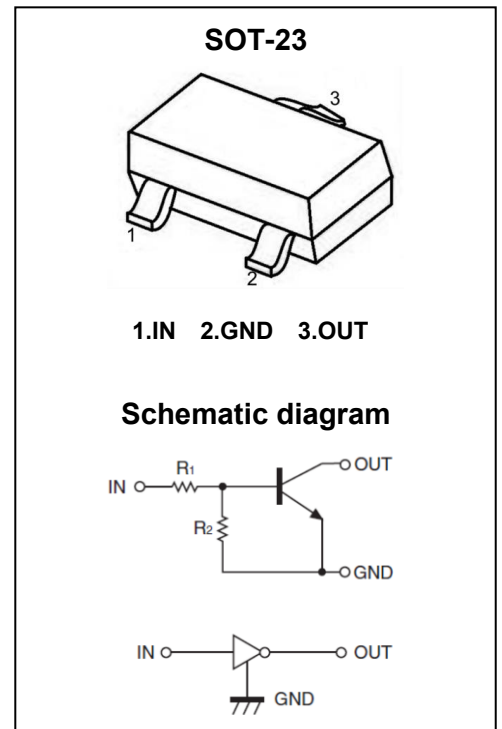


DTC114ECA Digital Transistor(NPN)

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: 24/H24



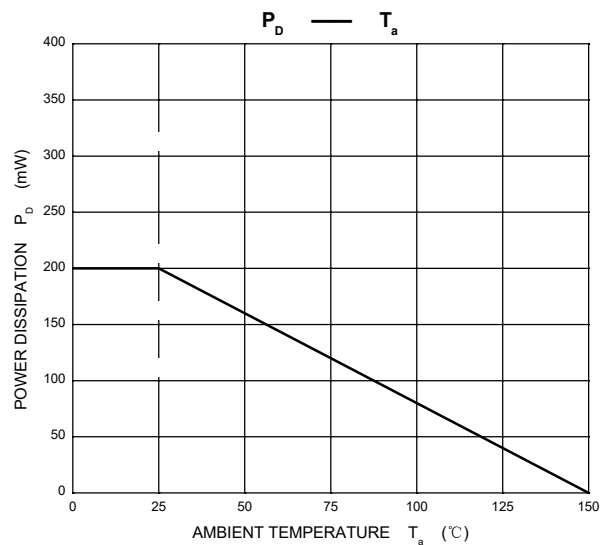
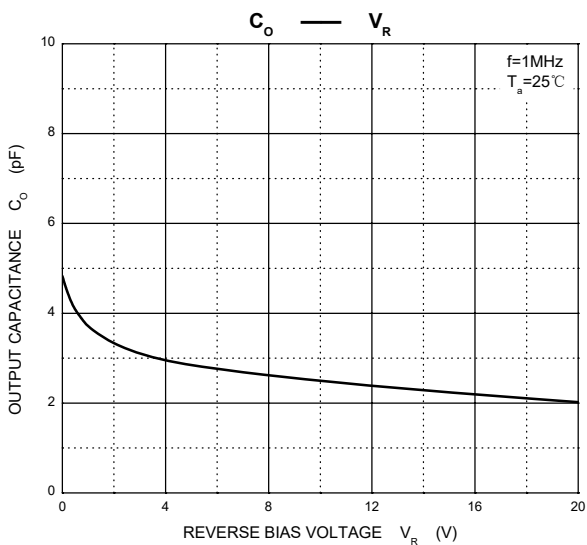
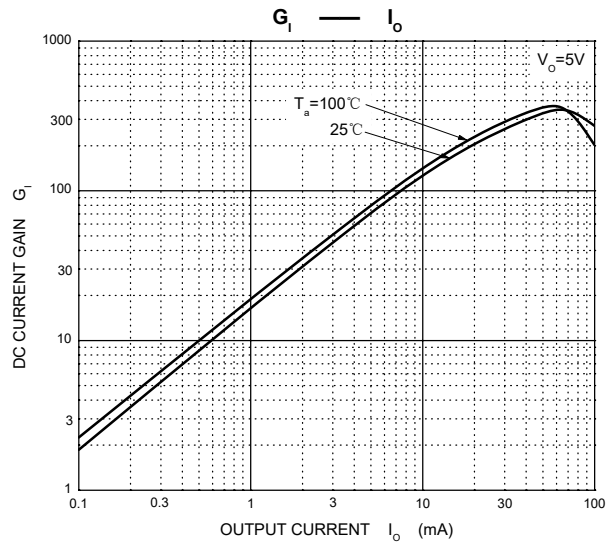
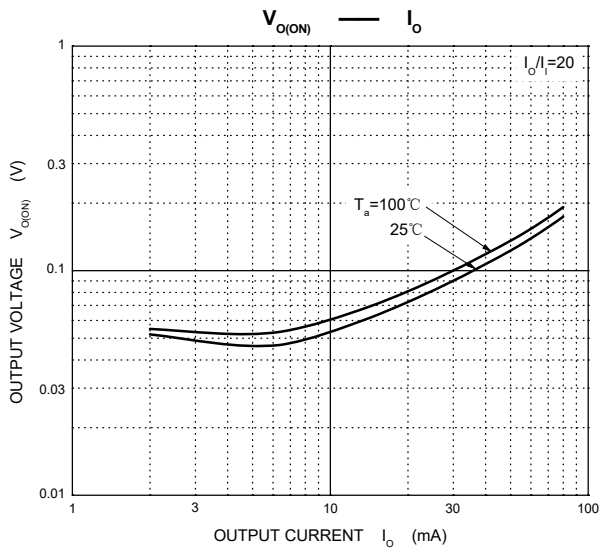
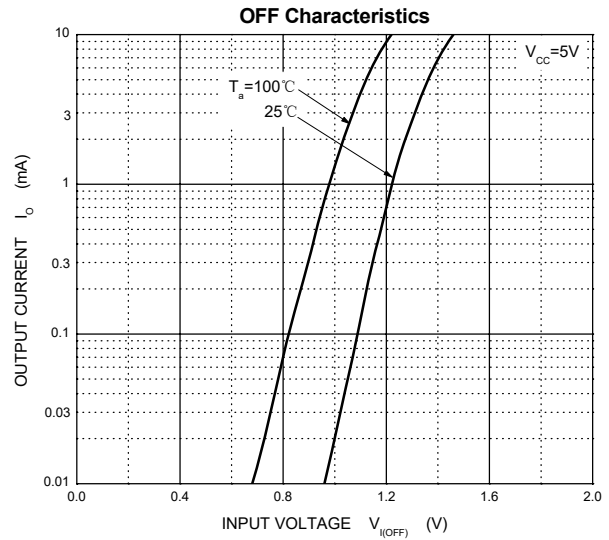
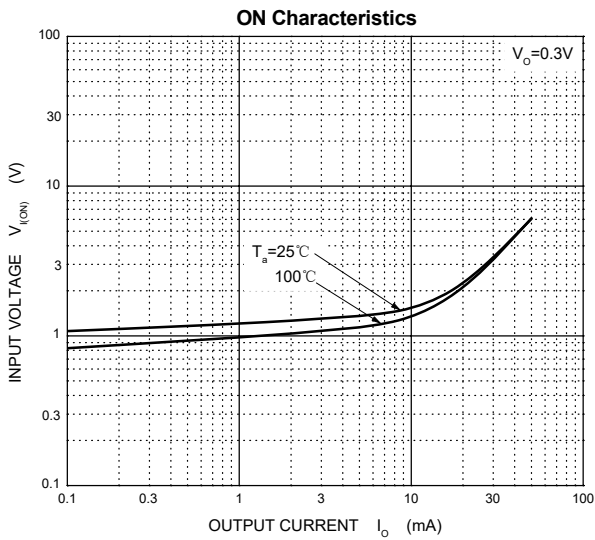
ABSOLUTE MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Supply Voltage	V _{CC}	50	V
Input Voltage	V _{IN}	-10~+40	V
Output Current	I _o	50	mA
Power Dissipation	P _D	200	mW
Junction Temperature	T _J	125	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

