

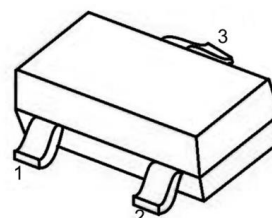
DTA143EE Digital Transistor(PNP)

Feature

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors
- 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

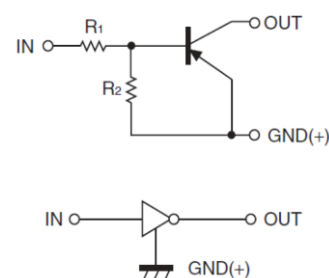
Marking: 13

SOT-523



1.IN 2.GND 3.OUT

Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

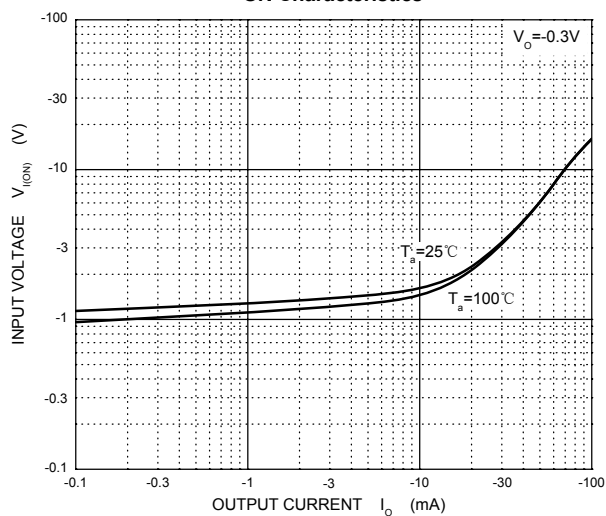
Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-30~+10	V
Output Current	I_O	-100	mA
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-45 ~ +125	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

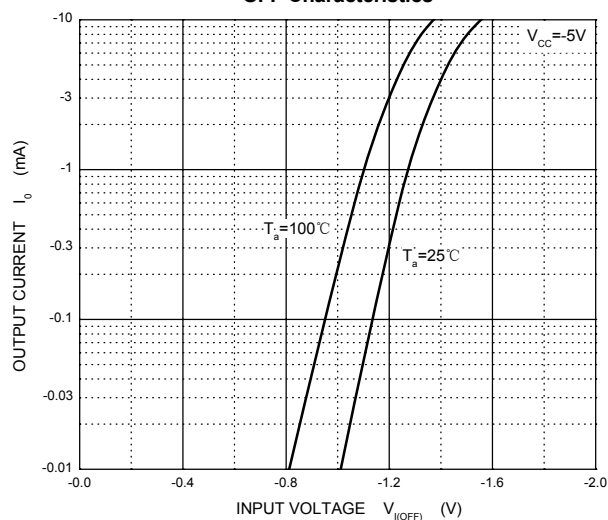
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Input Voltage	$V_{I(off)}$	$V_{CC}=-5V, I_O=-100\mu A$	-0.5			V
	$V_{I(on)}$	$V_O=0.3V, I_O=-20mA$			-3	V
Output Voltage	$V_{O(on)}$	$I_O=-10mA, I_I=-0.5mA$			-0.3	V
Output Current	$I_{O(off)}$	$V_{CC}=-50V, V_I=0V$			-0.5	μA
DC Current Gain	G_I	$V_O=-5V, I_O=10mA$	20			
Input Resistance	R_1		3.29	4.7	6.11	k Ω
Resistance Ratio	R_2/ R_1		0.8	1	1.2	
Transition Frequency	f_T	$V_O=-10V, I_O=-5mA, f=1MHz$		250		MHz

