

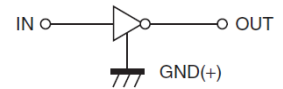
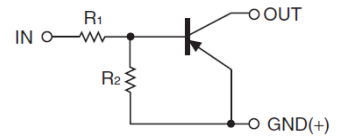


Digital Transistors (Built-in Resistors)

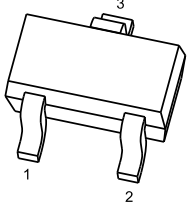
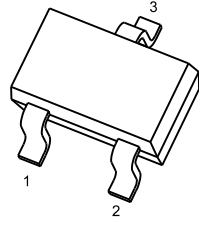
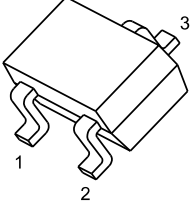
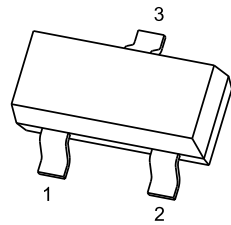
DIGITAL TRANSISTOR (PNP)

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



PIN CONNENCTIONS and MARKING

DTA144EE  MARKING:16	SOT-523 1. IN 2. GND 3. OUT	DTA144EUA  MARKING:16	SOT-323 1. IN 2. GND 3. OUT
DTA144EKA  MARKING:16	SOT-23-3L 1. IN 2. GND 3. OUT	DTA144ECA  MARKING:16	SOT-23 1. IN 2. GND 3. OUT



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

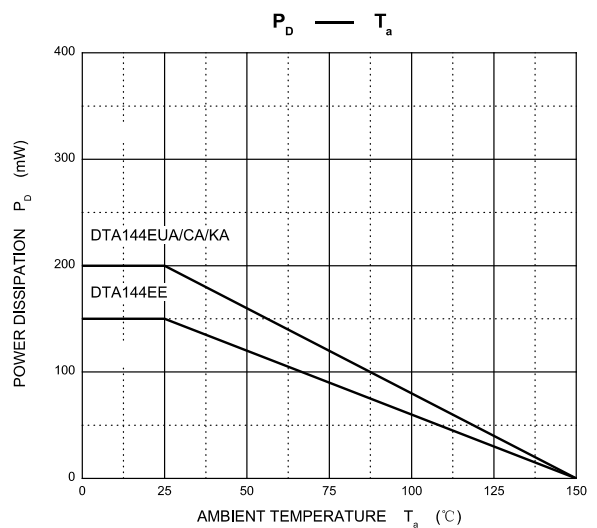
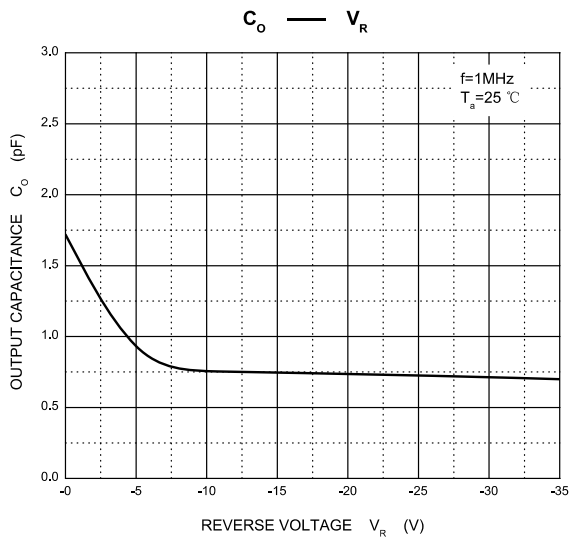
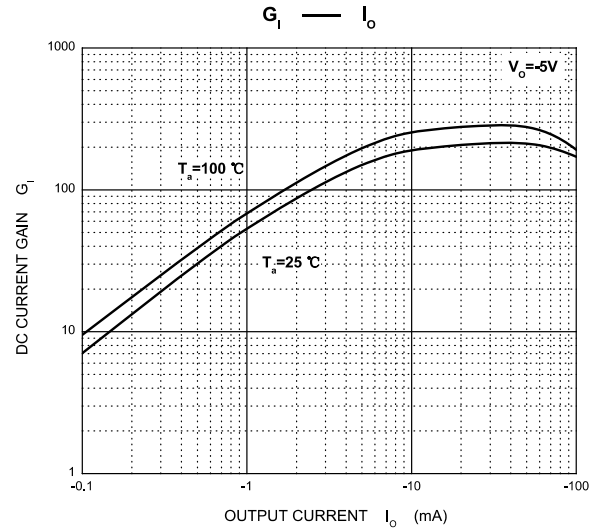
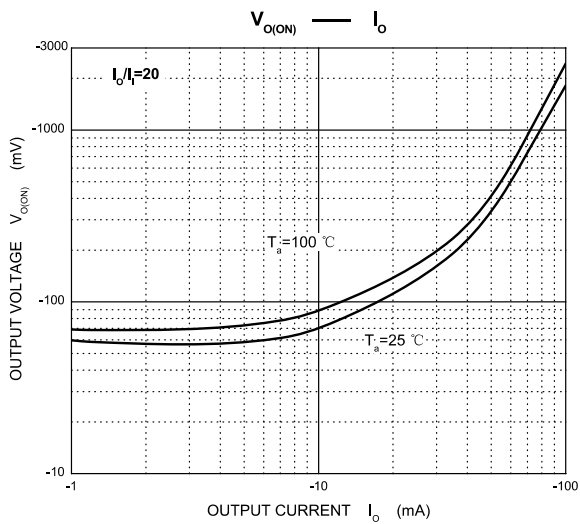
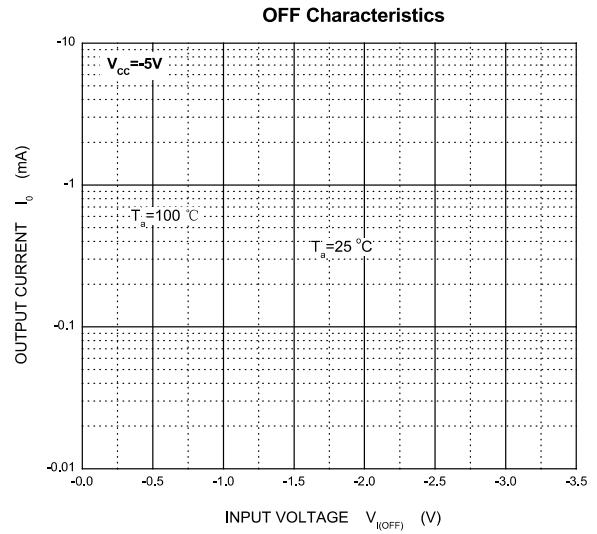
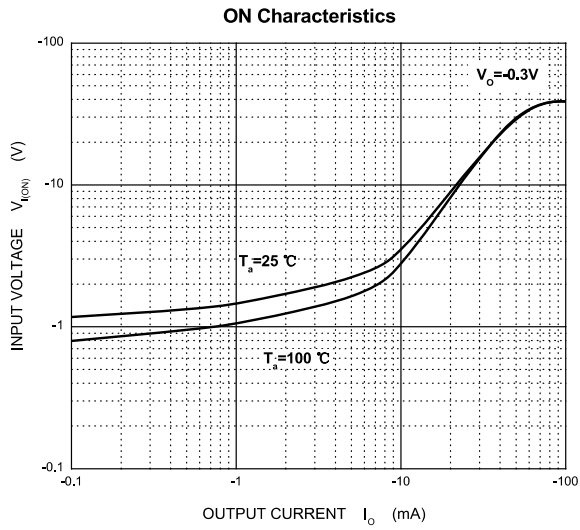
Symbol	Parameter	Limits(DTA144E□)				Unit
		E	UA	KA	CA	
V _{CC}	Supply Voltage	-50				V
V _{IN}	Input Voltage	-40~+10				V
I _O	Output Current	-30				mA
I _{CM}	Peak Collector Current	-100				mA
P _D	Power Dissipation	150	200	200	200	mW
T _J	Junction Temperature	150				°C
T _{stg}	Storage Temperature	-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 =-0.3V,I _O =-2 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			-0.18	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	68			
Input resistance	R ₁		32.9	47	61.1	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

