

1. 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 negative 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.

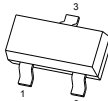
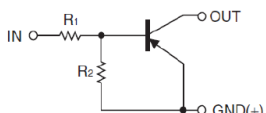
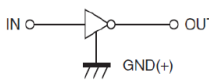
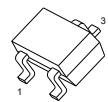
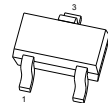
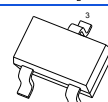
2.MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Limits (DTA123E xx)						Unit
		M	E	UA	CA	KA	SA	
Supply Voltage	V _{CC}	-50						V
Input Voltage	V _{IN}	-10~+5						V
Output Current	I _O	-100						mA
Power Dissipation	P _D	100	150	200	200	200	300	mW
Operation Junction and Storage Temperature Range	T _J , T _{stg}	-55~+150						℃

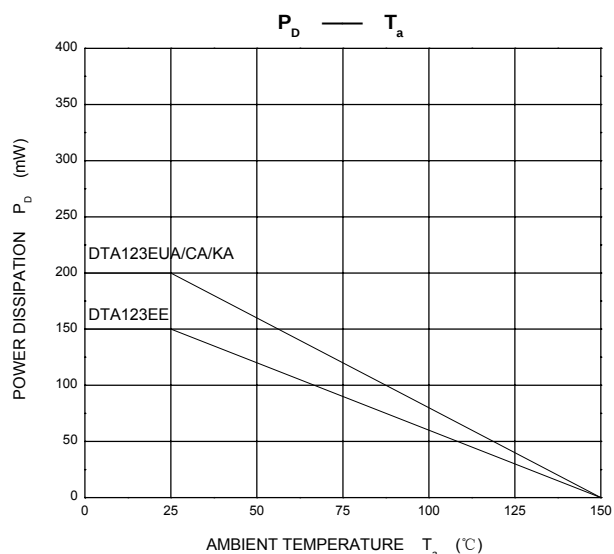
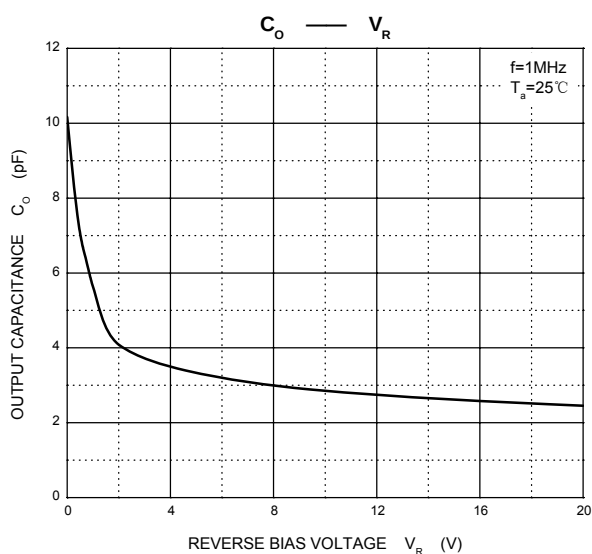
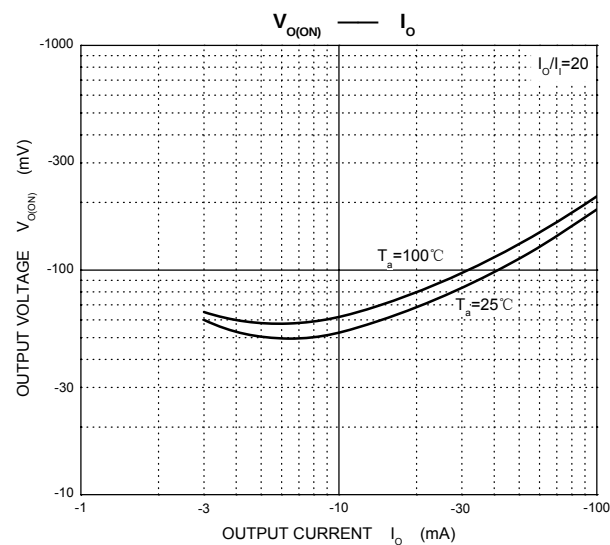
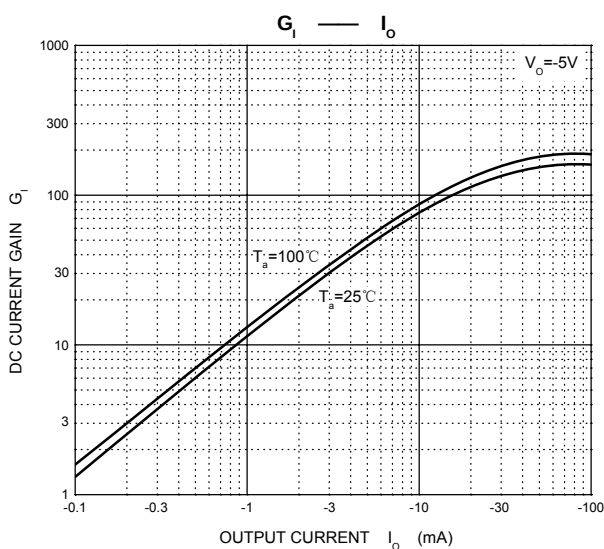
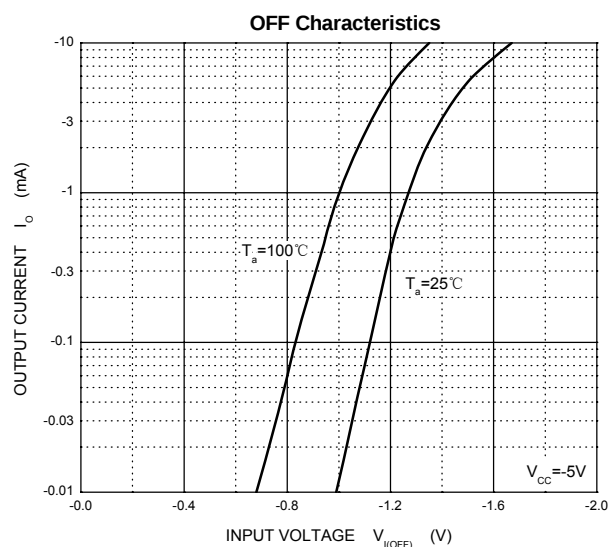
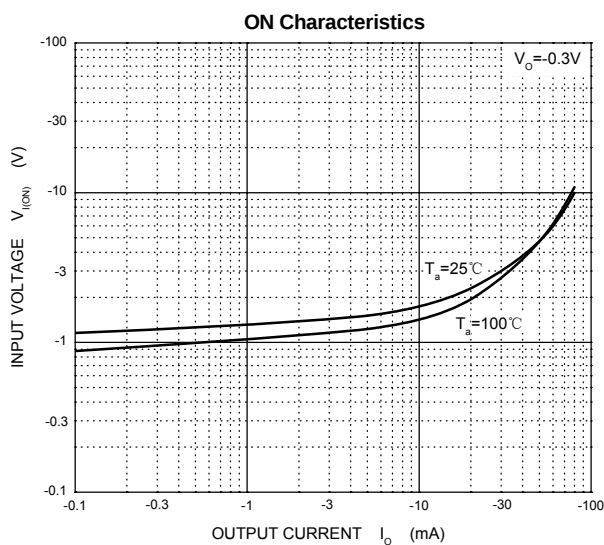
3. Electrical Characteristics (Ta=25℃ unless otherwise specified)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
R ₁	Input resistance		1.5	2.2	2.9	kΩ
R ₂ /R ₁	Resistance ratio		0.8	1	1.2	
V _{O(on)}	Output voltage	I _O /I _I =-10mA/-0.5mA	—	—	-0.3	V
I _I	Input current	V _I =-5V	—	—	-2	mA
I _{O(off)}	Output current	V _{CC} =-50V, V _I =0	—	—	-0.5	μA
G ₁	DC current gain	V _O =-5V, I _O =-20mA	30	—	—	
V _{I(off)}	Input voltage	V _{CC} =-5V, I _O =-100μA	-0.5	—	—	V
V _{I(on)}		V _O =-0.3V, I _O =-10mA	—	—	-3	V
f _T	Transition frequency	V _O =-10V, I _O =-5mA , f=100MHz	—	250	—	MHz