Typical Characteristics

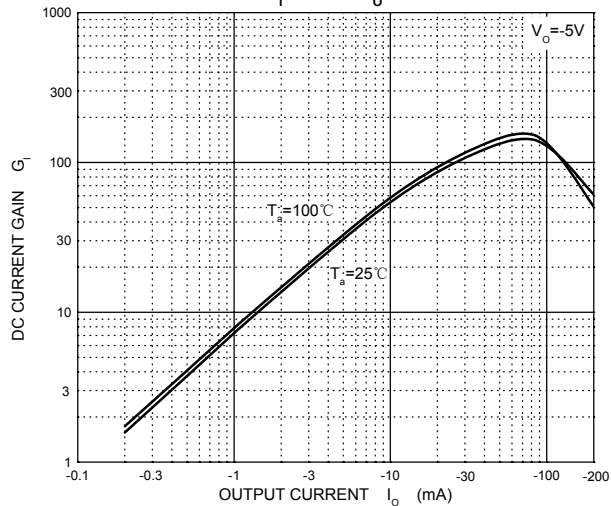
ON Characteristics



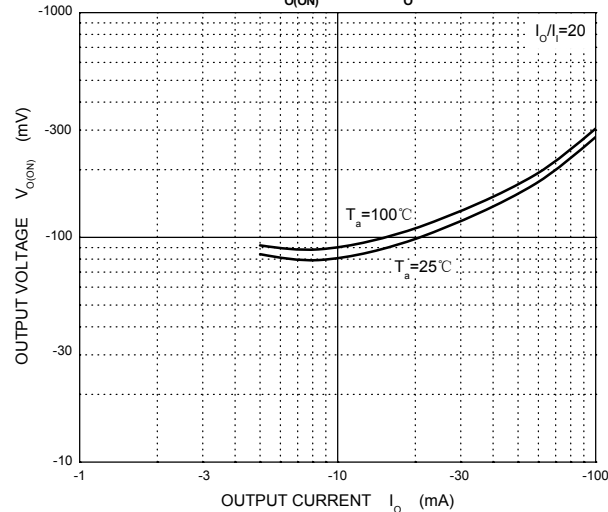
OFF Characteristics



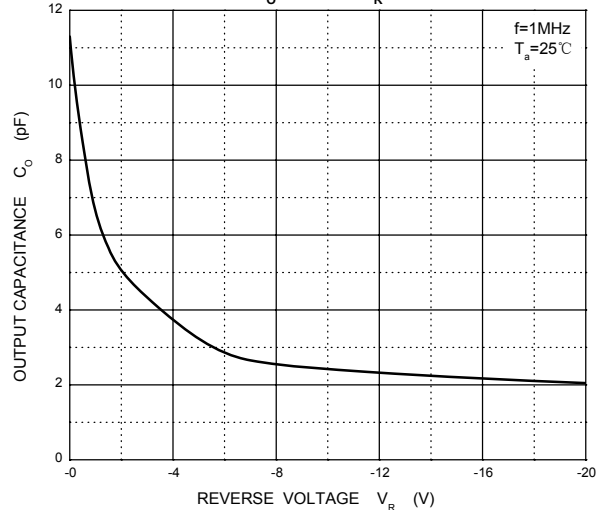
G_I — I_O



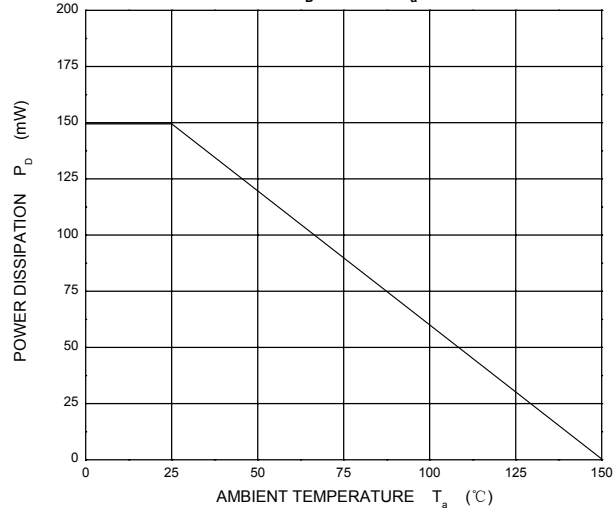
$V_{O(ON)}$ — I_O