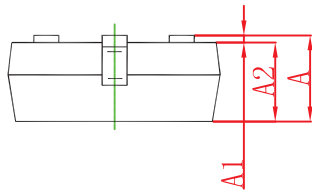
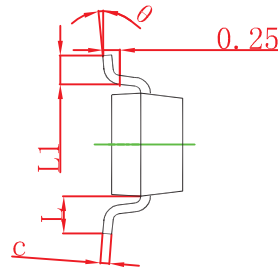
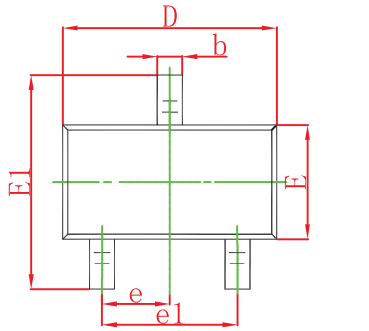
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Input voltage	V _{I(off)}	V _{CC} =5V , I _o =100μA	0.5			V
	V _{I(on)}	V _O =0.3V , I _o =10mA			3	V
Output voltage	V _{O(on)}	I _o =10mA , I _i =0.5mA		0.1	0.3	V
Input current	I _i	V _i =5V			0.88	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 =5mA	30			
Input resistance	R ₁		7	10	13	kΩ
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



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°