

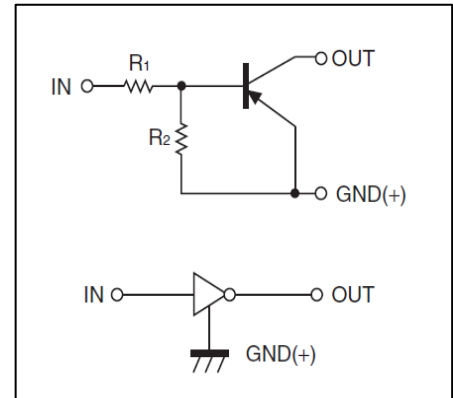
## Digital Transistors (Built-in Resistors)

DIGITAL TRANSISTOR (PNP)

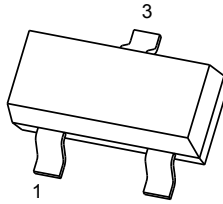
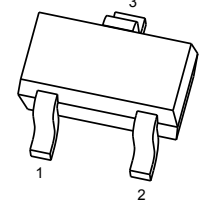
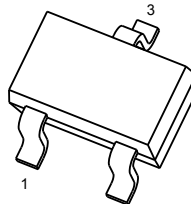
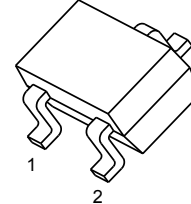
### FEATURES

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)
- 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

### • Equivalent Circuit



### PIN CONNENCTIONS and MARKING

<p><b>DTA123YCA</b></p>  <p><b>SOT-23</b></p> <p>1.IN 2.GND 3 .OUT</p>	<p><b>DTA123YE</b></p>  <p><b>SOT -523</b></p> <p>1. IN 2. GND 3. OUT</p>
<p><b>DTA123YUA</b></p>  <p><b>SOT -323</b></p> <p>1. IN 2. GND 3. OUT</p>	<p><b>DTA123YKA</b></p>  <p><b>SOT -23-3L</b></p> <p>1. IN 2. GND 3. OUT</p>

**ORDERING INFORMATION**

Part Number	MARKING <sup>(1)</sup>	Package	Packing Method	Pack Quantity
DTA123YCA	52	SOT-23	Reel	3000pcs/Reel
DTA123YE	52	SOT-523	Reel	3000pcs/Reel
DTA123YUA	52	SOT-323	Reel	3000pcs/Reel
DTA123YKA	52	SOT-23-3L	Reel	3000pcs/Reel

**MAXIMUM RATINGS(Ta=25°C unless otherwise noted)**

Symbol	Parameter	Limits(DTA123Y□)						Unit
		M	E	UA	KA	CA	SA	
V <sub>CC</sub>	Supply Voltage	-50						V
V <sub>IN</sub>	Input Voltage	-12~+5						V
I <sub>O</sub>	Output Current	-100						mA
P <sub>D</sub>	Power Dissipation	100	150	200	200	200	300	mW
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150						°C

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	V <sub>I(off)</sub>	V <sub>CC</sub> =-5V, I <sub>O</sub> =-100μA	-0.3			V
	V <sub>I(on)</sub>	V <sub>O</sub> =-0.3V, I <sub>O</sub> =-20mA			-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			-3.8	mA
Output current	I <sub>O(off)</sub>	V <sub>CC</sub> =-50V, V <sub>I</sub> =0			-0.5	μA
DC current gain	G <sub>I</sub>	V <sub>O</sub> =-5V, I <sub>O</sub> =-10mA	33			
Input resistance	R <sub>1</sub>		1.54	2.2	2.86	kΩ
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>		3.6	4.5	5.5	
Transition frequency	f <sub>T</sub>	V <sub>O</sub> =-10V, I <sub>O</sub> =-5mA, f=100MHz		250		MHz

## Typical Characteristics