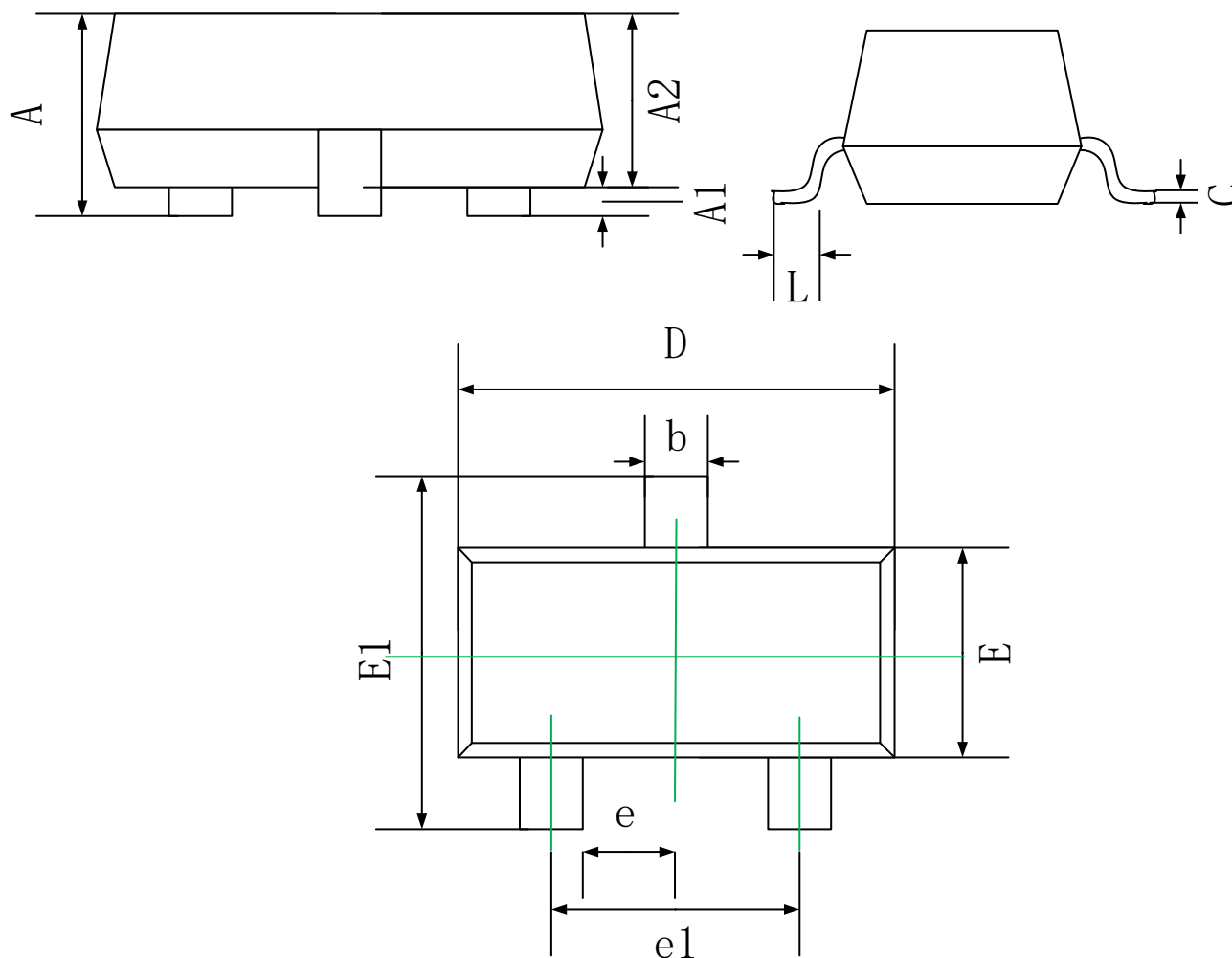


C_O — V_R



P_D — T_a



SOT-523 Package Information


Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.70	0.90
A1	0.00	0.10
A2	0.70	0.80
b	0.25	0.35
c	0.10	0.20
D	1.50	1.70
E	0.70	0.90
E1	1.45	1.75
e	0.50 TYP.	
e1	0.90	1.10
L	0.40 REF.	
L1	0.26	0.46