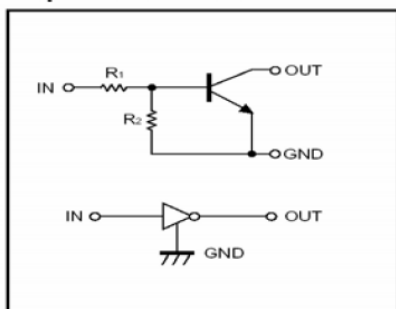


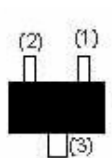
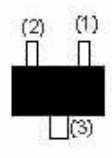
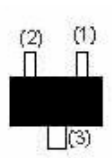
RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## 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



<b>DTC123YE (SOT-523)</b>	<b>DTC123YUA (SOT-323)</b>
 <p>1.IN 2.GND 3.OUT</p>	 <p>1.IN 2.GND 3.OUT</p>
Abbreviated symbol : 62	Abbreviated symbol : 62
<b>DTC123YCA (SOT-23)</b>	
 <p>1.IN 2.GND 3.OUT</p>	
Abbreviated symbol : 62	

## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Limits (DTC123Y□)			Unit
		E	UA	CA	
Supply Voltage	V <sub>CC</sub>	50			V
Input Voltage	V <sub>IN</sub>	-5~12			V
Output Current	I <sub>O</sub>	100			mA
	I <sub>C(MAX)</sub>	100			
Power dissipation	P <sub>D</sub>	150	200		mW
Junction & Storage temperature	T <sub>J</sub> , T <sub>STG</sub>	-55~150			°C

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Input Voltage	V <sub>I(off)</sub>	-	-	0.3	V	V <sub>CC</sub> =5V, I <sub>O</sub> =100μA
	V <sub>I(on)</sub>	3	-	-		V <sub>O</sub> =0.3V, I <sub>O</sub> =20mA
Output Voltage	V <sub>O(on)</sub>	-	0.1	0.3	V	I <sub>O</sub> /I <sub>I</sub> =10mA / 0.5mA
Input Current	I <sub>I</sub>	-	-	3.8	mA	V <sub>I</sub> = 5V
Output Current	I <sub>O(off)</sub>	-	-	0.5	μA	V <sub>CC</sub> =50V, V <sub>I</sub> =0
DC Current Gain	G <sub>I</sub>	33	-	-		V <sub>O</sub> =5V, I <sub>O</sub> =10mA
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>	-	250	-	MHz	V <sub>O</sub> =10V, I <sub>O</sub> =5mA, f= 100MHz

**CHARACTERISTIC CURVES**

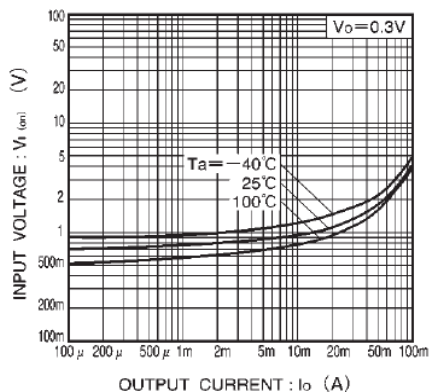


Fig.1 Input voltage vs. output current (ON characteristics)

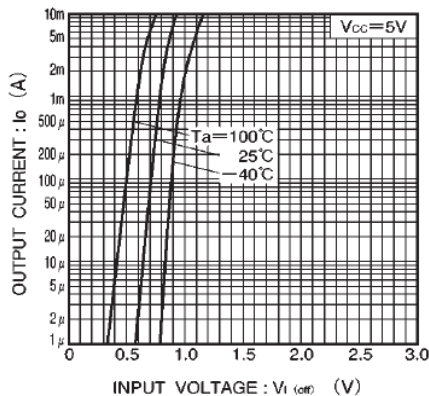


Fig.2 Output current vs. input voltage (OFF characteristics)

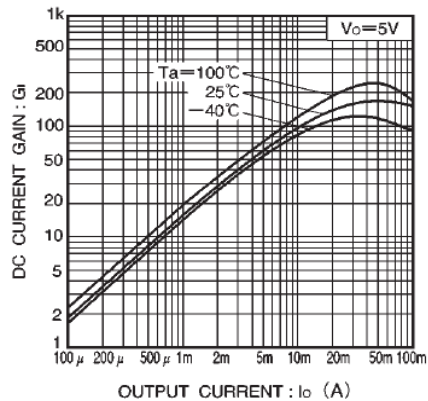


Fig.3 DC current gain vs. output current

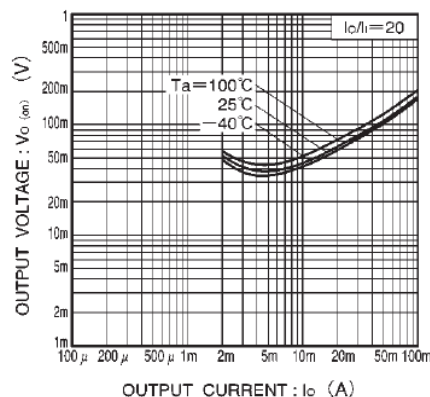


Fig.4 Output voltage vs. output current