

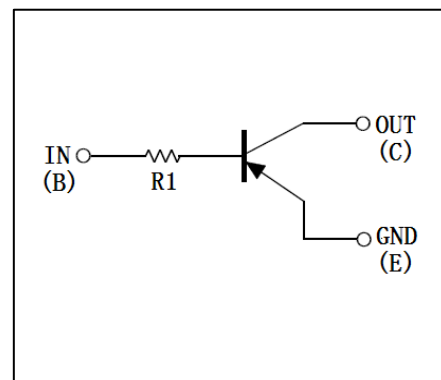
Digital Transistors (Built-in Resistors)

DIGITAL TRANSISTOR (PNP)

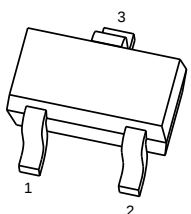
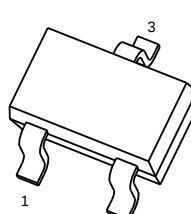
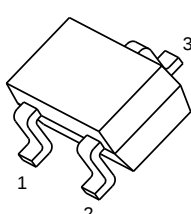
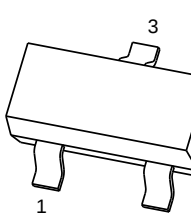
• Equivalent Circuit

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

DTA143TE  SOT-523 1. IN 2. GND 3. OUT MARKING:93	DTA143TUA  SOT-323 1. IN 2. GND 3. OUT MARKING:93
DTA143TKA  SOT-23-3L 1. IN 2. GND 3. OUT MARKING:93	DTA143TCA  SOT-23 1. IN 2. GND 3. OUT MARKING:93

