



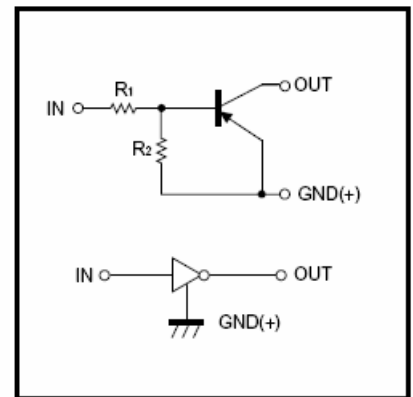
DTA123JE/DTA123JUA/DTA123JKA/DTA123JCA/DTA123JSA

TRANSISTOR(PNP)


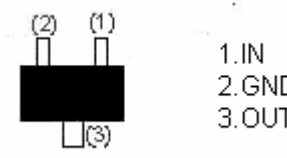
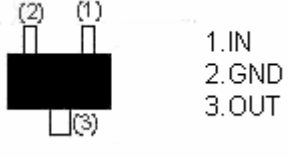
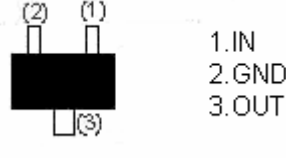
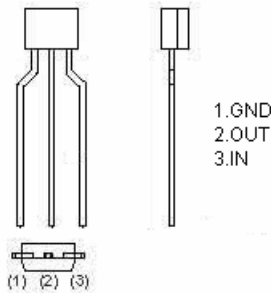
Features

- 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 device design easy.

●Equivalent circuit



PIN CONNENCTIONS AND MARKING

<p>DTA123JE</p>  <p>1.IN 2.GND 3.OUT</p> <p>SOT-523 Abbreviated symbol: E32</p>	<p>DTA123JUA</p>  <p>1.IN 2.GND 3.OUT</p> <p>SOT-323 Abbreviated symbol: 132</p>
<p>DTA123JKA</p>  <p>1.IN 2.GND 3.OUT</p> <p>SOT-23-3L Abbreviated symbol: E32</p>	<p>DTA123JCA</p>  <p>1.IN 2.GND 3.OUT</p> <p>SOT-23 Abbreviated symbol: E32</p>
<p>DTA123JSA</p>  <p>1.GND 2.OUT 3.IN</p> <p>TO-92S</p>	



Absolute maximum ratings(Ta=25°C)

Parameter	Symbol	Limits (DTA123J□)					Unit
		E	UA	KA	CA	SA	
Supply voltage	V _{CC}			-50			V
Input voltage	V _{IN}			-12~+5			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)}			-0.5	V	V _{CC} =-5V, I _O =-100μA
	V _{I(on)}	-1.1				V _O =-0.3V, I _O =-5mA
Output voltage	V _{O(on)}		-0.1	-0.3	V	I _O /I _I =-5mA/-0.25mA
Input current	I _I			-3.6	mA	V _I =-5V
Output current	I _{O(off)}			-0.5	μA	V _{CC} =-50V, V _I =0
DC current gain	G _I	80				V _O =-5V, I _O =-10mA
Input resistance	R ₁	1.54	2.2	2.86	KΩ	-
Resistance ratio	R ₂ /R ₁	17	21	26		-
Transition frequency	f _T		250		MHz	V _O =-10V, I _O =-5mA, f=100MHz



Typical Characteristics

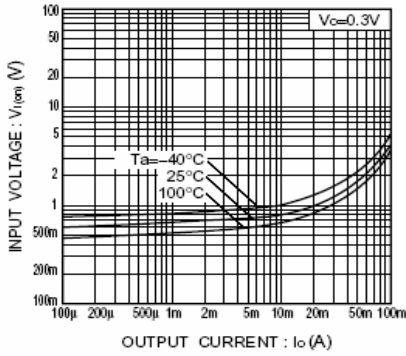


Fig.1 Input voltage vs. output current (ON characteristics)

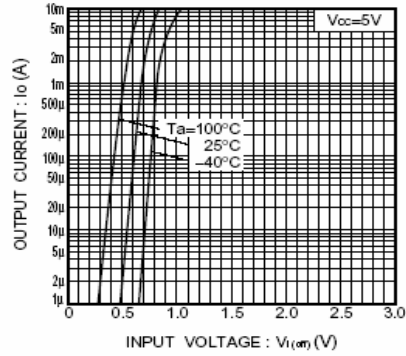


Fig.2 Output current vs. input voltage (OFF characteristics)

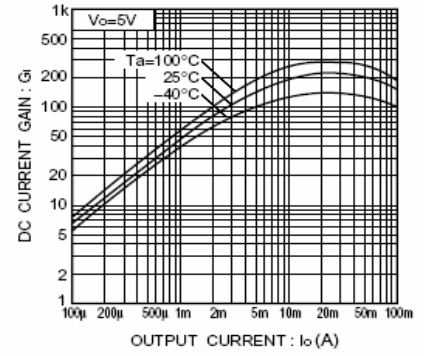


Fig.3 DC current gain vs. output current

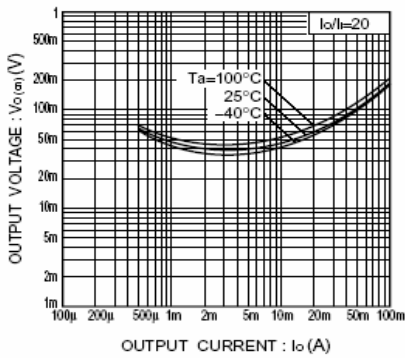
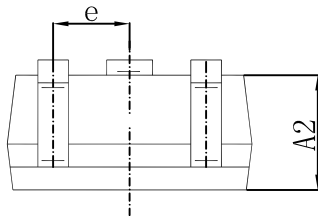
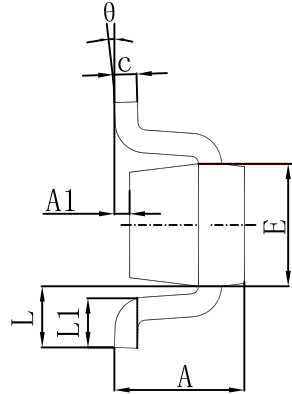
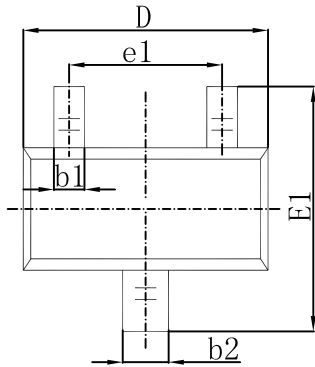


Fig.4 Output voltage vs. output current

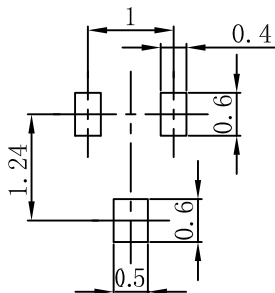


SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-523 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.