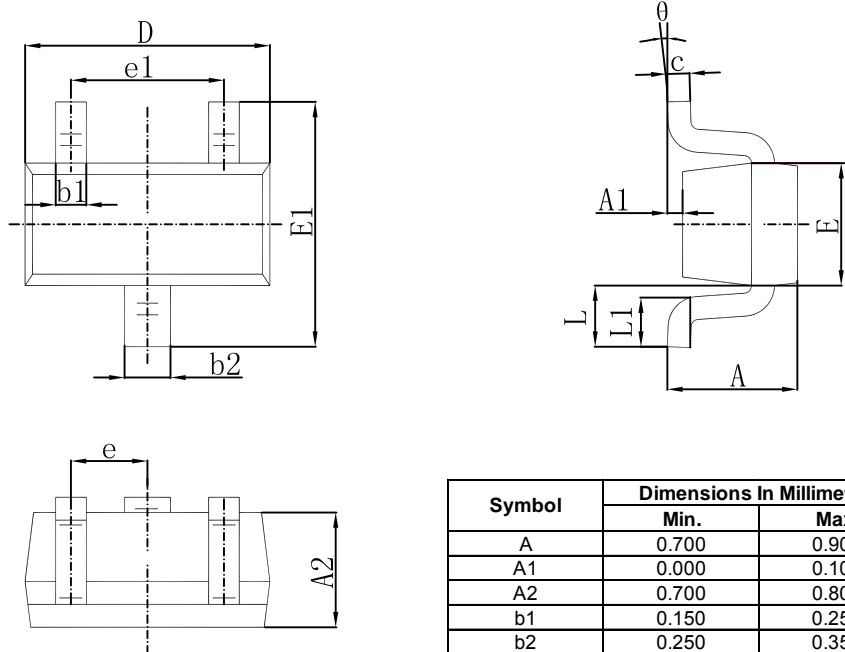


Typical Characteristics



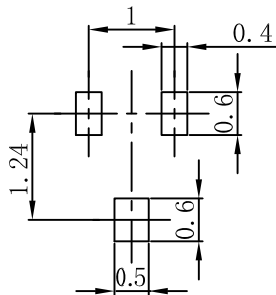


SOT-523 Package Outline Dimensions



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: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.