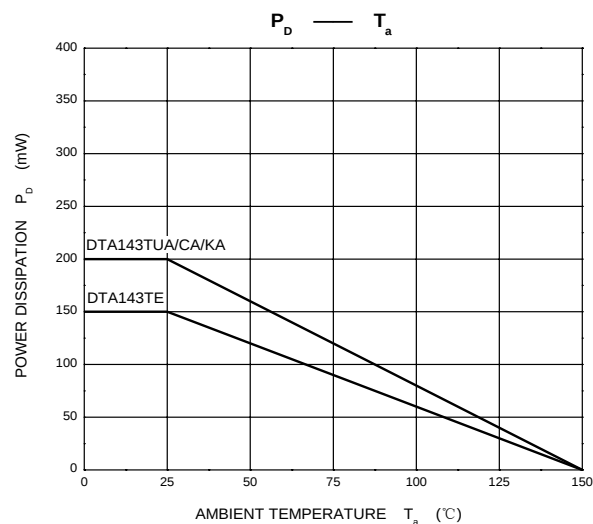
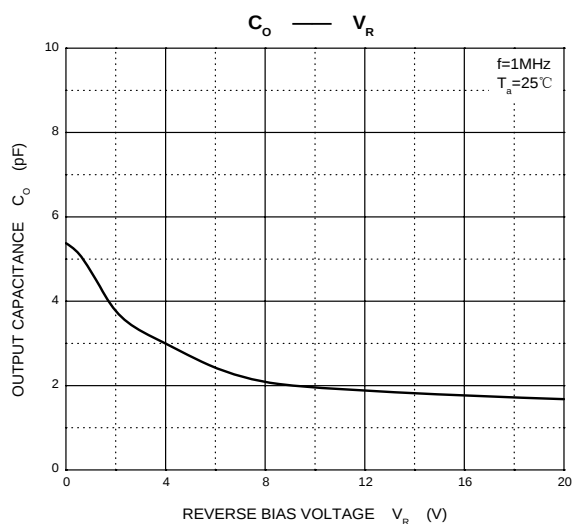
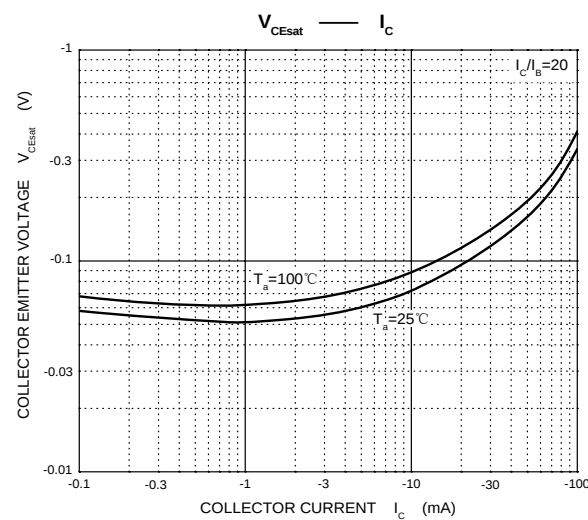
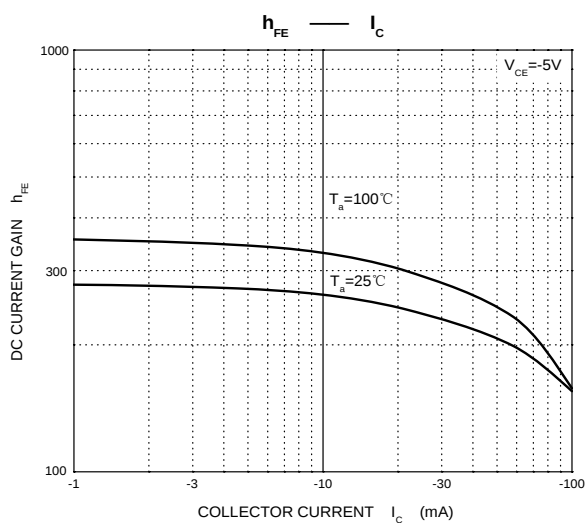
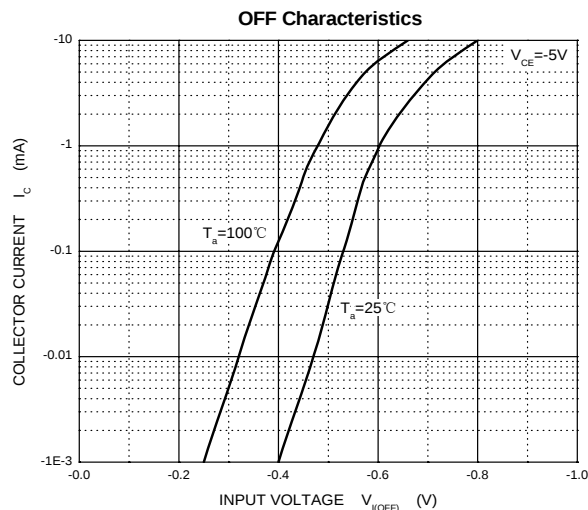
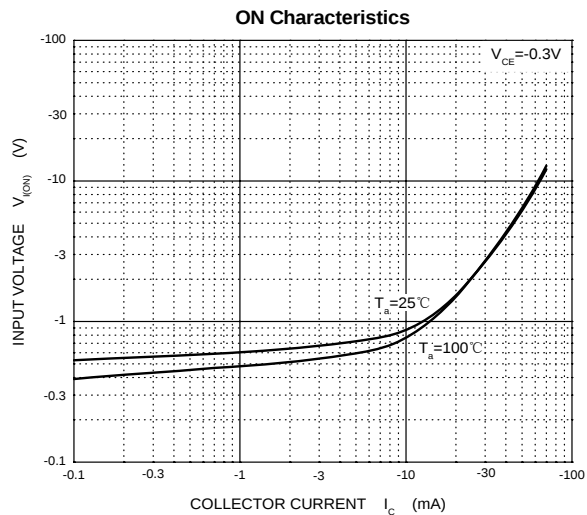
MAXIMUM RATINGS(Ta=25°C unless otherwise noted)

