

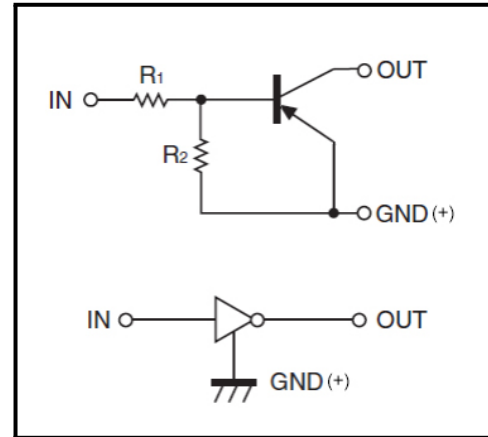
DTA123JXX series

PNP Digital transistors

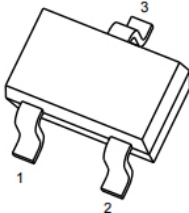
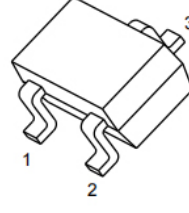
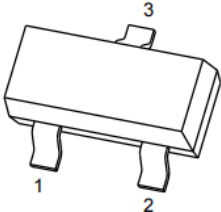
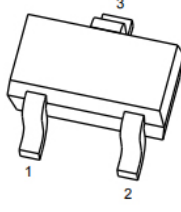
Features

- 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

Equivalent Circuit



Pin Connentions and Marking

DTA123JUA		SOT-323	1. IN 2. GND 3. OUT
DTA123JKA		SOT-23-3L	1. IN 2. GND 3. OUT
DTA123JCA		SOT-23	1. IN 2. GND 3. OUT
DTA123JE		SOT-523	1. IN 2. GND 3. OUT

Ordering information

Order code	Package	Marking	Packing Method	Pack Quantity
DTA123JE	SOT-523	E32	Reel	3000pcs/Reel
DTA123JUA	SOT-323	E32	Reel	3000pcs/Reel
DTA123JCA	SOT-23	E32	Reel	3000pcs/Reel
DTA123JKA	SOT-23-3L	E32	Reel	3000pcs/Reel



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Absolute Maximum Ratings (T_A=+25°C, unless otherwise specified)

Symbol	Parameter	Limits(DTA123Jxxx)				Unit
		E	UA	CA	KA	
V _{CC}	Supply Voltage	-50				V
V _{IN}	Input Voltage	-12 to +5				V
I _O	Output Current	-100				mA
P _d	Power Dissipation	150	200	200	200	mW
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55 to +150				°C

Electrical Characteristics @T_A=25°C unless otherwise noted

Symbol	Parameter	Condition	Min	Typ	Max	Unit
V _{I(off)}	Input Voltage	V _{CC} =-5V, I _O =-100uA	-0.5			V
V _{I(on)}		V _O =-0.3V, I _O =-5mA			-1.1	V
V _{O(on)}	Output Voltage	I _O /I _I =5mA/-0.25mA			-0.3	V
I _I	Input current	V _I =-5V			-3.6	mA
I _{O(off)}	Output current	V _{CC} =-50V, V _I =0			-0.5	uA
G _I	DC current gain	V _O =-5V, I _O =-10mA	80			
R ₁	Input resistance		1.54	2.2	2.86	kΩ
R ₂ /R ₁	Resistance ratio		17	21	26	
f _T	Transition frequency	V _O =-10V, I _O =-5mA, f=100MHz		250		MHz



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Typical Performance Characteristics($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1 :On Characteristics

