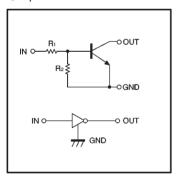
Digital transistors (built-in resistors) DTC123YE / DTC123YUA / DTC123YKA DTC123YSA

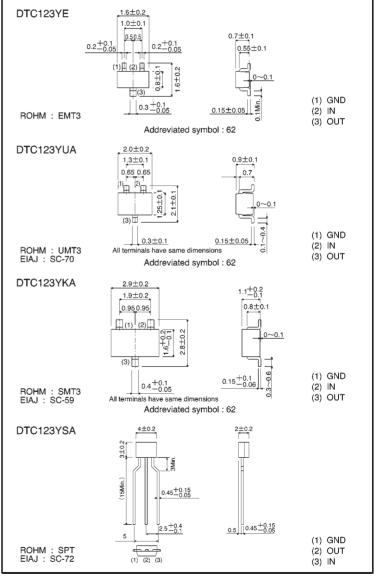
Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- The bias resistors consist of thinfilm resistors with complete isolation to allow negative 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



External dimensions (Units: mm)



(96-659-C123Y)



●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol		Unit			
- raiametei		E	UA	KA	SA	Offic
Supply voltage	Vcc		V			
Input voltage	Vin		V			
Output current	lo		mA			
	IC(Max.)					
Power dissipation	Pd	150	20	00	300	mW
Junction temperature	Tj		Ç			
Storage temperature	Tstg		c			

•Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Input voltage	VI(off)	_	_	0.3	٧	Vcc=5V, Io=100 μA	
	VI(on)	3	_	_		Vo=0.3V, Io=20mA	
Output voltage	V _{O(on)}	_	0.1	0.3	٧	Io/I:=10mA/0.5mA	
Input current	lı	_	_	3.8	mA	V _I =5V	
Output current	IO(off)	_	_	0.5	μΑ	Vcc=50V, Vi=0V	
DC current gain	Gı	33	_	_	_	Vo=5V, Io=10mA	
Input resistance	R ₁	1.54	2.2	2.86	kΩ	_	
Resistance ratio	R ₂ /R ₁	3.6	4.5	5.5	_	_	
Transition frequency	fτ	_	250	_	MHz	VcE=10V, IE=-5mA, f=100MHz	

^{*} Transition frequency of the device

Packaging specifications

	Package	EMT3	UMT3	SMT3	SPT
	Packaging type	Taping	Taping	Taping	Taping
	Code	TL	T106	T146	TP
Part No.	Basic ordering unit (pieces)	3000	3000	3000	5000
DTC123YE		0	_	_	_
DTC123YUA		_	0	_	_
DTC123YKA		_	_	0	_
DTC123YSA		_	_	_	0

Electrical characteristic curves

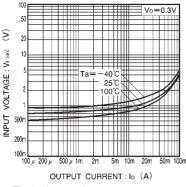


Fig.1 Input voltage vs. output current (ON characteristics)

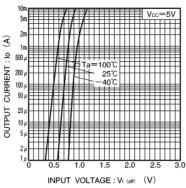


Fig.2 Output current vs. input voltage (OFF characteristics)

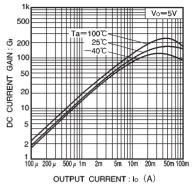


Fig.3 DC current gain vs. output current

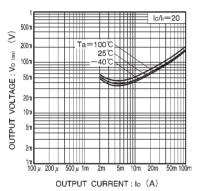


Fig.4 Output voltage vs. output current