

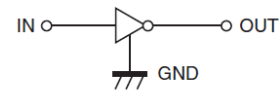
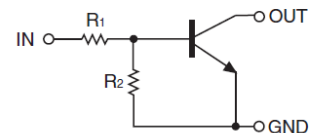


## Features

- 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



## Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
DTC143ZE	SOT-523	E23	3000

## Maxmim Ratings (Ta=25 unless otherwise noted)

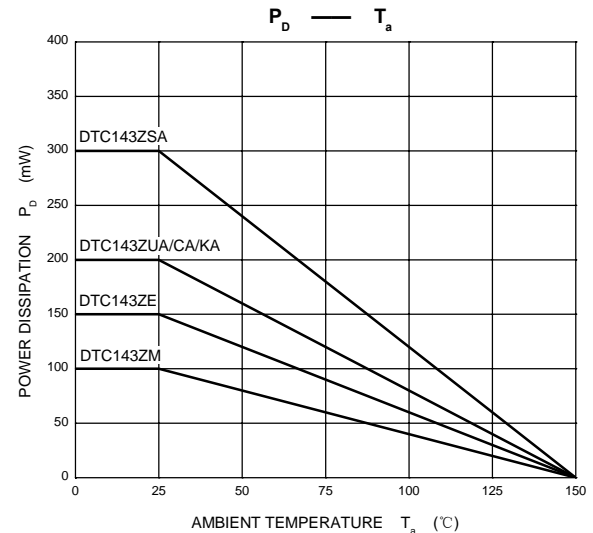
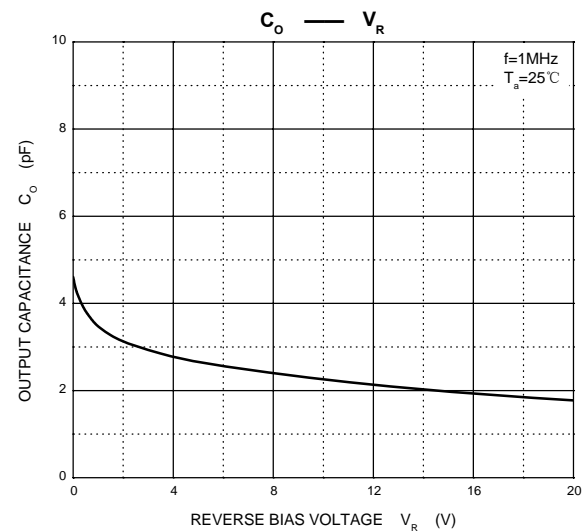
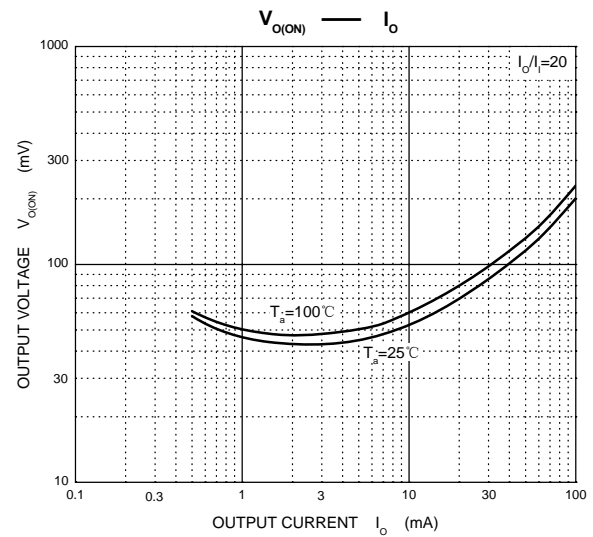
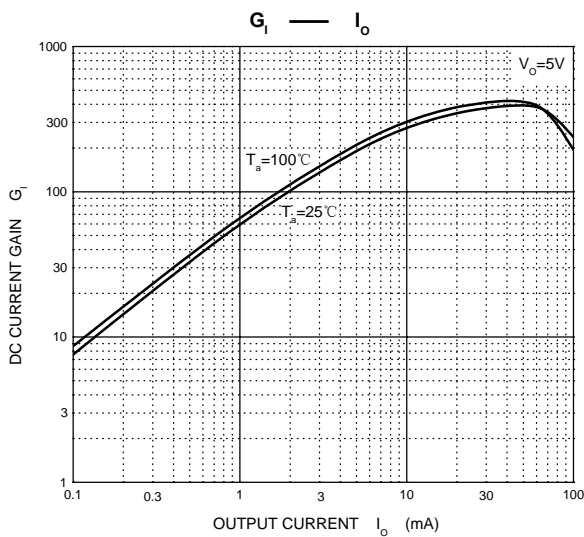
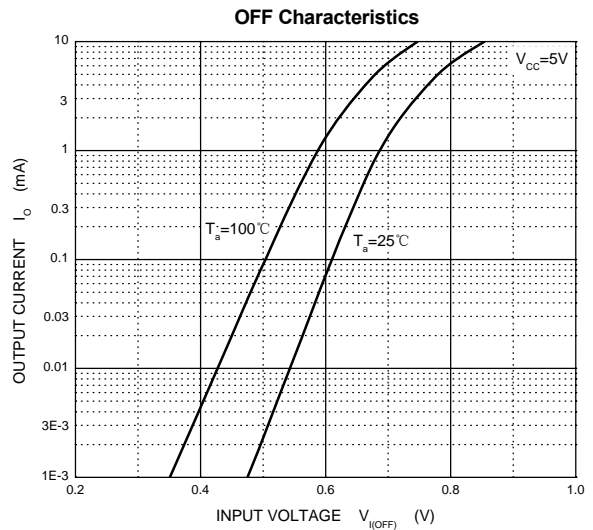
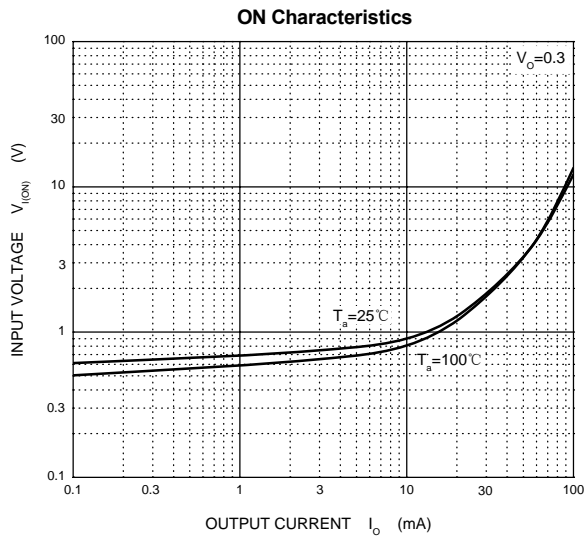
Symbol	Parameter	Limits	Unit
$V_{CC}$	Supply Voltage	50	V
$V_{IN}$	Input Voltage	-5~+30	V
$I_O$	Output Current	100	mA
$P_D$	Power Dissipation	150	mW
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	°C