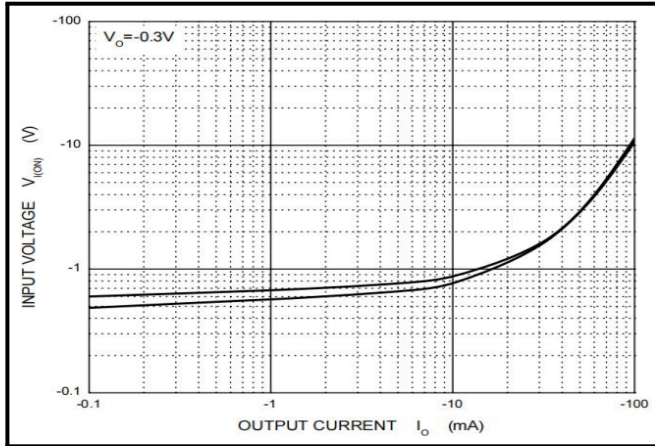


Figure 2 :OFF Characteristics

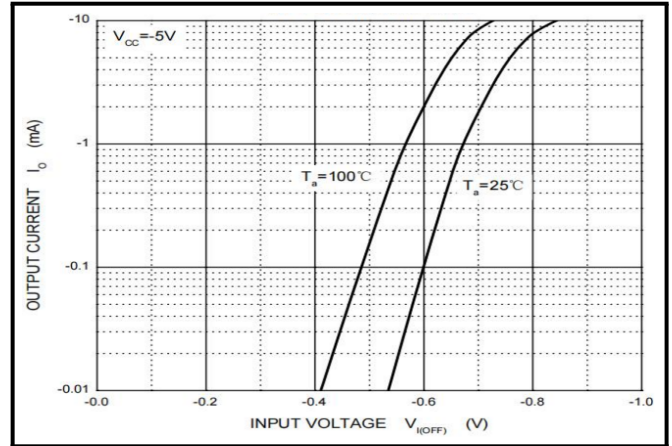


Figure 3 : $V_{O(on)} - I_O$

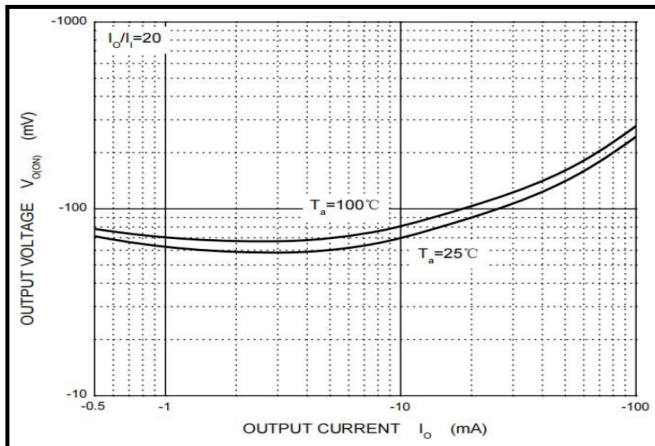


Figure 4 : $G_I - I_O$

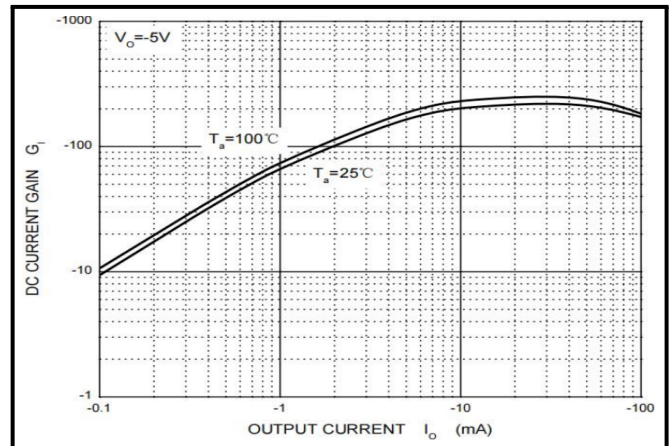


Figure 5 : $C_O - V_R$

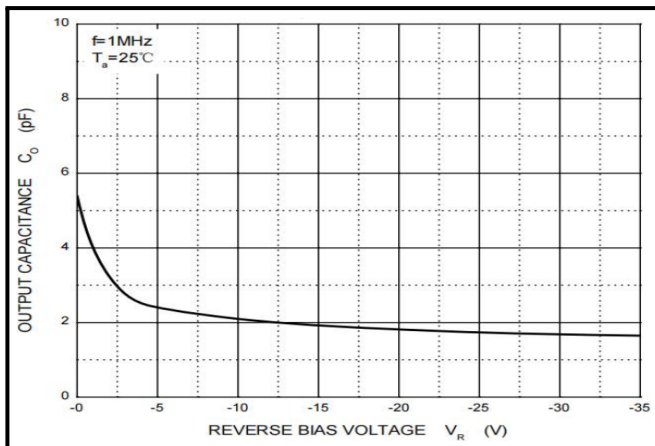
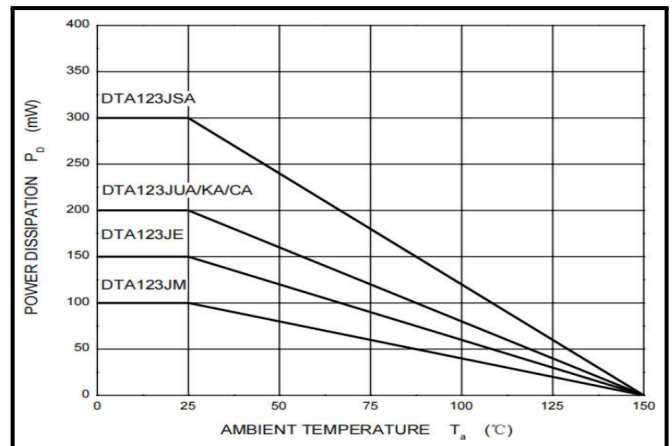


