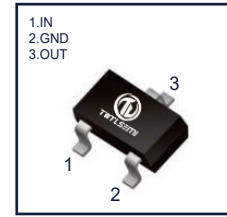
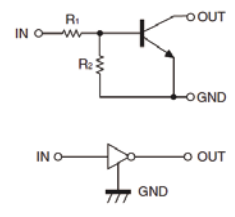


Features

- 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



SOT-523



Equivalent Circuit

Absolute Maximum Ratings(TA=25℃)

Symbol	Parameter	Limits	Unit
V _{CC}	Supply Voltage	50	V
V _{IN}	Input Voltage	-10 ~ +40	V
I _O	Output Current	30	mA
I _{CM}	Peak Collector Current	100	mA
P _D	Power Dissipation	150	mW
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55 ~ +150	℃

Electrical Characteristics (TA=25℃ unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
V _{I(off)}	Input voltage	V _{CC} =5V, I _O =100μA	0.5			V
V _{I(on)}		V _O =0.2V, I _O =5mA			3	V
V _{O(on)}	Output voltage	I _O /I _I =10mA/0.5mA		0.1	0.3	V
I _I	Input current	V _I =5V			0.36	mA
I _{O(off)}	Output current	V _{CC} =50V, V _I =0			0.5	μA
G _I	DC current gain	V _O =5V, I _O =5mA	56			
R _I	Input resistance		15.4	22	28.6	kΩ
R ₂ /R ₁	Resistance ratio		0.8	1	1.2	
f _T	Transition frequency	V _O =10V, I _O =5mA, f=100MHz		250		MHz

Ordering information

Product ID	Marking	Naming rule	Pack	Qty(PCS)
DTC124EE	25	DTC124EE 产品名称 product name	SOT-523	3000



