

## SOT-523

### Digital Transistor (Built-in Resistors)

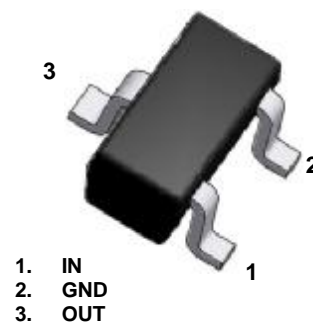
### PNP Silicon Surface Mount Transistor

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	-30 ~ +10	V
$I_O$	Output Current	-100	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.

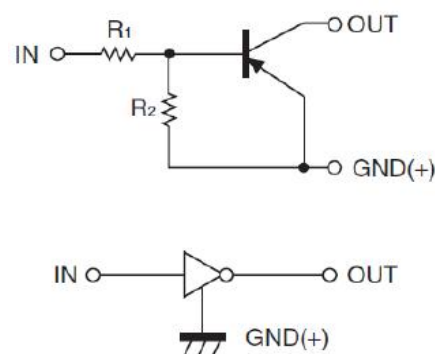


SOT-523 (SC-75A)

#### FEATURES:

- § Built-in resistors enable the configuration of 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:



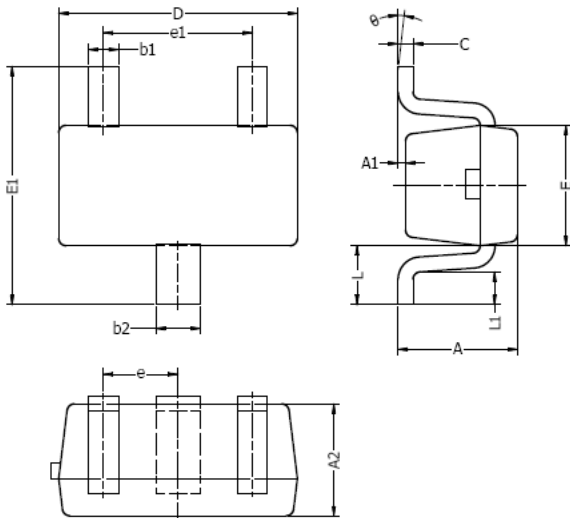
#### DEVICE MARKING CODE:

Device Type	Device Marking
DTA143EE	13

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

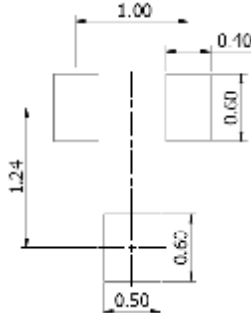
Parameter	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
Input Voltage	$V_{I(off)}$	$V_{CC} = -5V, I_O = -100\mu A$	-0.5			V
	$V_{I(on)}$	$V_O = -0.3V, I_O = -20mA$			-3	V
Output Voltage	$V_{O(on)}$	$I_O / I_I = -10mA / -0.5mA$		-0.1	-0.3	V
Input Current	$I_I$	$V_I = -5V$			-1.8	mA
Output Current	$I_{O(off)}$	$V_{CC} = -50V, V_I = 0V$			-0.5	$\mu A$
DC Current Gain	$G_I$	$V_O = -5V, I_O = -10mA$	30			
Input Resistance	$R_1$		3.29	4.7	6.11	K $\Omega$
Resistance Ratio	$R_2 / R_1$		0.8	1	1.2	
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.

## **NOTICE**

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