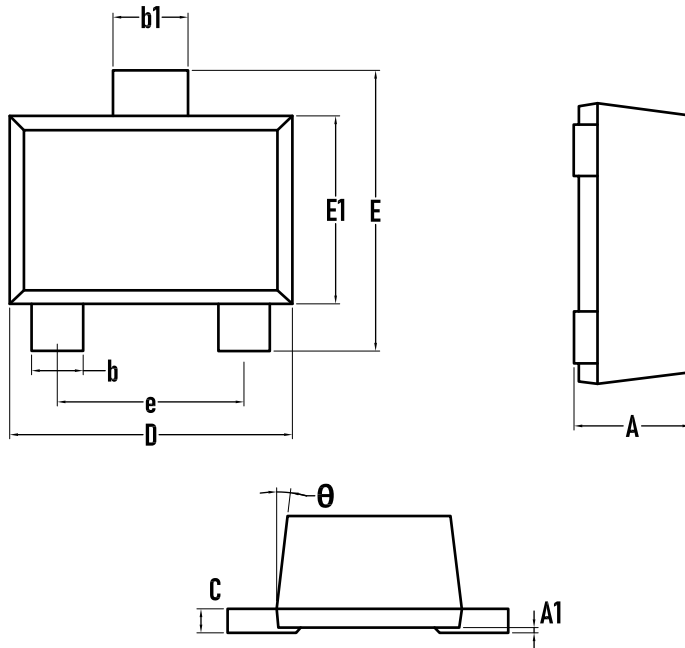
Figure 6 : $P_d - T_a$



DTA123JXX series

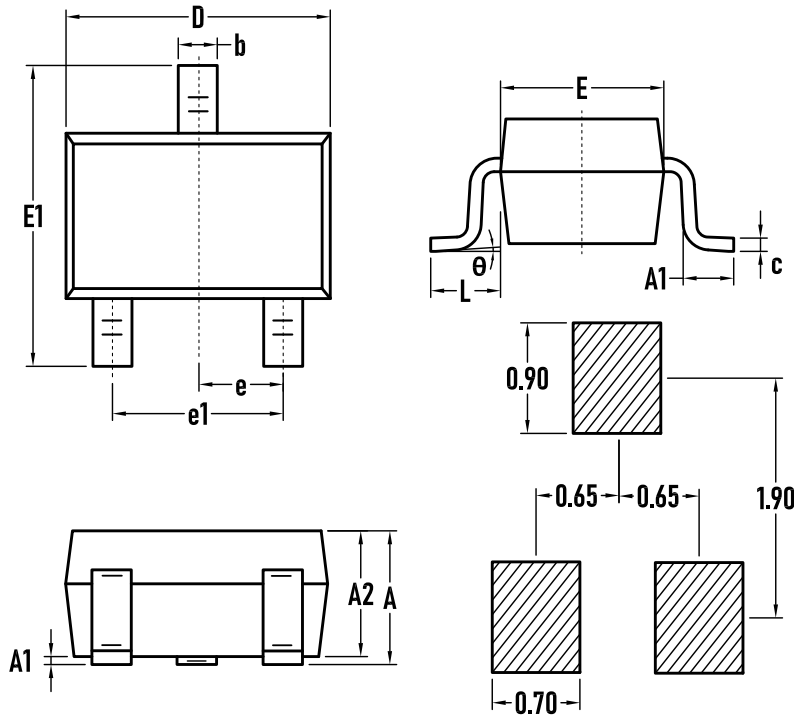
PNP Digital transistors

Outline Drawing - SOT-523



SYMBOL	MILLIMETER		
	MIN	TYP	MAX
A	0.70	0.80	0.90
A1	0.00	0.05	0.10
A2	0.70	0.75	0.80
b1	0.15	0.22	0.29
b2	0.25	0.32	0.39
D	1.50	1.60	1.70
E	1.45	1.60	1.75
E1	0.70	0.80	0.90
e	0.50(TPY.)		
e1	0.90	1.00	1.10
L	0.26	0.36	0.46
L1	0.40(REF)		
θ	0°	4°	8°

