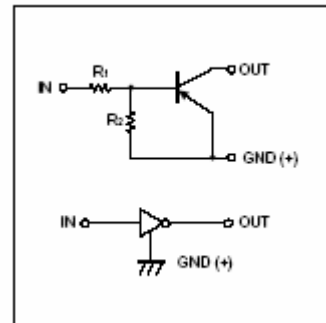


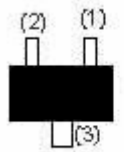
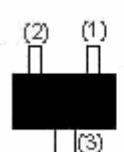
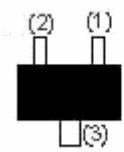
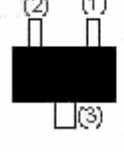
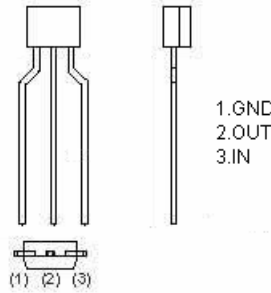
## Features

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 negative 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 device design easy.

### ●Equivalent circuit



## PIN CONNENCTIONS AND MARKING

<p>DTA144EE</p>  <p>1.IN 2.GND 3.OUT</p> <p>SOT-523      Abbreviated symbol: 16</p>	<p>DTA144EUA</p>  <p>1.IN 2.GND 3.OUT</p> <p>SOT-323      Abbreviated symbol: 16</p>
<p>DTA144EKA</p>  <p>1.IN 2.GND 3.OUT</p> <p>SOT-23-3L      Abbreviated symbol: 16</p>	<p>DTA144ECA</p>  <p>1.IN 2.GND 3.OUT</p> <p>SOT-23      Abbreviated symbol: 16</p>
<p>DTA144ESA</p>  <p>1.GND 2.OUT 3.IN</p> <p>TO-92S</p>	

**Absolute maximum ratings(Ta=25°C)**

Parameter	Symbol	Limits (DTA144E□ )					Unit
		E	UA	KA	CA	SA	
Supply voltage	$V_{CC}$	-50					V
Input voltage	$V_{IN}$	-40~+10					V
Output current	$I_O$	-30					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	$V_{I(off)}$			-0.5	V	$V_{CC}=-5V, I_O=-100\mu A$
	$V_{I(on)}$	-3				$V_O=-0.3V, I_O=-2mA$
Output voltage	$V_{O(on)}$			-0.3	V	$I_O/I_I=-10mA/-0.5mA$
Input current	$I_I$			-0.18	mA	$V_I=-5V$
Output current	$I_{O(off)}$			-0.5	$\mu A$	$V_{CC}=-50V, V_I=0$
DC current gain	$G_I$	68				$V_O=-5V, I_O=-5mA$
Input resistance	$R_I$	32.9	47	61.1	K $\Omega$	
Resistance ratio	$R_2/R_1$	0.8	1	1.2		
Transition frequency	$f_T$		250		MHz	$V_O=-10V, I_O=-5mA, f=100MHz$

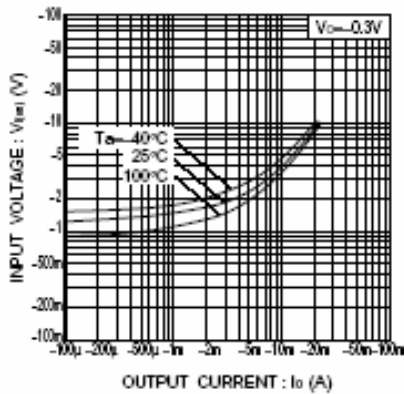
**Typical Characteristics**


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

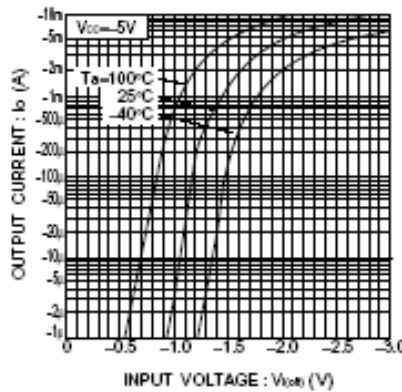


Fig.2 Output current vs. input voltage (OFF characteristics)

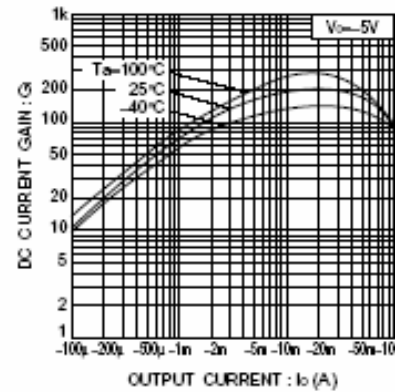


Fig.3 DC current gain vs. output current

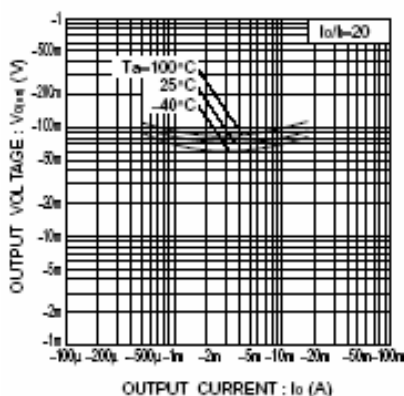


Fig.4 Output voltage vs. output current