

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.

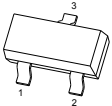
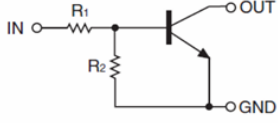
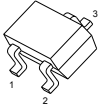
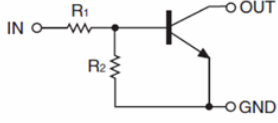
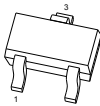
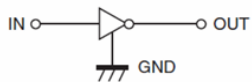
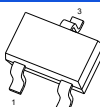
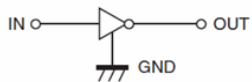
2.MAXIMUM RATINGS (Ta=25 °C unless otherwise noted)

Parameter	Symbol	Limits(DTC123E xx)						Unit
		M	E	UA	CA	KA	SA	
Supply Voltage	V _{CC}	50						V
Input Voltage	V _{IN}	-5~+10						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						°C

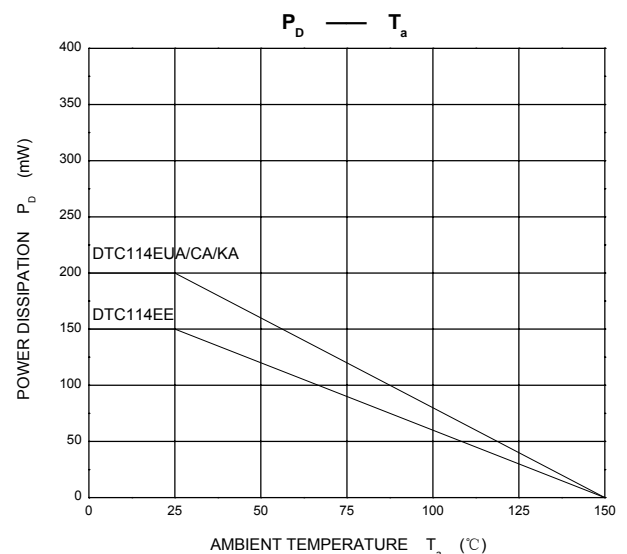
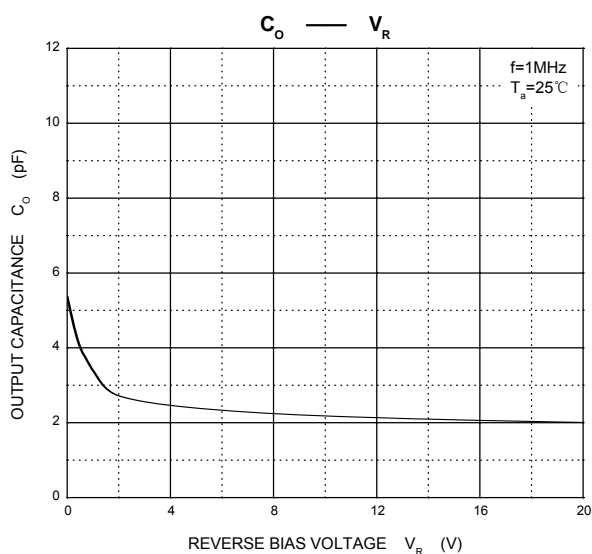
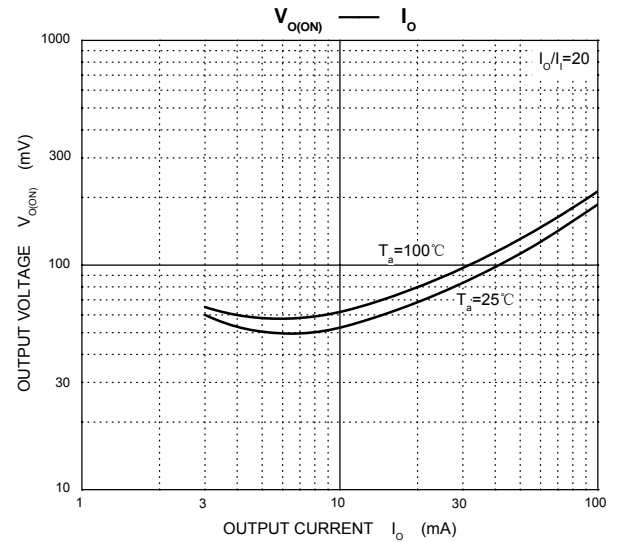
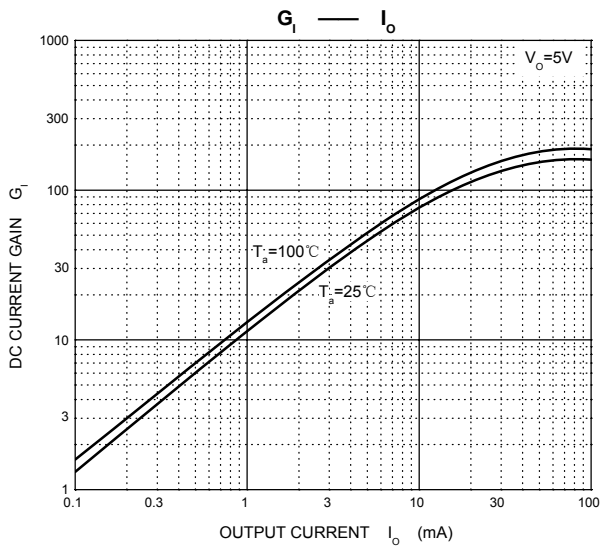
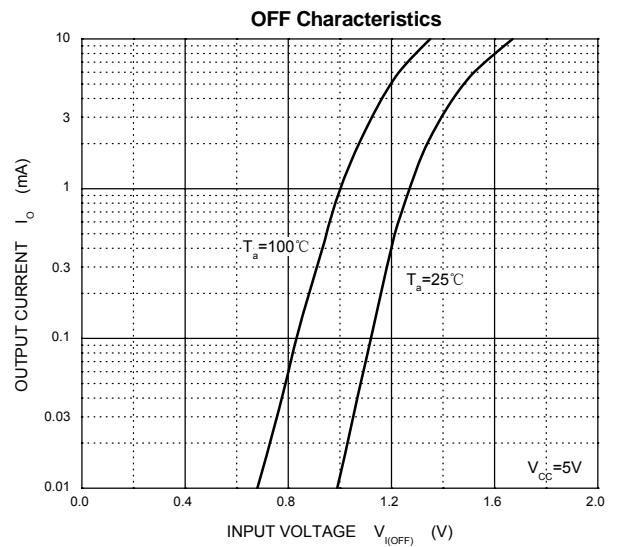
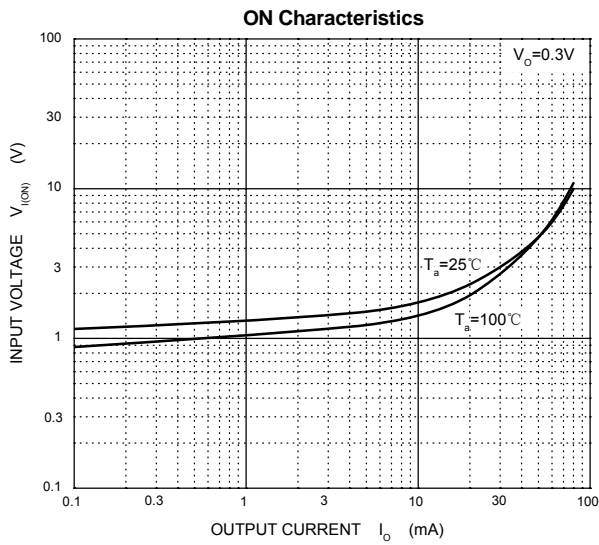
3. Electrical Characteristics (Ta=25 unless otherwise specified)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
R ₁	Input resistance		1.5	2.2	2.9	k
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