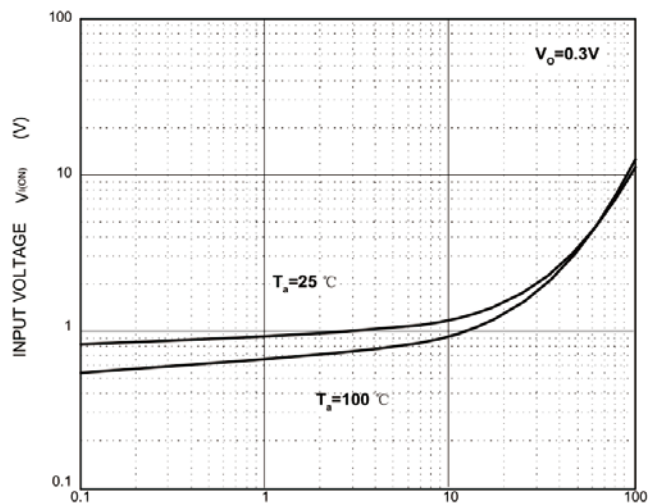
TWTLSEMI

TL-DTC124EE

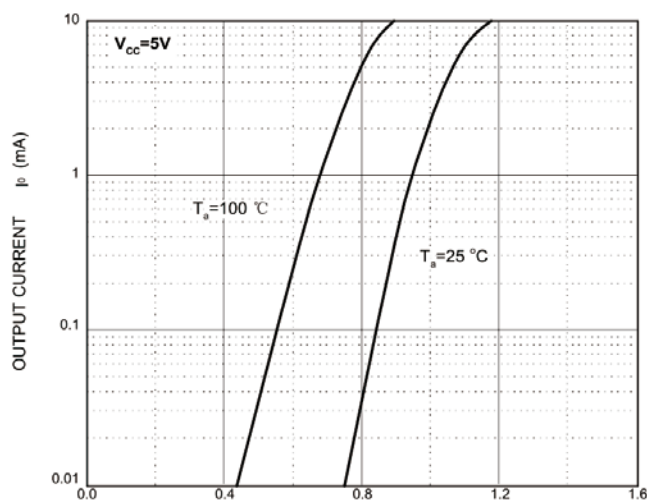
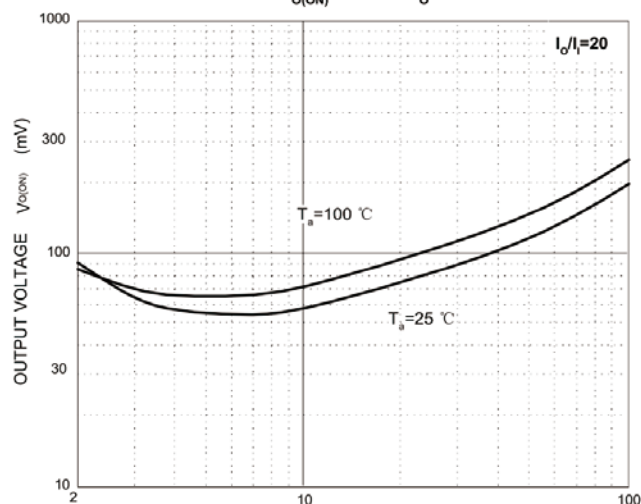
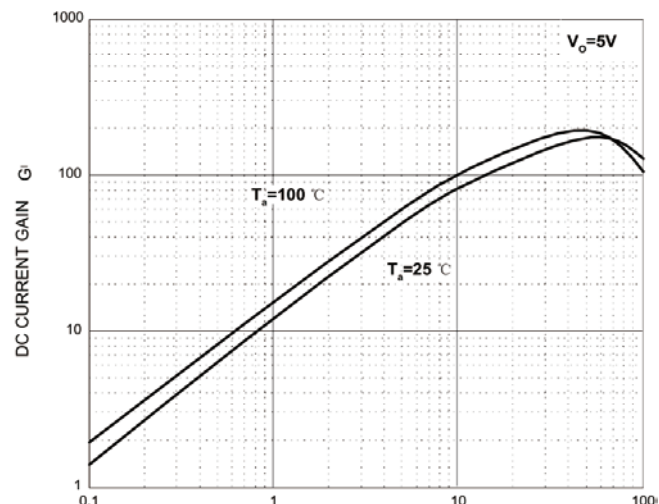
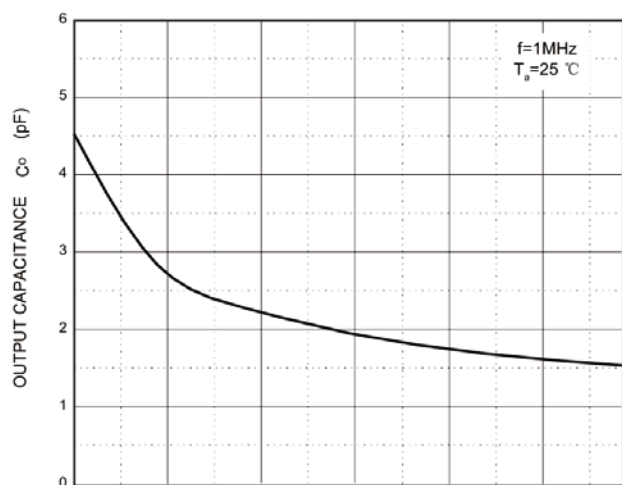
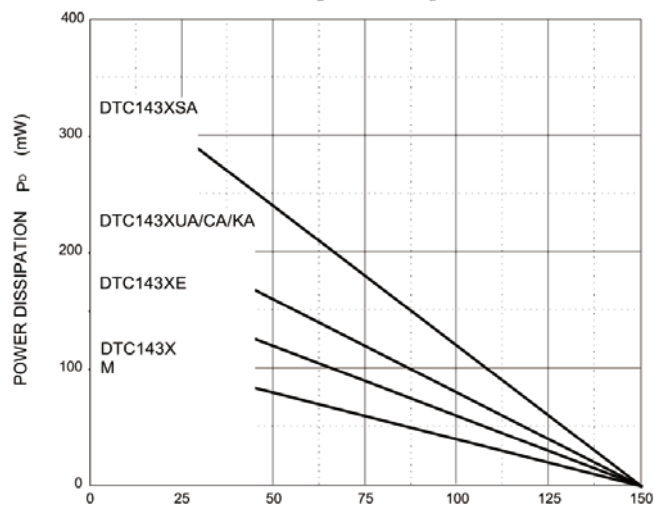
SOT-523 DIGITAL TRANSISTOR(NPN)