Outline Drawing - SOT-323



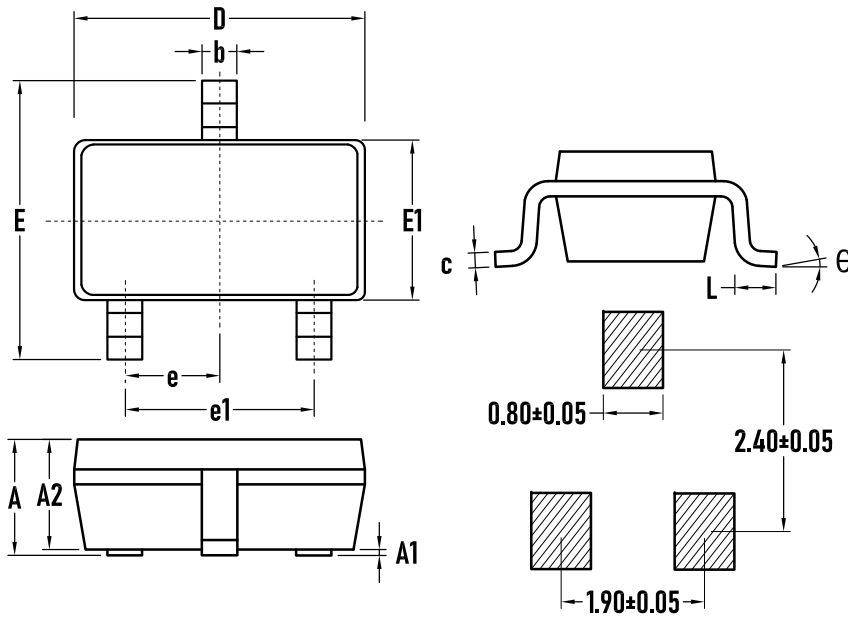
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.95	1.00	—
A1	0.02	0.06	0.10
A2	—	0.60	—
D	2.85	2.90	2.95
b	0.37	0.40	0.43
E1	2.35	2.40	2.45
E	1.25	1.30	1.35
e	1.85	1.90	1.95
L	0.35	0.40	0.48
θ	0	—	6°



DTA123JXX series

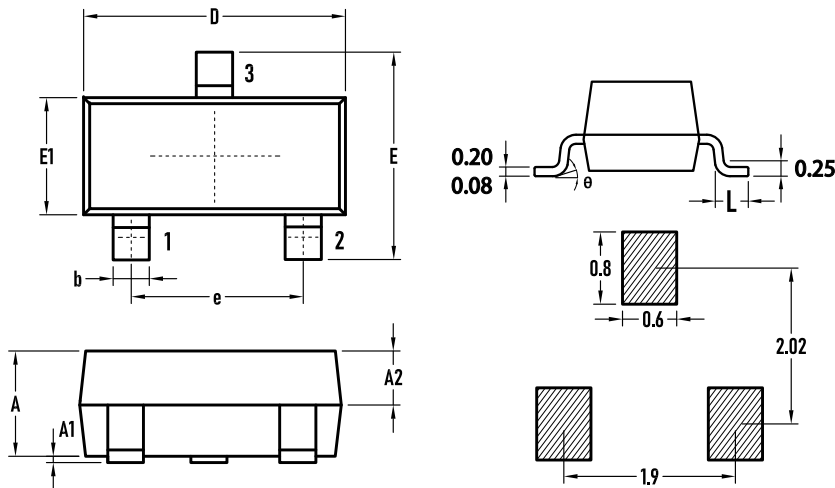
PNP Digital transistors

Outline Drawing - SOT23-3L



SYMBOL	MILLIMETER		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
θ	0°	8°	0°	8°

Outline Drawing - SOT-23



SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.95	1.00	—
A1	0.02	0.06	0.10
A2	—	0.60	—
D	2.85	2.90	2.95
b	0.37	0.40	0.43
E	2.35	2.40	2.45
E1	1.25	1.30	1.35
e	1.85	1.90	1.95
L	0.35	0.40	0.48
θ	0	—	6°

