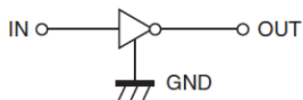
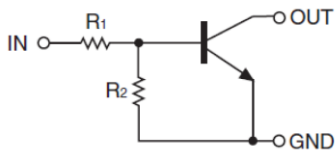


DTC123JCA Digital Transistor

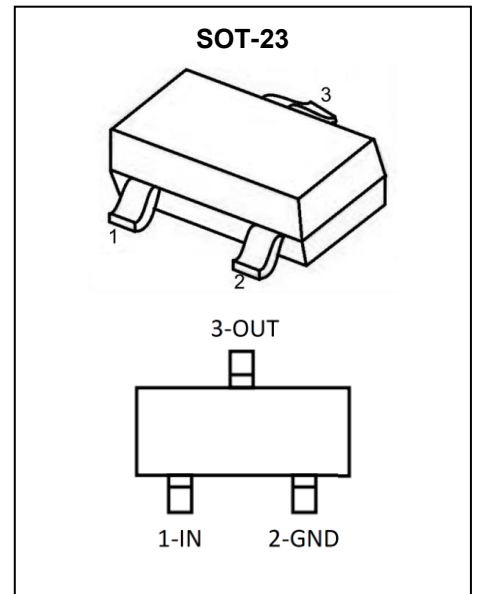
Feature

- 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

Schematic diagram



Marking: E42/HE42



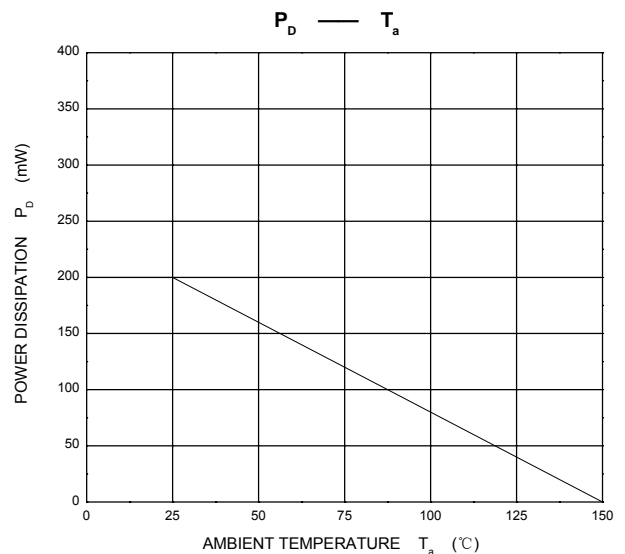
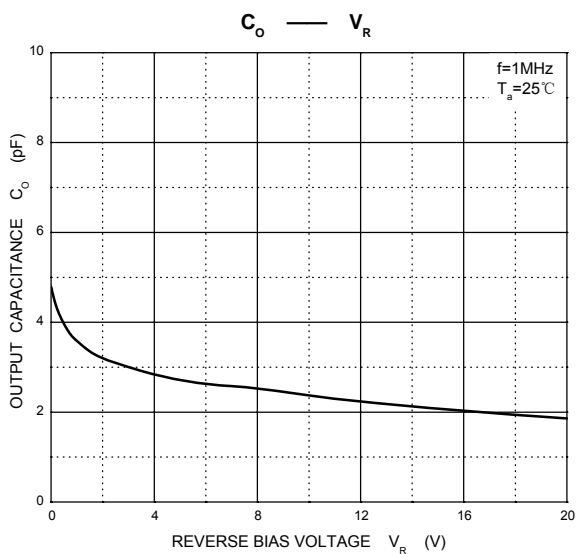
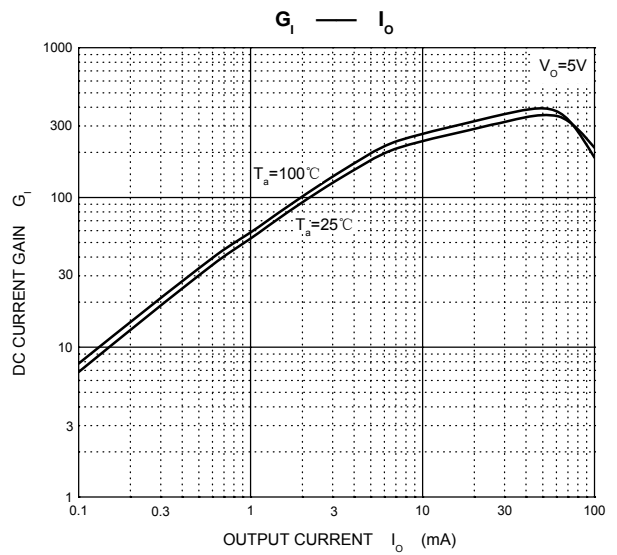
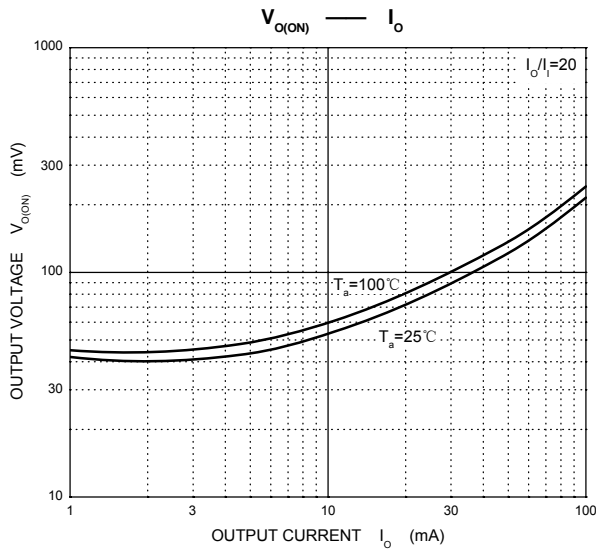
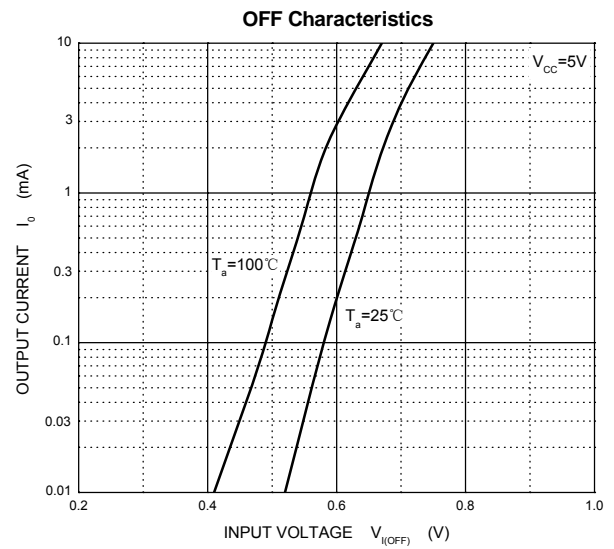
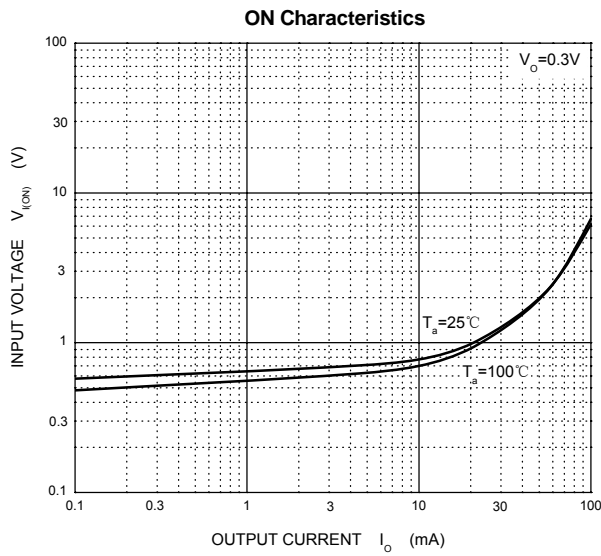
ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-5~+12	V
Output Current	I_o	100	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