Typical Characteristics

ON Characteristics

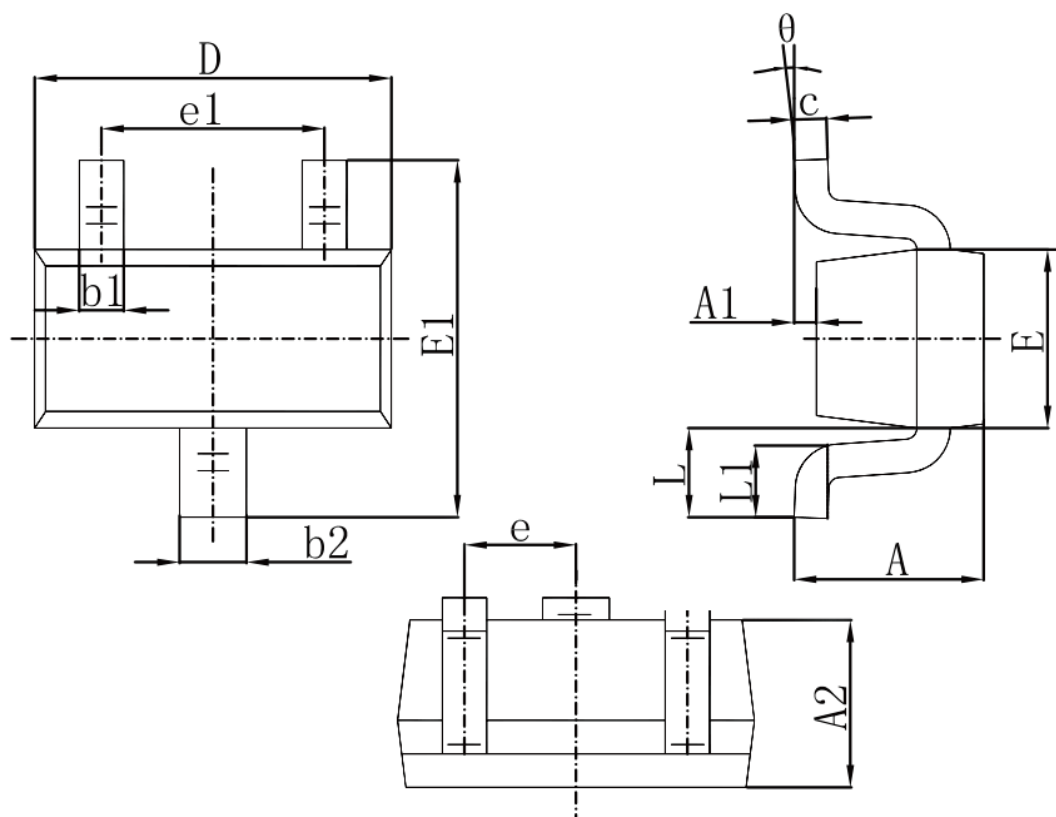
OUTPUT CURRENT I_o (mA) $V_{O(ON)}$ — I_o

OFF Characteristics

INPUT VOLTAGE $V_{I(OFF)}$ (V) G_I — I_o OUTPUT CURRENT I_o (mA) C_o — V_R OUTPUT CURRENT I_o (mA) P_D — T_a REVERSE VOLTAGE V_R (V)AMBIENT TEMPERATURE T_a ($^\circ C$)



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°