## Electrcal Charcteristics (Ta=25 unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	$V_{CC}=5V, I_O=100\mu A$	0.5			V
	$V_{I(on)}$	$V_O=0.3V, I_O=5mA$			1.3	V
Output voltage	$V_{O(on)}$	$I_O/I_I=5mA/0.25mA$		0.1	0.3	V
Input current	$I_I$	$V_I=5V$			1.8	mA
Output current	$I_{O(off)}$	$V_{CC}=50V, V_I=0$			0.5	$\mu A$
DC current gain	$G_I$	$V_O=5V, I_O=10mA$	80			
Input resistance	$R_1$		3.29	4.7	6.11	k $\Omega$
Resistance ratio	$R_2/R_1$		8	10	12	
Transition frequency	$f_T$	$V_O=10V, I_O=5mA, f=100MHz$		250		MHz

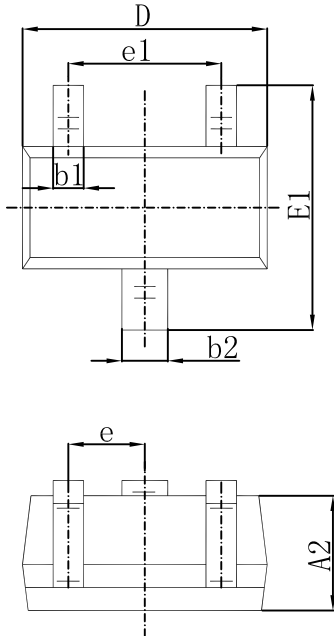


### Typical Characteristics



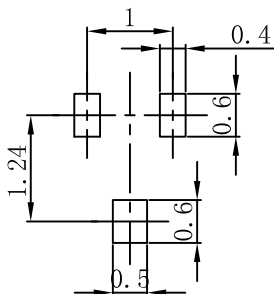


### SOT-523 Package Information



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



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