4. Pinning information

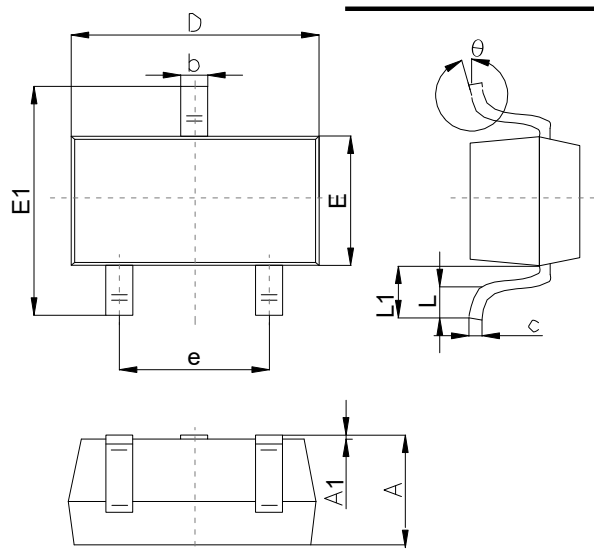
Pin	symbol	Part Number	Simplified outline	Equivalent Circuit	Marking	Package
1	IN	DTA123ECA		 	12	SOT-23
2	GND				12	SOT-23-3
3	OUT				12	SOT-523
1	IN	DTA123EKA			12	SOT-23-3
2	GND				12	SOT-523
3	OUT				12	SOT-323
1	IN	DTA123EE			12	SOT-523
2	GND				12	SOT-323
3	OUT				12	SOT-323
1	IN	DTA123EUA		12	SOT-323	
2	GND			12	SOT-323	
3	OUT			12	SOT-323	

5.Electrical Characteristics Diagrams



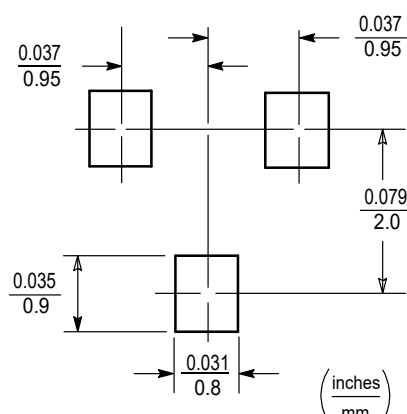
6 . Outline Drawing

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.65		1.40
A1	0.00		0.20
b	0.30		0.55
c	0.08		0.20
D	2.70		3.10
E	1.15		1.65
E1	2.10		2.80
e	1.70		2.10
L	0.15		0.50
L1	0.35		0.70
θ	0°		12°

7 . 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.

8.Important Notice and Disclaimer

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