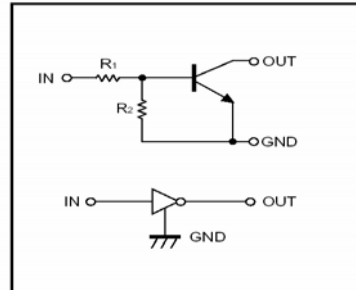


## FEATURES

- \* Built-in bias resistors enable the configuration of an inverter circuit without connecting input resistors (see equivalent circuit).
- \* Only the on/off conditions need to be set for operation, making device design easy.
- \* The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.

### ●Equivalent circuit



## PIN CONNECTIONS AND MARKING

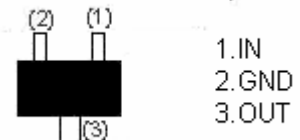
DTC123YE



SOT-523

Abbreviated symbol: 62

DTC123YUA



SOT-323

Abbreviated symbol: 62

DTC123YKA



SOT-23-3L

Abbreviated symbol: 62

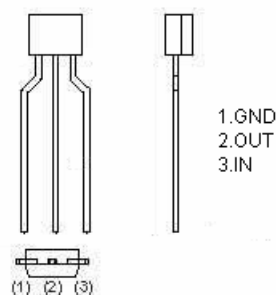
DTC123YCA



SOT-23

Abbreviated symbol: 62

DTC123YSA



TO-92S

**Absolute maximum ratings(Ta=25°C)**

Parameter	Symbol	Limits (DTC123Y□ )					Unit
		E	UA	KA	CA	SA	
Supply voltage	$V_{CC}$	50					V
Input voltage	$V_{IN}$	-5~12					V
Output current	$I_O$	100					mA
	$I_{C(MAX)}$	100					
Power dissipation	$P_d$	150	200			300	mW
Junction temperature	$T_j$	150					°C
Storage temperature	$T_{stg}$	-55~150					°C

**Electrical characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$			0.3	V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$	3				$V_O=0.3V, I_O=20mA$
Output voltage	$V_{O(on)}$		0.1	0.3	V	$I_O/I_I=10mA/0.5mA$
Input current	$I_I$			3.8	mA	$V_I=5V$
Output current	$I_{O(off)}$			0.5	$\mu A$	$V_{CC}=50V, V_I=0$
DC current gain	$G_I$	33				$V_O=5V, I_O=10mA$
Input resistance	$R_1$	1.54	2.2	2.86	K $\Omega$	-
Resistance ratio	$R_2/R_1$	3.6	4.5	5.5		-
Transition frequency	$f_T$		250		MHz	$V_O=10V, I_O=5mA, f=100MHz$

**Typical Characteristics**

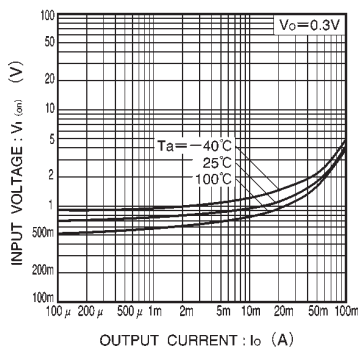


Fig.1 Input voltage vs. output current (ON characteristics)

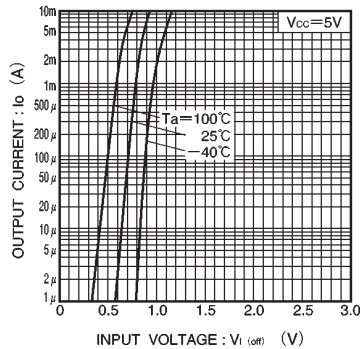


Fig.2 Output current vs. input voltage (OFF characteristics)

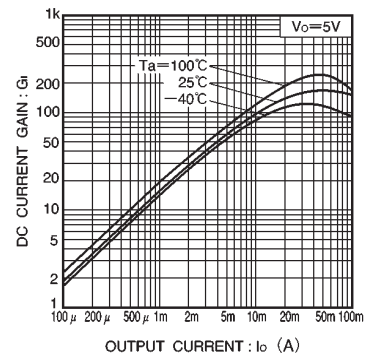


Fig.3 DC current gain vs. output current

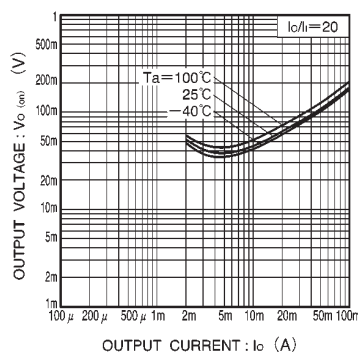


Fig.4 Output voltage vs. output current