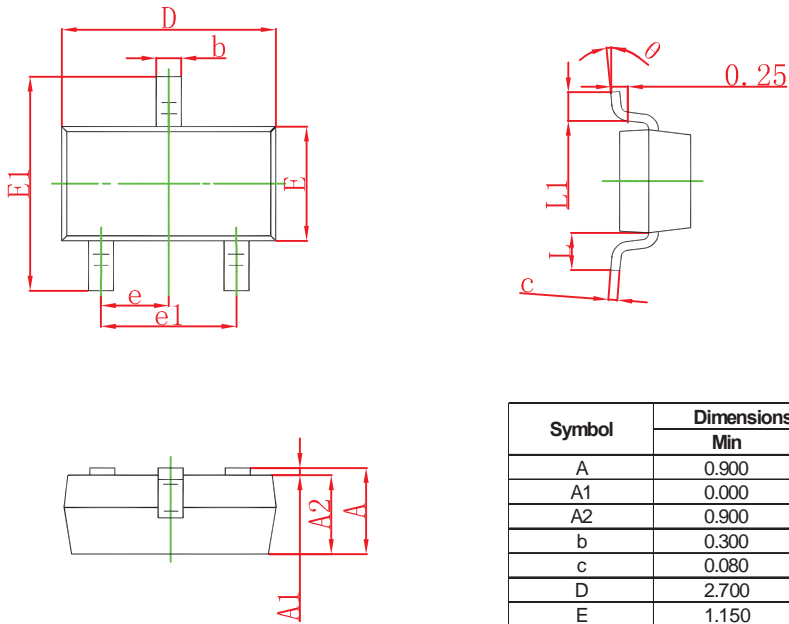
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Input voltage	$V_{I(off)}$	$V_{CC}=5V, I_o=100\mu A$	0.3			V
	$V_{I(on)}$	$V_o=0.3V, I_o=5mA$			1.1	V
Output voltage	$V_{O(on)}$	$I_o/I_i=5mA/0.25mA$		0.1	0.3	V
Input current	I_i	$V_i=5V$			3.6	mA
Output current	$I_{O(off)}$	$V_{CC}=50V, V_i=0V$			0.5	μA
DC current gain	G_i	$V_o=5V, I_o=10mA$	80			
Input resistance	R_1		1.54	2.2	2.86	k Ω
Resistance ratio	R_2/R_1		17	21	26	
Transition frequency	f_T	$V_o=10V, I_o=5mA, f=100MHz$		250		MHz

Typical Characteristics



SOT-23 Package Information



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.900	1.300
A1	0.000	0.100
A2	0.900	1.200
b	0.300	0.550
c	0.080	0.200
D	2.700	3.100
E	1.150	1.500
E1	2.200	2.700
e	0.950 TYP	
e1	1.700	2.100
L	0.550 REF	
L1	0.200	0.500
θ	0°	8°