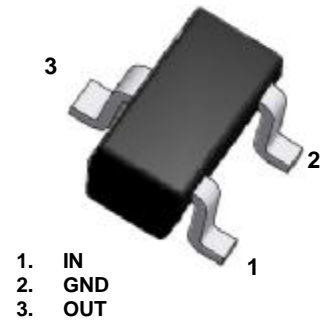


■ Digital Transistor

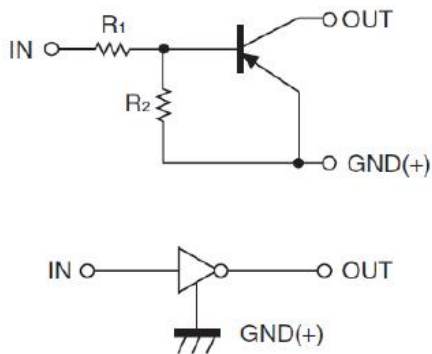
**FEATURES:**

- § 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



SOT-523

**ELECTRICAL SYMBOL:**



**DEVICE MARKING CODE:**

Device Type	Device Marking
DTA144EE	16

**■ Absolute Maximum Ratings Ta = 25°C**

Symbol	Parameter	Value	Units
V <sub>CC</sub>	Supply Voltage	-50	V
V <sub>IN</sub>	Input Voltage	-40 ~ +10	V
I <sub>O</sub>	Output Current	-30	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

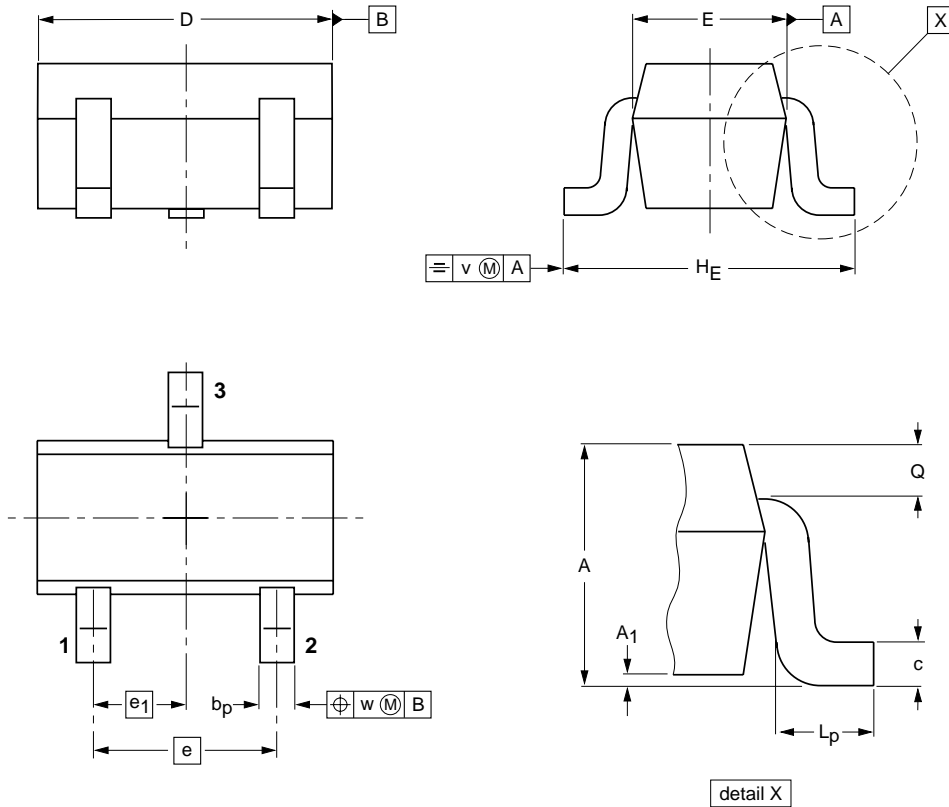
These ratings are limiting values above which the serviceability of the device may be impaired.

**■ Electrical Characteristics Ta = 25°C**

Parameter	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
Input Voltage	V <sub>I(off)</sub>	V <sub>CC</sub> = -5V, I <sub>O</sub> = -100uA	-0.5			V
	V <sub>I(on)</sub>	V <sub>O</sub> = -0.3V, I <sub>O</sub> = -2mA			-3	V
Output Voltage	V <sub>O(on)</sub>	I <sub>O</sub> / I <sub>I</sub> = -10mA/-0.5mA			-0.3	V
Input Current	I <sub>I</sub>	V <sub>I</sub> = -5V			-0.18	mA
Output Current	I <sub>O(off)</sub>	V <sub>CC</sub> = -50V, V <sub>I</sub> = 0			-0.5	uA
DC Current Gain	G <sub>I</sub>	V <sub>O</sub> = -5V, I <sub>O</sub> = -5mA	68			
Input Resistance	R <sub>1</sub>		32.9	47	61.1	KΩ
Resistance Ratio	R <sub>2</sub> /R <sub>1</sub>		0.8	1	1.2	
Transition Frequency	f <sub>T</sub>	V <sub>O</sub> = -10V, I <sub>O</sub> = -5mA f=100MHz		250		MHz

**Package Outline**

**SOT-523**



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	0.95 0.60	0.1	0.30 0.15	0.25 0.10	1.8 1.4	0.9 0.7	1	0.5	1.75 1.45	0.45 0.15	0.23 0.13	0.2	0.2

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOT-523	Tape/Reel, 7" reel	3000	EIA-481-1