

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.

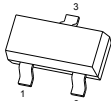
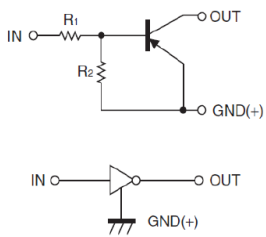
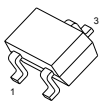
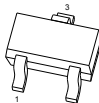
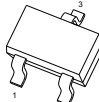
2.MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Limits (DTA113Z 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						℃

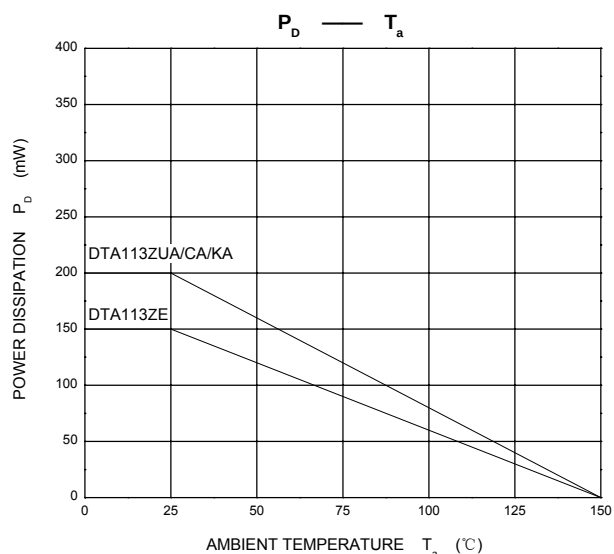
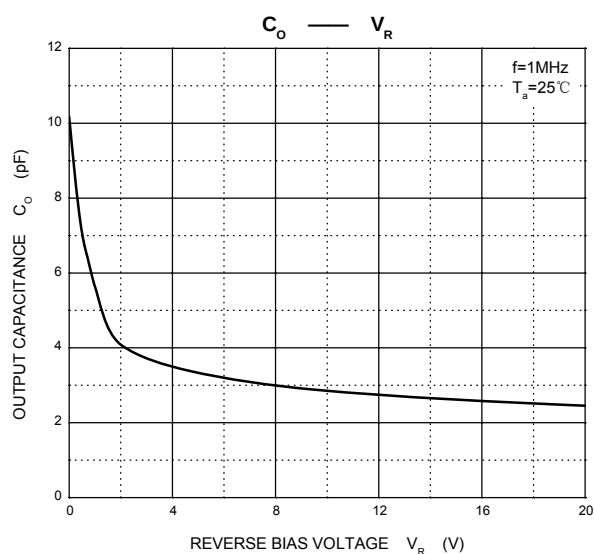
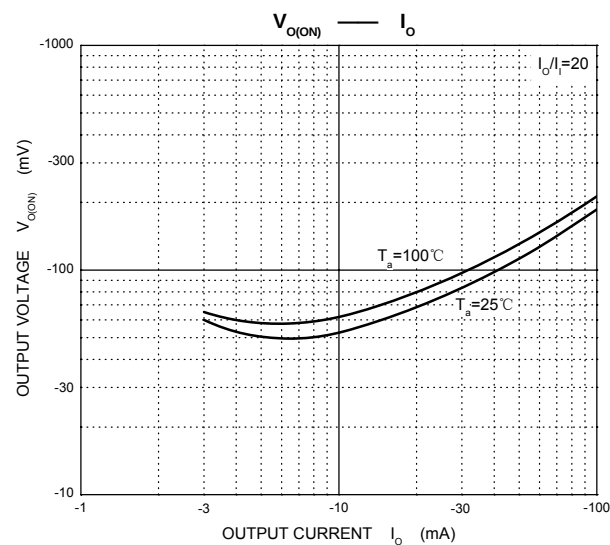
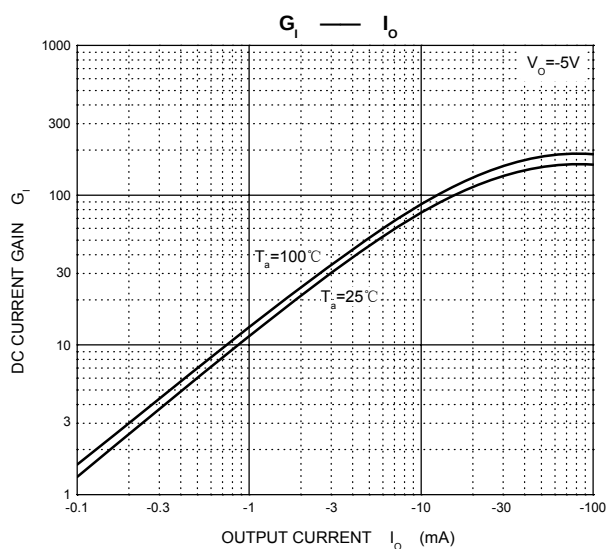
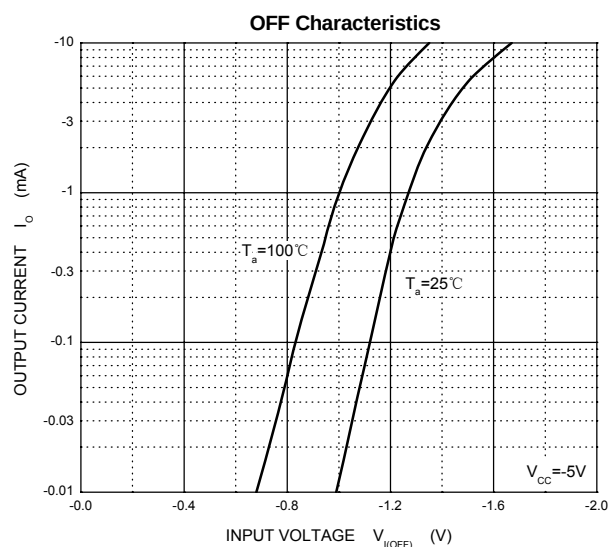
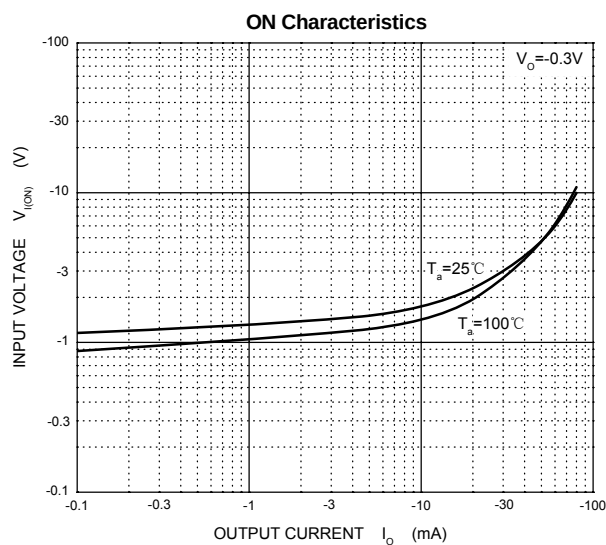
3. Electrical Characteristics (Ta=25℃ unless otherwise specified)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
R ₁	Input resistance		0.7	1	1.3	kΩ
R ₂ /R ₁	Resistance ratio		8	10	12	
V _{O(on)}	Output voltage	I _O /I _I =-10mA/-0.5mA	—	—	-0.3	V
I _I	Input current	V _I =-5V	—	—	-7.2	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 =-5mA	33	—	—	
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

