

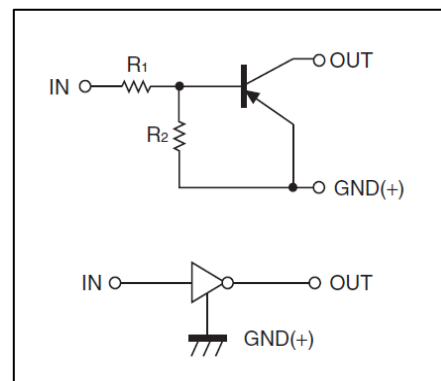
Digital Transistors (Built-in Resistors)

DIGITAL TRANSISTOR (PNP)

FEATURES

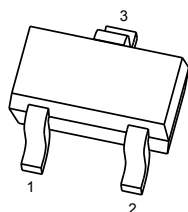
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)
- The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input.They also have the advantage of almost completely eliminating parasitic effects
- Only the on/off conditions need to be set for operation, making device design easy

• Equivalent Circuit



PIN CONNENCTIONS and MARKING

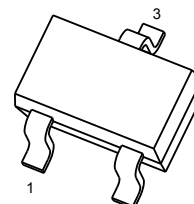
DTA124EE



SOT-523

1. IN
2. GND
3. OUT

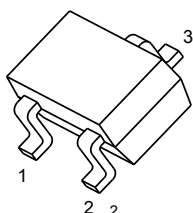
DTA124EUA



SOT-323

1. IN
2. GND
3. OUT

DTA124EKA



SOT-23-3L

1. IN
2. GND
3. OUT

ORDERING INFORMATION

Part Number	MARKING ⁽¹⁾	Package	Packing Method	Pack Quantity
DTA124EE	15	SOT-523	Reel	3000pcs/Reel
DTA124EUA	15	SOT-323	Reel	3000pcs/Reel
DTA124EKA	15	SOT-23-3L	Reel	3000pcs/Reel

Notes: (1). Solid dot = Green molding compound device, if none, the normal device.

