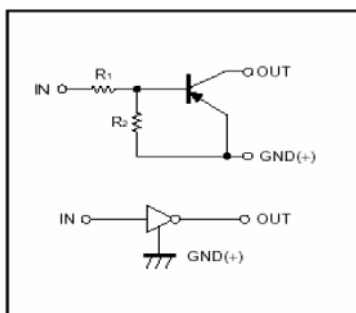



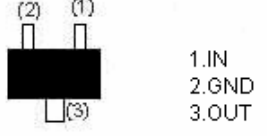
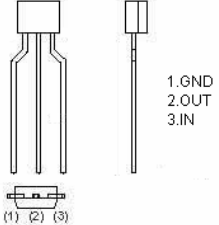
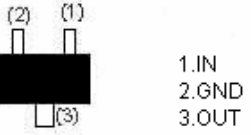
RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## 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



<p><b>DTA144EE (SOT-523)</b></p>  <p>1.IN 2.GND 3.OUT</p> <p>Abbreviated symbol : 16</p>	<p><b>DTA144EUA (SOT-323)</b></p>  <p>1.IN 2.GND 3.OUT</p> <p>Abbreviated symbol : 16</p>
<p><b>DTA144ESA (TO-92S)</b></p>  <p>1.GND 2.OUT 3.IN</p> <p>Abbreviated symbol : 16</p>	<p><b>DTA144ECA (SOT-23)</b></p>  <p>1.IN 2.GND 3.OUT</p> <p>Abbreviated symbol : 16</p>

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

Parameter	Symbol	Rating				Unit
		E	UA	CA	SA	
Supply voltage	V <sub>CC</sub>	-50				V
Input voltage	V <sub>IN</sub>	-40 ~ 10				V
Output current	I <sub>O</sub>	-30				mA
	I <sub>C(MAX)</sub>	-100				
Collector Dissipation	P <sub>C</sub>	150	200	300	mW	
Junction & Storage temperature	T <sub>J</sub> , T <sub>STG</sub>	150, -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>	-0.5	-	-	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> = -2mA
Output voltage	V <sub>O(on)</sub>	-	-	-0.3	V	I <sub>O</sub> /I <sub>I</sub> = -10mA / -0.5mA
Input current	I <sub>I</sub>	-	-	-0.18	μA	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>	68	-	-		V <sub>O</sub> = -5V, I <sub>O</sub> = -5mA
Input resistance	R <sub>1</sub>	32.9	47	61.1	V	
Transition frequency	f <sub>T</sub>	-	250	-	MHz	V <sub>O</sub> = -10V, I <sub>C</sub> = -5mA, f=100MHz
Resistance ratio	R <sub>1</sub> / R <sub>2</sub>	0.8	1	1.2	KΩ	

**CHARACTERISTIC CURVES**

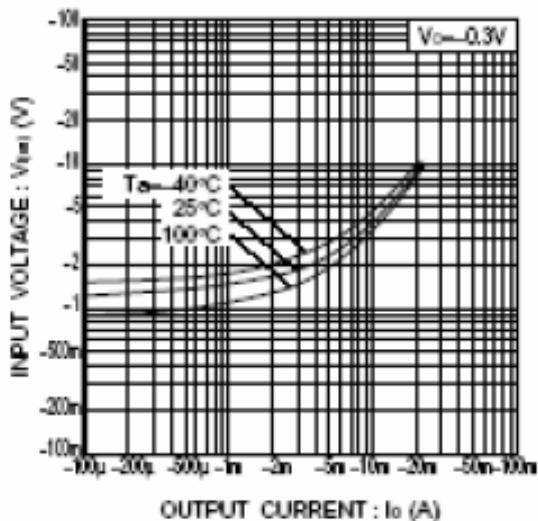


Fig.1 Input voltage vs. output current (ON characteristics)

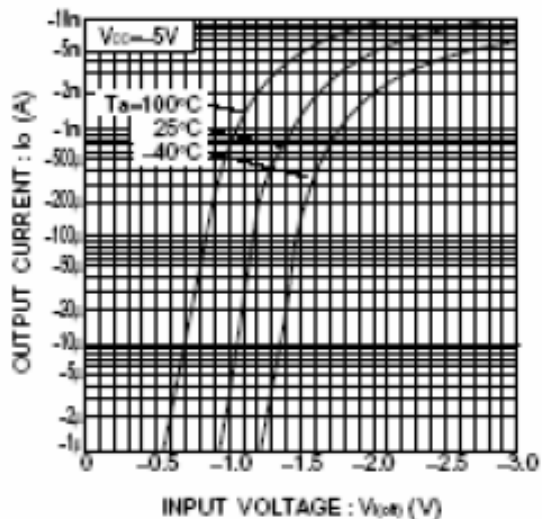


Fig.2 Output current vs. input voltage (OFF characteristics)

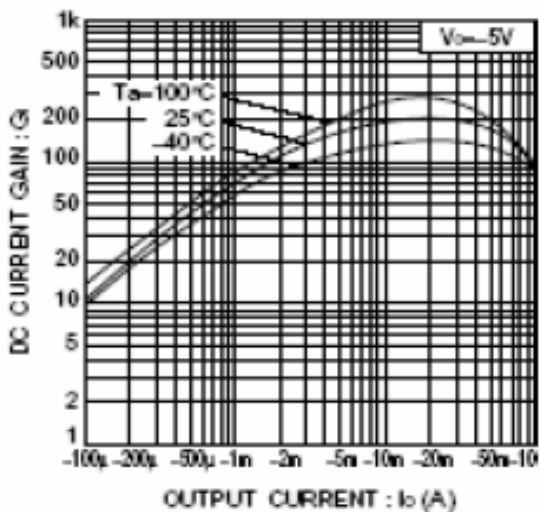


Fig.3 DC current gain vs. output current

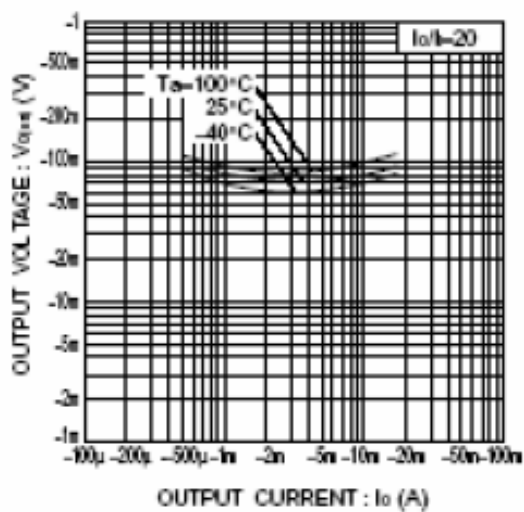


Fig.4 Output voltage vs. output current

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