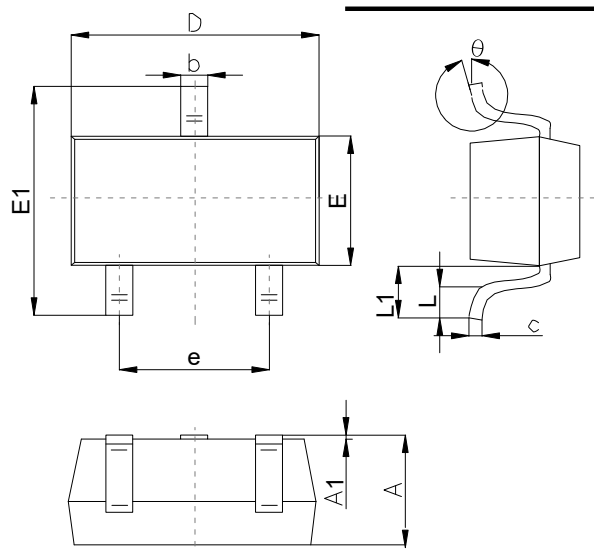
Pin	symbol	Part Number	Simplified outline	Equivalent Circuit	Marking	Package
1	IN	DTA113ZCA			E11	SOT-23
2	GND					
3	OUT					
1	IN	DTA113ZKA			E11	SOT-23-3
2	GND					
3	OUT					
1	IN	DTA113ZE			E11	SOT-523
2	GND					
3	OUT					
1	IN	DTA113ZUA			E11	SOT-323
2	GND					
3	OUT					

5.Electrical Characteristics Diagrams



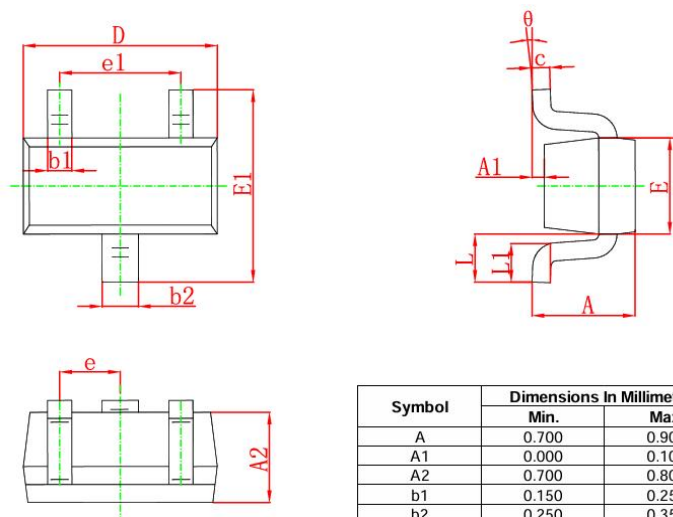
6 . Outline Drawing

SOT-23 Package Outline Dimensions



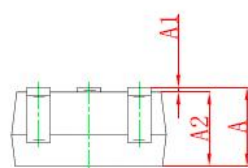
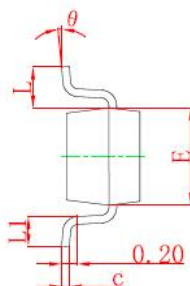
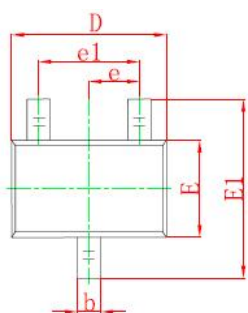
Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.65		1.40
A1	0.00		0.20
b	0.30		0.55
c	0.08		0.20
D	2.70		3.10
E	1.15		1.65
E1	2.10		2.80
e	1.70		2.10
L	0.15		0.50
L1	0.35		0.70
θ	0°		12°

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-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

7.Important Notice and Disclaimer

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