(2). XXX=Code

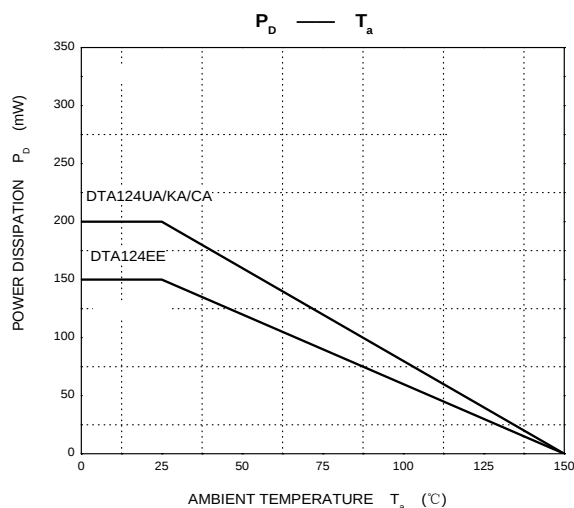
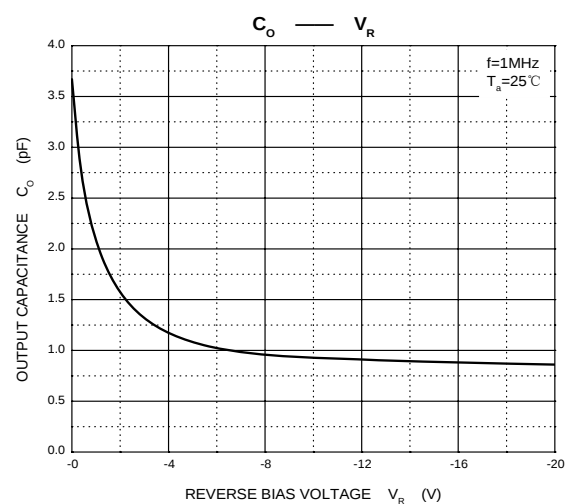
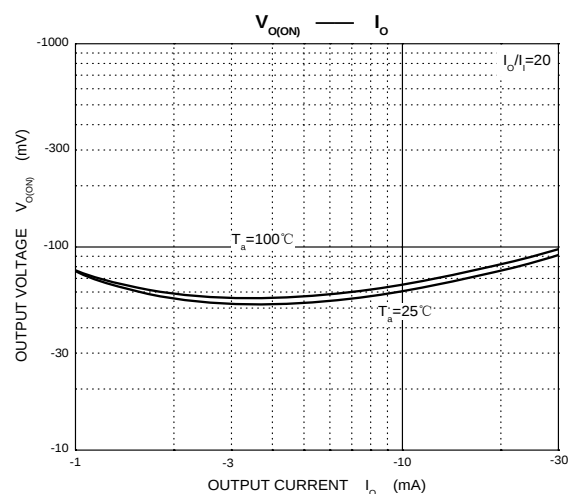
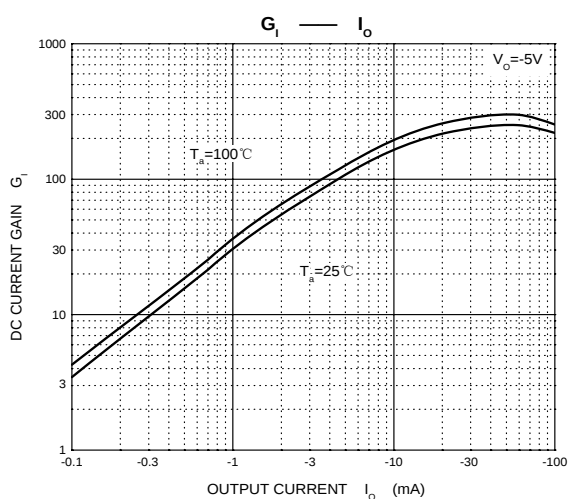
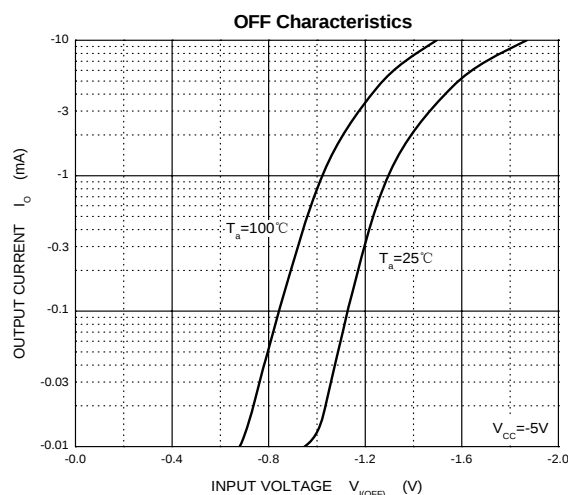
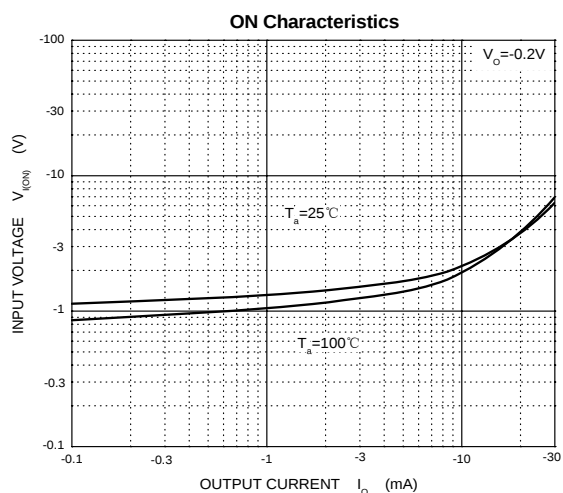
MAXIMUM RATINGS(Ta=25°C unless otherwise noted)

Symbol	Parameter	Limits(DTA124E□)			Unit
		E	UA	KA	
V _{CC}	Supply Voltage	-50			V
V _{IN}	Input Voltage	-40~+10			V
I _O	Output Current	-30			mA
I _{CM}	Peak Collector Current	-100			mA
P _D	Power Dissipation	150	200	200	mW
T _j	Junction Temperature	150			°C
T _{stg}	Storage Temperature	-55~+150			°C

ELECTRICAL CHARACTERISTICS (Ta=25°C 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 =-0.2V, I _O =-5 mA			-3	V
Output voltage	V _{O(on)}	I _O /I _I =-10mA/-0.5mA			-0.3	V
Input current	I _I	V _I =-5V			-0.36	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	56			
Input resistance	R ₁		15.4	22	28.6	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

