

Bias Resistor Transistor

PNP Silicon Surface Mount Transistor with Monolithic Bias Resistor Network

LDTA144WLT1G

● **Applications**

Inverter, Interface, Driver

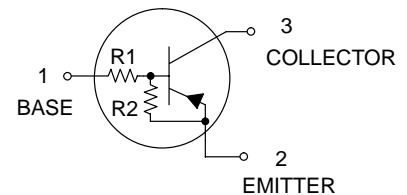
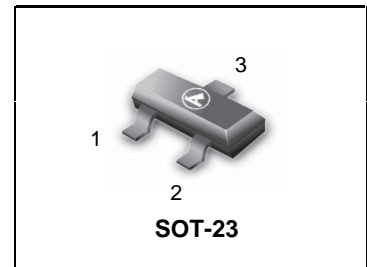
● **Features**

- 1) 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 the device design easy.

- We declare that the material of product compliance with RoHS requirements.

● **Absolute maximum ratings** (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{cc}	-50	V
Input voltage	V _i	-40 to +10	V
Output current	I _o	-30	mA
	I _{c(Max.)}	-100	
Power dissipation	P _d	200	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C



DEVICE MARKING AND RESISTOR VALUES

Device	Marking	R1 (K)	R2 (K)	Shipping
LDTA144WLT1G	A6P	47	22	3000/Tape & Reel
LDTA144WLT3G	A6P	47	22	10000/Tape & Reel

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V _{i(off)}	-	-	-0.8	V	V _{cc} = -5V , I _o = -100μA
	V _{i(on)}	-4	-	-		V _o = -0.3V , I _o = -2mA
Output voltage	V _{O(on)}	-	-0.1	-0.3	V	I _o = -10mA , I _i = -0.5mA
Input current	I _i	-	-	-0.16	mA	V _i = -5V
Output current	I _{o(off)}	-	-	-0.5	μA	V _{cc} = -50V , V _i =0V
DC current gain	G _i	56	-	-	-	I _o = -5mA , V _o = -5V
Input resistance	R ₁	32.9	47	61.1	kΩ	-
Resistance ratio	R ₂ /R ₁	0.37	0.47	0.57	-	-
Transition frequency	f _T	-	250	-	MHz	V _{CE} = -10V , I _E = 5mA , f=100MHz *

* Transition frequency of the device.

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● **Electrical characteristic curves**

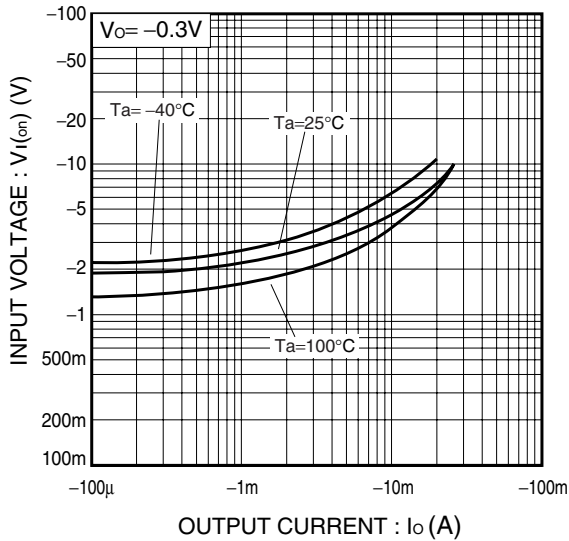


Fig.1 Input voltage vs. Output current

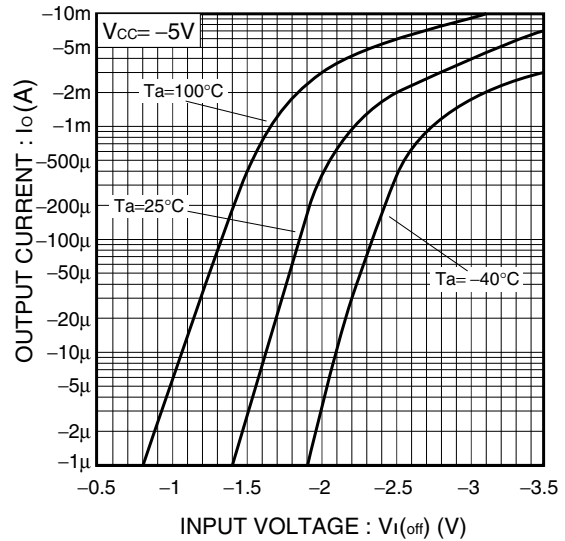


Fig.2 Output current vs. Input voltage

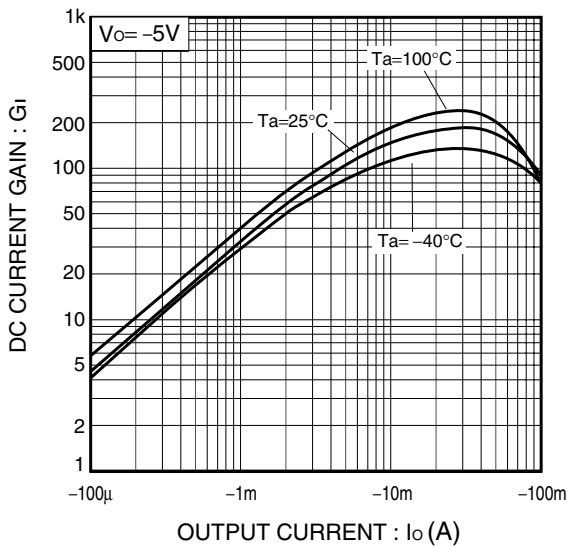


Fig.3 DC current gain vs. Output current

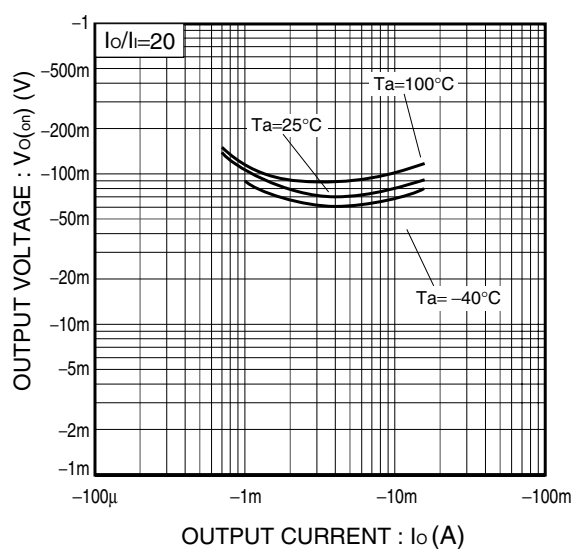


Fig.4 Output voltage vs. Output current

