



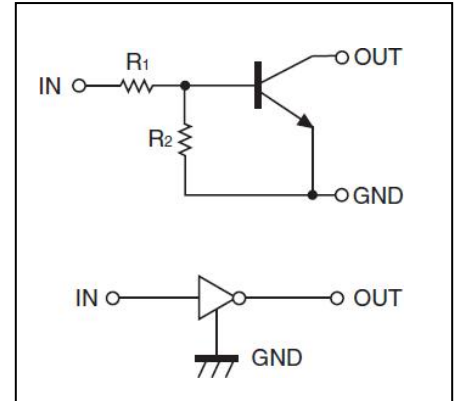
DTC114WE/DTC114WUA DTC114WKA/DTC114WCA

DIGITAL TRANSISTOR (NPN)

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

• Equivalent Circuit



PIN CONNENCTIONS and MARKING

DTC114WCA		SOT-23	1.IN 2.GND 3.OUT	DTC114WE		SOT-523	1.IN 2.GND 3.OUT
DTC114WUA		SOT-323	1.IN 2.GND 3.OUT	DTC114WKA		SOT-23-3L	1.IN 2.GND 3.OUT



MAXIMUM RATINGS(Ta=25°C unless otherwise noted)

Symbol	Parameter	Limits(DTC114W□)					Unit
		E	UA	CA	KA		
V _{CC}	Supply Voltage	50					V
V _{IN}	Input Voltage	-10~+30					V
I _O	Output Current	100					mA
P _D	Power Dissipation	150	200	200	200		mW
T _J	Junction Temperature	150					°C
T _{stg}	Storage Temperature	-55~+150					°C

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input voltage	V _{I(off)}	V _{CC} =5V, I _O =100μA	0.8			V
	V _{I(on)}	V _O =0.3V, I _O =2 mA			3	V
Output voltage	V _{O(on)}	I _O /I _I =10mA/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 =0			0.5	μA
DC current gain	G _I	V _O =5V, I _O =10mA	24			
Input resistance	R ₁		7	10	13	kΩ
Resistance ratio	R ₂ /R ₁		0.37	0.47	0.57	
Transition frequency	f _T	V _O =10V, I _O =5mA, f=100MHz		250		MHz



Typical Characteristics