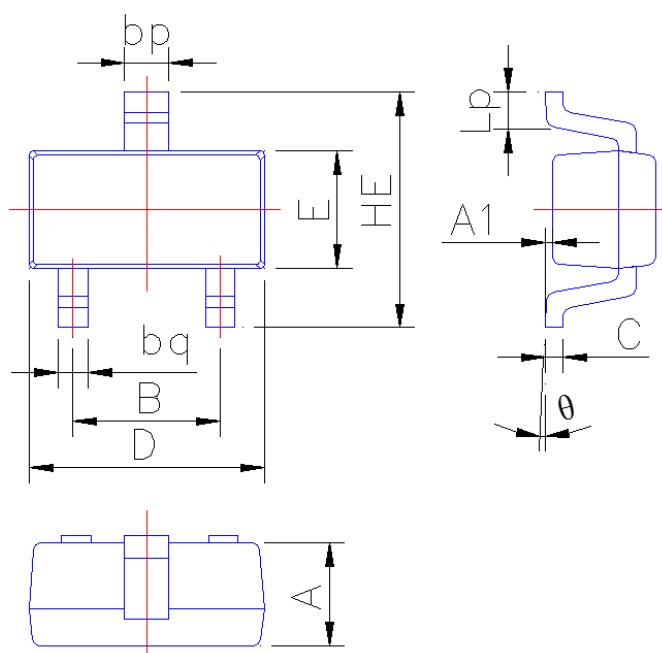
Typical Characteristics



PACKAGE OUTLINE

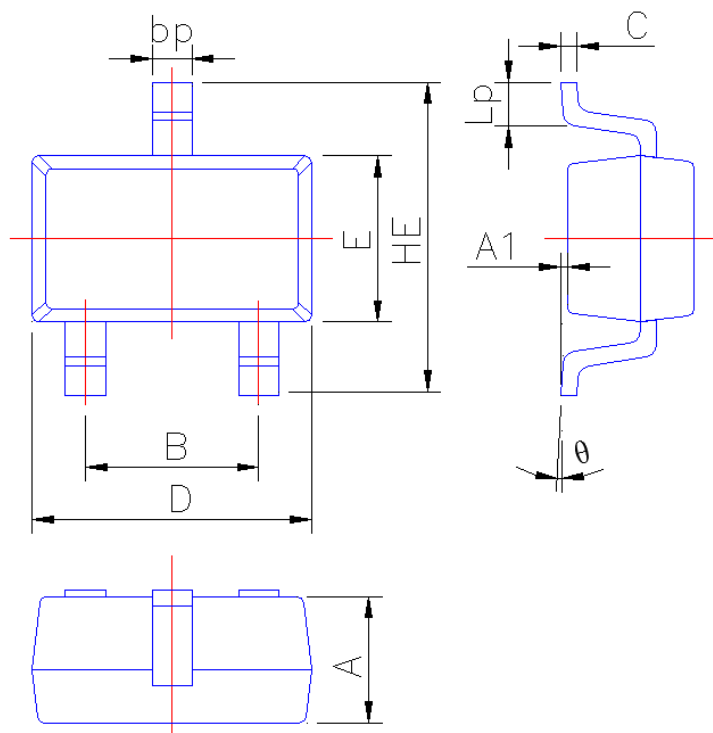
Plastic surface mounted package; 3 leads

SOT-523



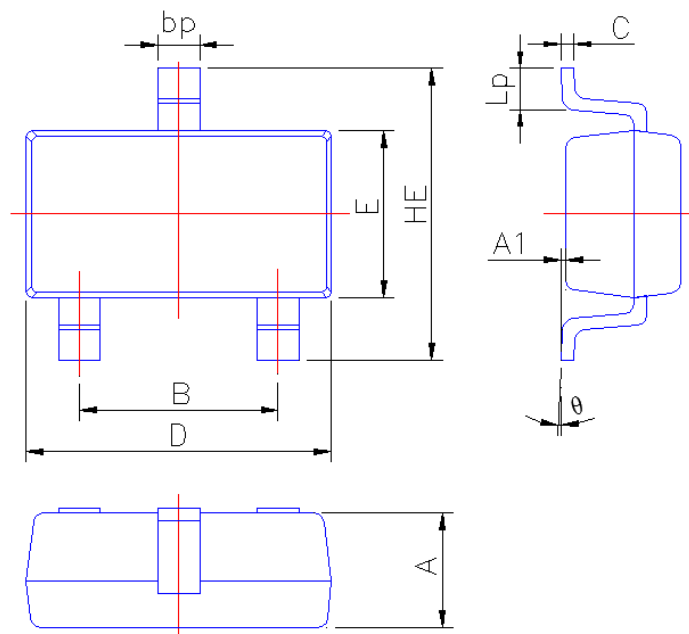
Symbol	Dimension in Millimeters	
	Min	Max
A	0.60	0.80
A1	0.010	0.100
B	0.95	1.05
bp	0.26	0.40
bq	0.16	0.30
C	0.09	0.15
D	1.50	1.70
E	0.70	0.85
HE	1.45	1.75
Lp	0.16	0.36
θ	0°	5°

SOT-323 Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.00
A1	0.010	0.100
B	1.20	1.40
bp	0.25	0.45
C	0.09	0.15
D	2.00	2.20
E	1.15	1.35
HE	2.15	2.55
Lp	0.25	0.46
θ	0°	6°

SOT-23-3L Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	1.05	1.20
A1	0.010	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.15
D	2.80	3.00
E	1.50	1.70
HE	2.60	3.00
Lp	0.25	0.55
θ	2°	6°