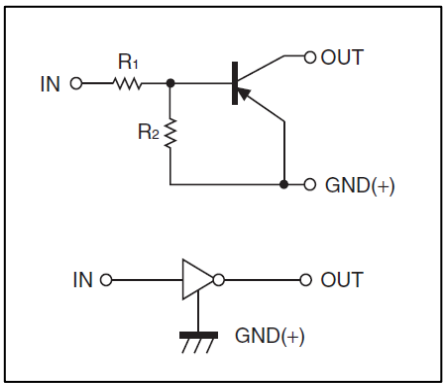
迈拓电子
MAITUO ELECTRONIC

DTA115EM/DTA115EE/DTA115EUA
DTA115EKA /DTA115ECA/DTA115ESA

DIGITAL TRANSISTOR (PNP)

· Equivalent Circuit

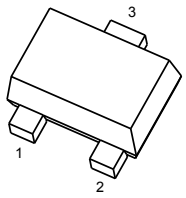


FEATURES

- 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 positive 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

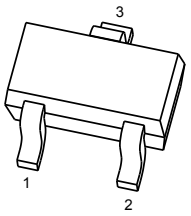
PIN CONNENCTIONS and MARKING

DTA115EM — **SOT-723**



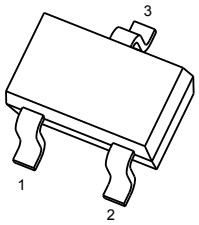
1. IN
2. GND
3. OUT

DTA115EE — **SOT-523**



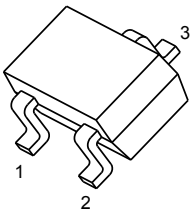
1. IN
2. GND
3. OUT

DTA115EUA — **SOT-323**



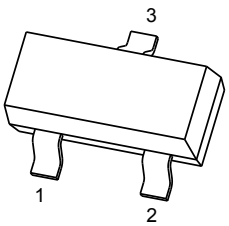
1. IN
2. GND
3. OUT

DTA115EKA — **SOT-23-3L**



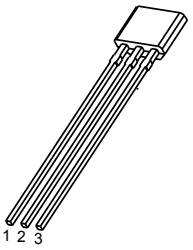
1. IN
2. GND
3. OUT

DTA115ECA — **SOT-23**



1. IN
2. GND
3. OUT

DTA115ESA — **TO-92S**



1. GND
2. OUT
3. IN

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ORDERING INFORMATION

Part Number	MARKING	Package	Packing Method	Pack Quantity
DTA115EM	**19**	SOT-723	Reel	8000pcs/Reel
DTA115EE	**19**	SOT-523	Reel	3000pcs/Reel
DTA115EUA	**19**	SOT-323	Reel	3000pcs/Reel
DTA115EKA	**19**	SOT-23-3L	Reel	3000pcs/Reel
DTA115ECA	**19**	SOT-23	Reel	3000pcs/Reel

MAXIMUM RATINGS(Ta=25℃ unless otherwise noted)

Symbol	Parameter	Limits(DTA115E□)						Unit
		M	E	UA	KA	CA	SA	
V_{CC}	Supply Voltage	-50						V
V_{IN}	Input Voltage	-40～+10						V
I_O	Output Current	-100						mA
P_D	Power Dissipation	100	150	200	200	200	300	mW
T_j	Junction Temperature	150						℃
T_{stg}	Storage Temperature	-55～+150						℃

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	V_{CC}=-5V,I_O=-100μA	-0.5			V
	$V_{I(on)}$	V_O=-0.3V,I_O=-1 mA			-3	V
Output voltage	$V_{O(on)}$	I_O/I_I=-5mA/-0.25mA			-0.3	V
Input current	I_I	V_I=-5V			-0.15	mA
Output current	$I_{O(off)}$	V_{CC}=-50V,V_I=0			-0.5	μA
DC current gain	G_I	V_O=-5V,I_O=-5mA	82			
Input resistance	R_1		70	100	130	kΩ
Resistance ratio	R_2/R_1		0.8	1	1.2	
Transition frequency	f_T	V_O=-10V,I_O=-5mA,f=100MHz		250		MHz

