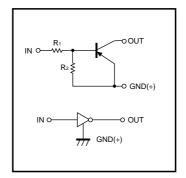
# Digital transistors (built-in resistors)

# DTA123JM / DTA123JE / DTA123JUA / DTA123JKA / DTA123JSA

# ●Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- 2) 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.
- 3) Only the on/off conditions need to be set for operation, making device design easy.

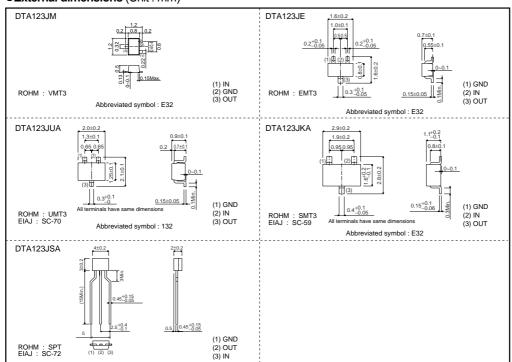
## ●Equivalent circuit



#### Structure

PNP digital transistor (Built-in resistor type)

## ●External dimensions (Unit: mm)



# ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits(DTA123J □)					
		М	E	UA	KA	SA	Unit
Supply voltage	Vcc	-50					
Input voltage	Vin	-12 to +5					
Output current	lo	-100					
	IC(Max.)	-100					
Power dissipation	Pd	15	50	200		300	mW
Junction temperature	Tj	150					
Storage temperature	Tstg	-55 to +150					°C

# ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions		
Input voltage	VI(off)	-	-	-0.5	.,	Vcc=-5V, Io=-100μA		
	VI(on)	-1.1	-	-	V	Vo=-0.3V, Io=-5mA		
Output voltage	Vo(on)	-	-0.1	-0.3	V	Io/I=-5mA/-0.25mA		
Input current	lı	-	-	-3.6	mA	VI=-5V		
Output current	IO(off)	-	-	-0.5	μА	Vcc=-50V, Vi=0V		
DC current gain	Gı	80	_	_	_	Vo=-5V, Io=-10mA		
Input resistance	R <sub>1</sub>	1.54	2.2	2.86	kΩ	-		
Resistance ratio	R2/R1	17	21	26	_	-		
Transition frequency	f⊤	-	250	-	MHz	Vce=-10V, Ie=5mA, f=100MHz *		

<sup>\*</sup> Transition frequency of the device

# ●Packaging specifications

	Package	VMT3	EMT3	UMT3	SMT3	SPT
Packaging type		Taping	Taping	Taping	Taping	Taping
Code		T2L	TL	T106	T146	TP
Туре	Basic ordering unit (pieces)	8000	3000	3000	3000	5000
DTA123JM		0				-
DTA123JE			0			-
DTA123JUA		-	-	0	-	-
DTA123JKA			-	-	0	-
DTA123JSA		-		-	-	0

## •Electrical characteristic curves

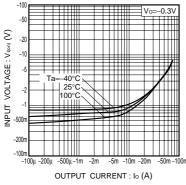


Fig.1 Input voltage vs. output current (ON characteristics)

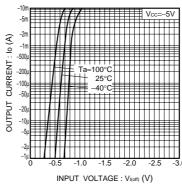


Fig.2 Output current vs. input voltage (OFF characteristics)

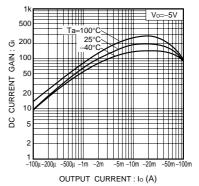


Fig.3 DC current gain vs. output current

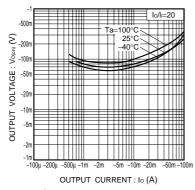


Fig.4 Output voltage vs. output current

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