Symbol	Parameter	Limits(DTA143T□)				Unit
		E	UA	KA	CA	
V _{CBO}	Collector-Base Voltage	-50				V
V _{CEO}	Collector-Emitter Voltage	-50				V
V _{EBO}	Emitter-Base Voltage	-5				V
I _C	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
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-50μA, I _E =0	-50			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-50			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-50μA, I _C =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-50V, I _E =0			-0.5	μA
Emitter cut-off current	I _{EBO}	V _{EB} =-4V, I _C =0			-0.5	μA
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-5mA, I _B =-0.25mA			-0.3	V
DC current gain	h _{FE}	V _{CE} =-5V, I _C =-1mA	100		600	
Input resistor	R ₁		3.29	4.7	6.11	kΩ
Transition frequency	f _T	V _{CE} =-10V, I _E =5mA, f=100MHz		250		MHz

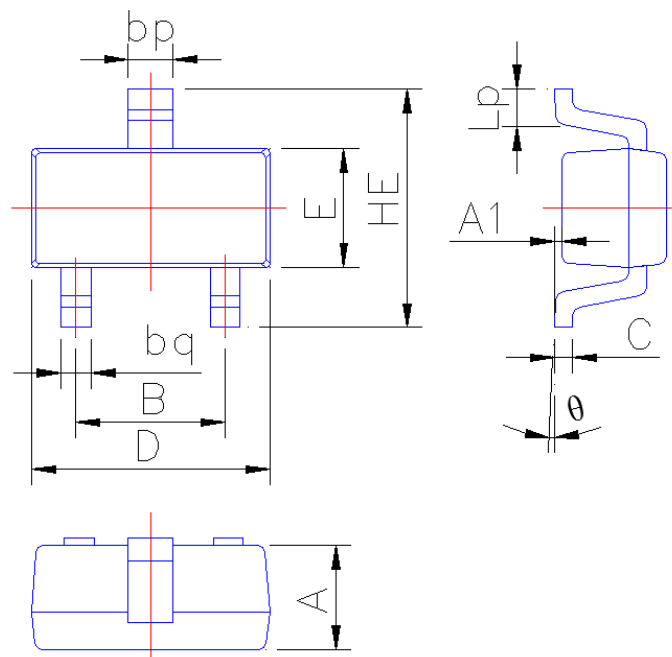
Typical Characteristics



PACKAGE OUTLINE

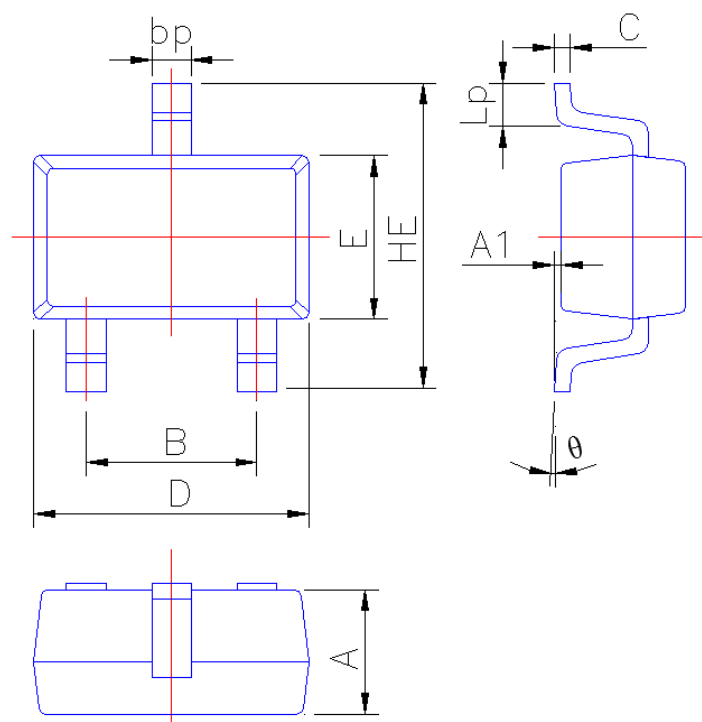
Plastic surface mounted package; 3 leads