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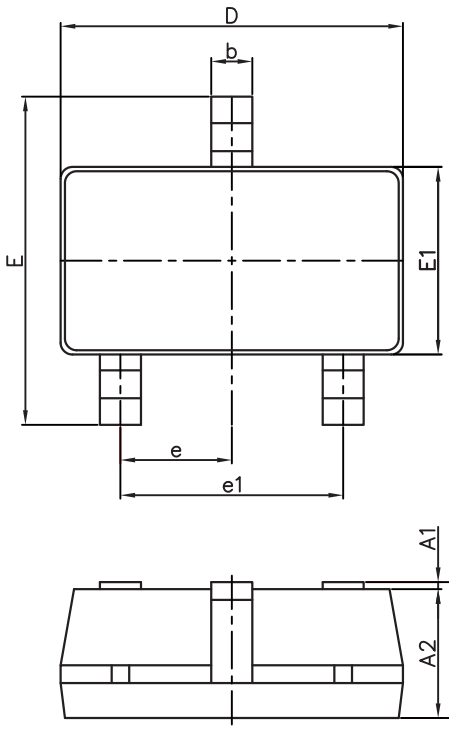
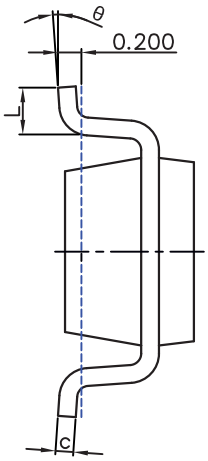
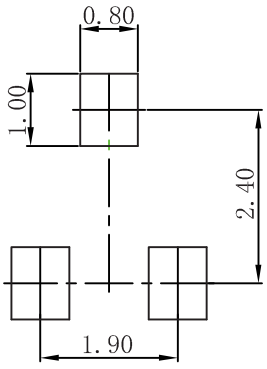
SOT23-3L Package Outline Dimensions





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
K	0°	8°	0°	8°

SOT23-3L Suggested Pad Lay out



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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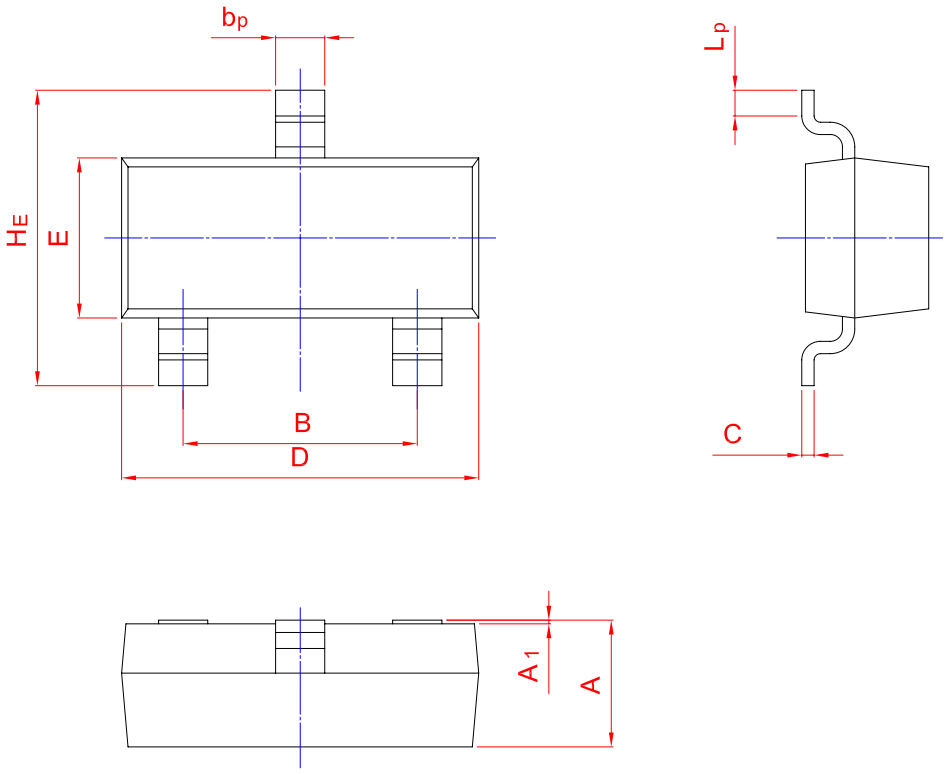
PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20

