



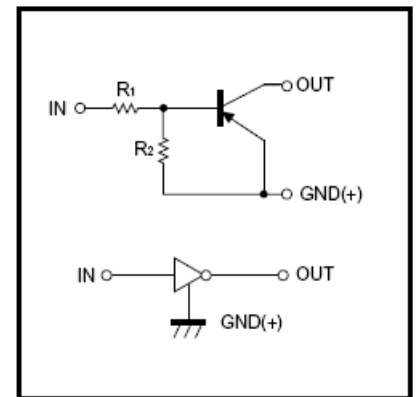
DTA123JE/DTA123JUA/DTA123JKA/DTA123JCA/DTA123JSA

TRANSISTOR(PNP)

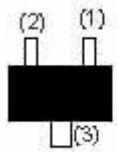
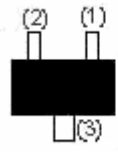
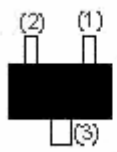
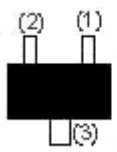
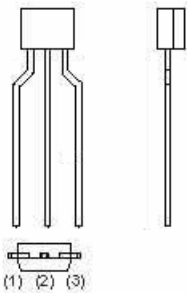
Features

- 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

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



Absolute maximum ratings($T_a=25^{\circ}\text{C}$)

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	Pd	150	200			300	mW
Junction temperature	Tj	150					℃
Storage temperature	Tstg	-55~150					℃

Electrical characteristics ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$			-0.5	V	$V_{CC}=-5V, I_O=-100\mu A$
	$V_{I(on)}$	-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	K Ω	-
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

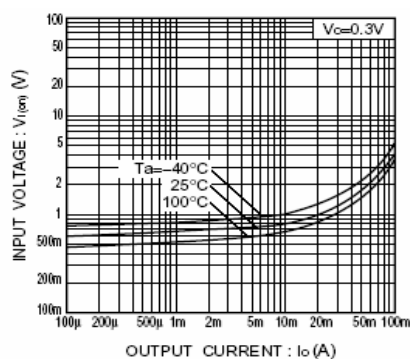


Fig.1 Input voltage vs. output current (ON characteristics)

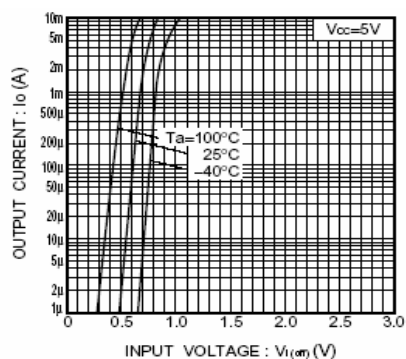


Fig.2 Output current vs. input voltage (OFF characteristics)

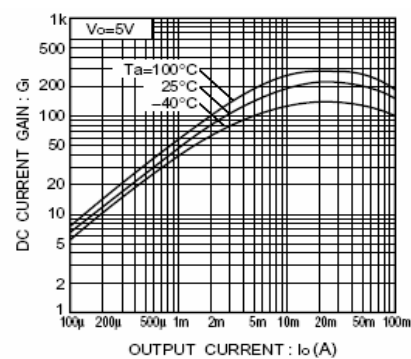


Fig.3 DC current gain vs. output current

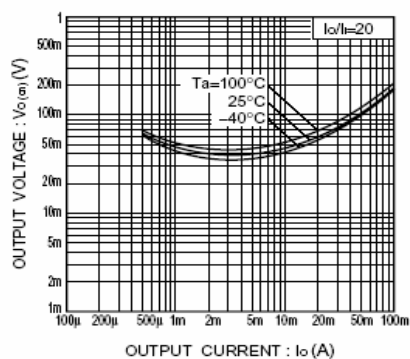
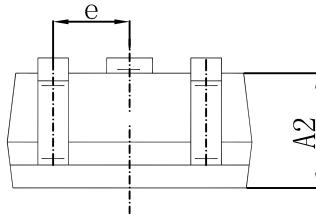
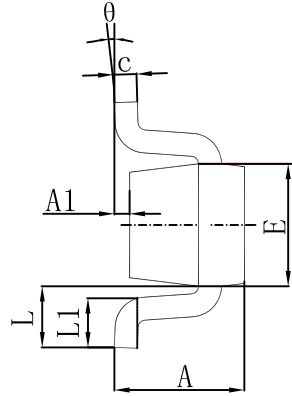
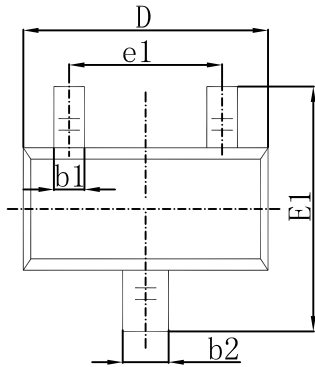


Fig.4 Output voltage vs. output current

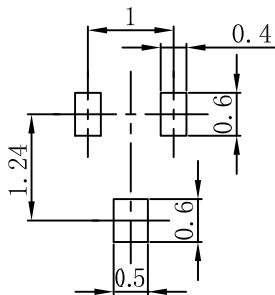


SOT-523 Package Outline Dimensions



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.