SOT-523



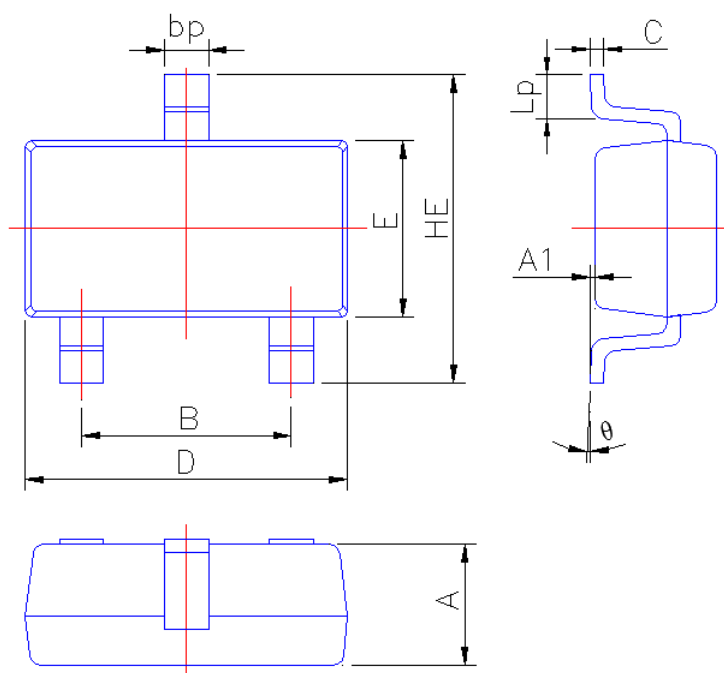
Symbol	Dimension in Millimeters	
	Min	Max
A	0.60	0.80
A1	0.010	0.100
B	0.95	1.05
bp	0.26	0.40
bq	0.16	0.30
C	0.09	0.15
D	1.50	1.70
E	0.70	0.85
HE	1.45	1.75
Lp	0.16	0.36
θ	0°	5°

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

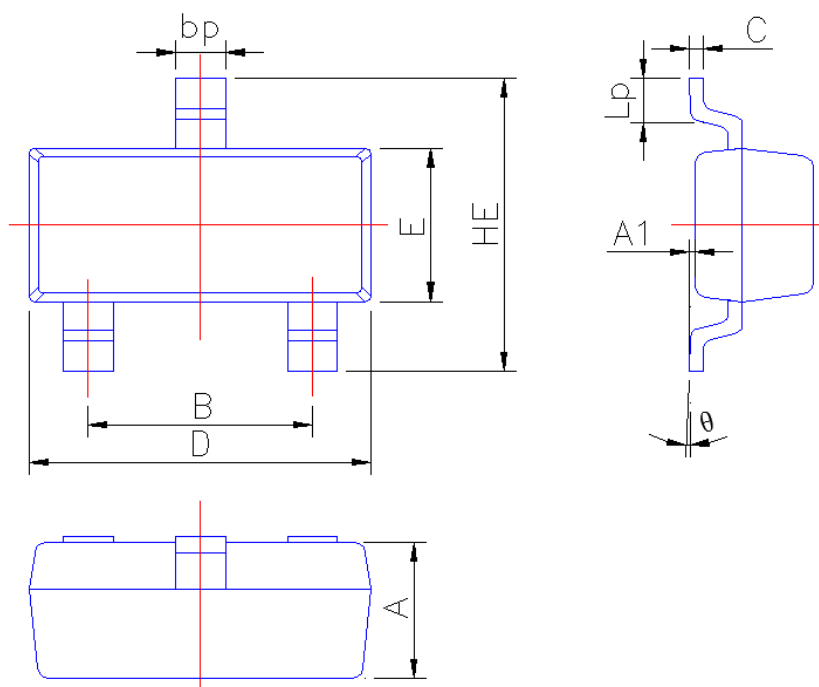


Symbol	Dimension in Millimeters	
	Min	Max
A	1.05	1.20
A1	0.010	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.15
D	2.80	3.00
E	1.50	1.70
HE	2.60	3.00
Lp	0.25	0.55
θ	2°	6°

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.10
A1	0.013	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.150
D	2.80	3.00
E	1.20	1.40
HE	2.20	2.80
Lp	0.20	0.50
θ	0°	5°