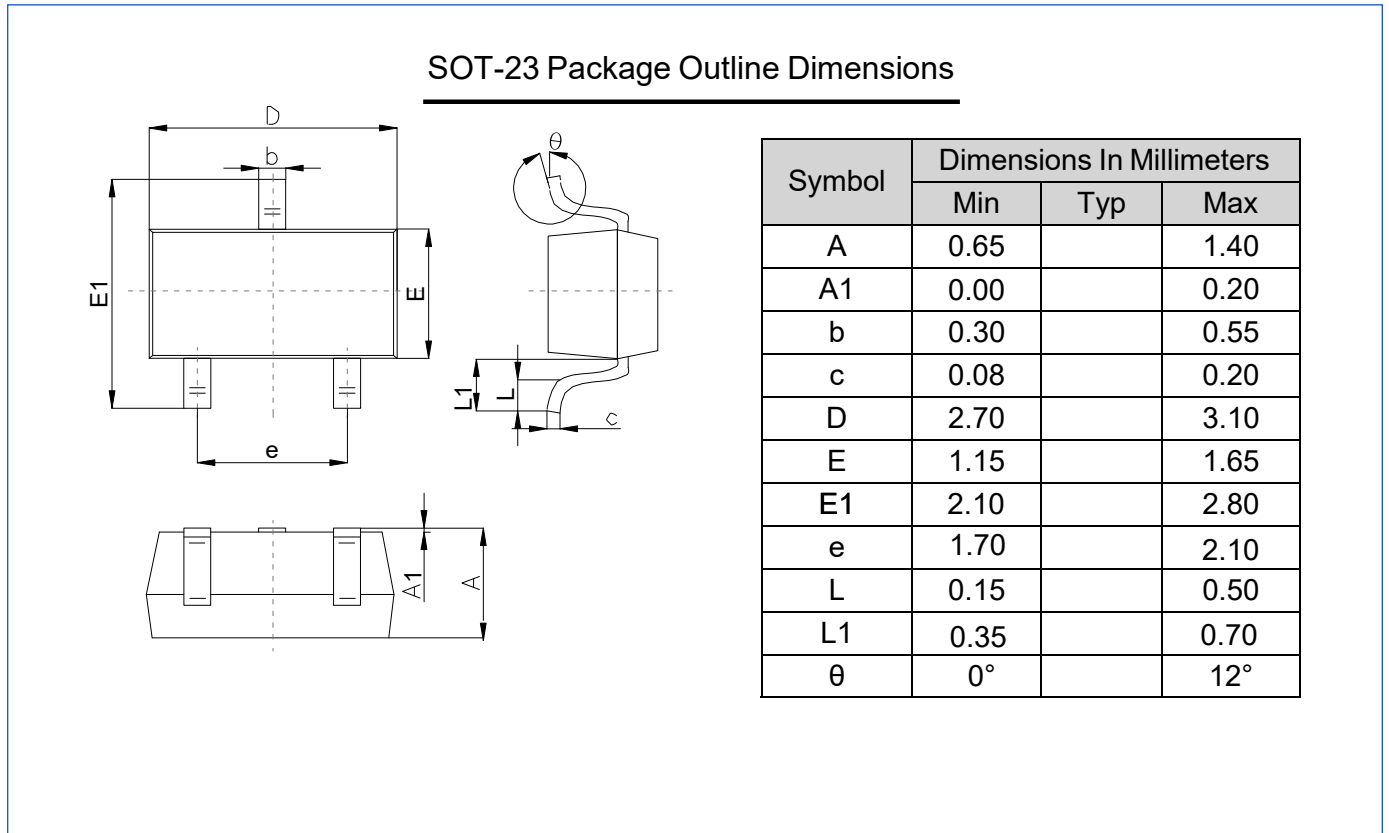
4. Pinning information

Pin	symbol	Part Number	Simplified outline	Equivalent Circuit	Marking	Package
1	IN	DTC123ECA			22	SOT-23
2	GND					
3	OUT					
1	IN	DTC123EKA				22
2	GND					
3	OUT					
1	IN	DTC123EE				22
2	GND					
3	OUT					
1	IN	DTC123EUA				22
2	GND					
3	OUT					

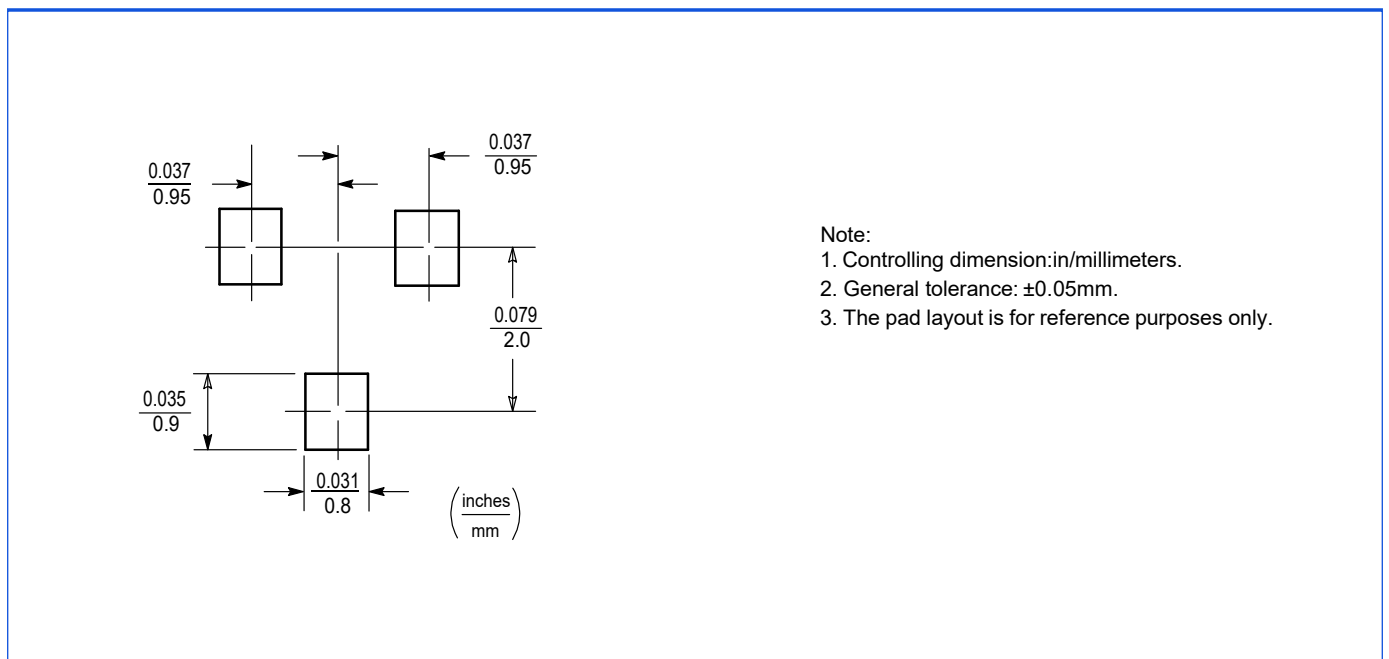
5. Electrical Characteristics Diagrams



6 . Outline Drawing



7 . Suggested Pad Layout



8. Important Notice and Disclaimer

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