$V_{CC} = -5V, I_O = -100\mu A$	-0.3			V
	$V_{I(on)}$	$V_O = -0.3V, I_O = -1mA$			-1.4	V
Output Voltage	$V_{O(on)}$	$I_O / I_I = -5mA / -0.25mA$			-0.3	V
Input Current	$I_I$	$V_I = -5V$			-0.88	mA
Output Current	$I_{O(off)}$	$V_{CC} = -50V, V_I = 0$			-0.5	$\mu A$
DC Current Gain	$G_I$	$V_O = -5V, I_O = -5mA$	68			
Input Resistance	$R_1$		7	10	13	K $\Omega$
Resistance Ratio	$R_2 / R_1$		3.7	4.7	5.7	
Transition Frequency	$f_T$	$V_O = -10V, I_O = -5mA$ $f = 100MHz$		250		MHz

**SOT-523 Package Outline**



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
$\theta$	$0^\circ$	$8^\circ$	$0^\circ$	$8^\circ$

**Typical Soldering Pattern:**



**NOTES:**

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

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