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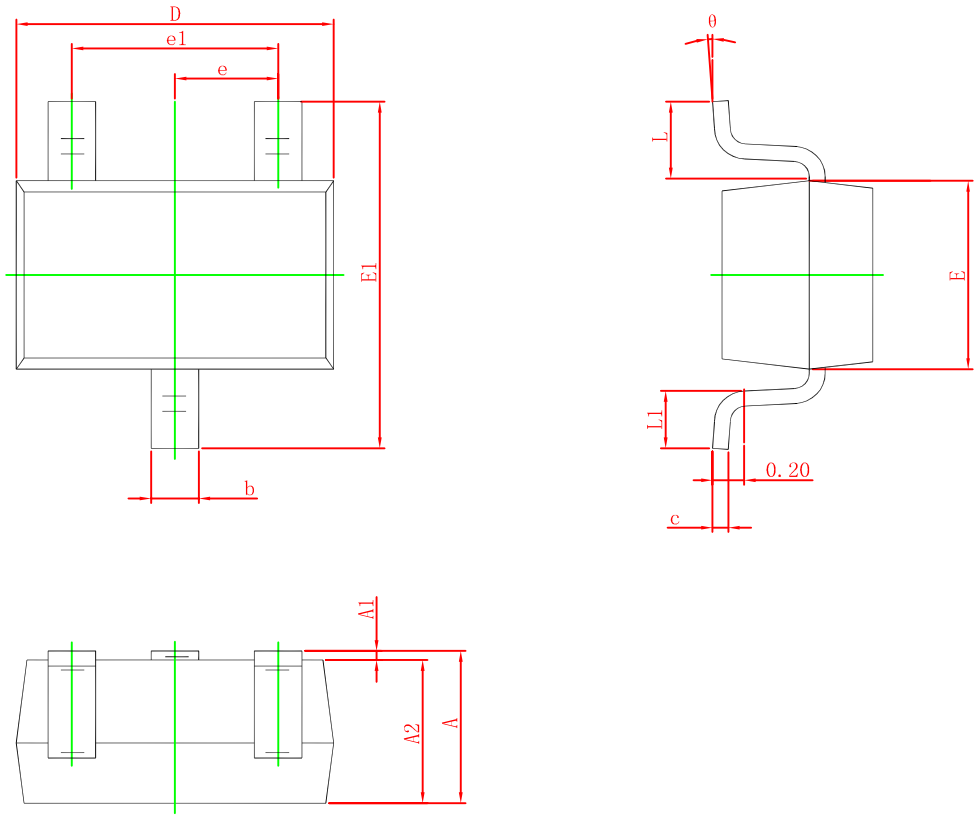
SOT-323 Package Outline Dimensions



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°

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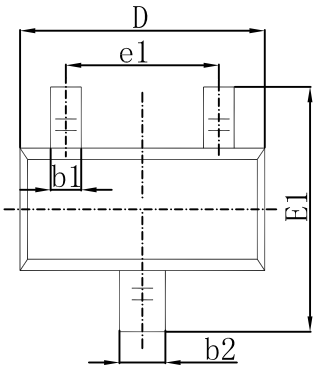
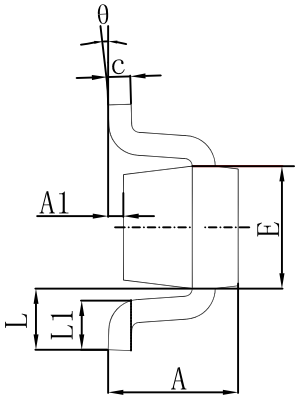
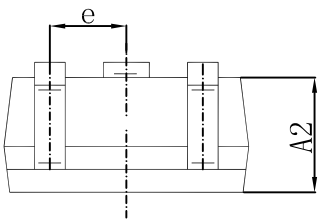
SOT-523 Package Outline Dimensions

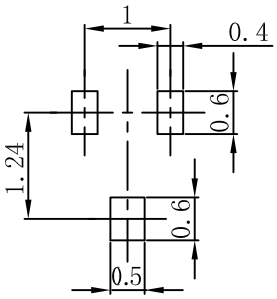






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	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:±0.05mm.
3.The pad layout is for reference purposes only.