

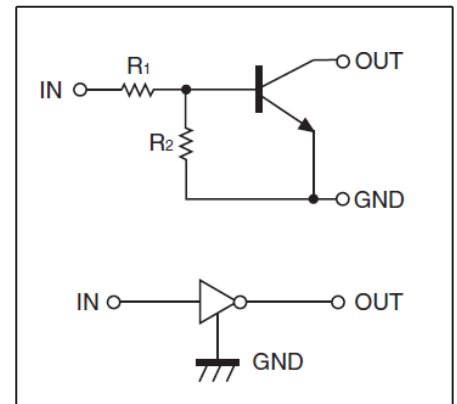
DTC114WM/DTC114WE/DTC114WUA DTC114WKA/DTC114WCA/DTC114WSA

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



Part Number	MARKING ⁽¹⁾	Package	Packing Method	Pack Quantity
DTC114WM	84	SOT-723	Reel	8000pcs/Reel
DTC114WE	84	SOT-523	Reel	3000pcs/Reel
DTC114WUA	84	SOT-323	Reel	3000pcs/Reel
DTC114WKA	84	SOT-23-3L	Reel	3000pcs/Reel
DTC114WCA	84	SOT-23	Reel	3000pcs/Reel
DTC114WSA	C114 ⁽²⁾ W•XXX	TO-92S	Bulk	1000pcs/Bag
DTC114WSA-TA	C114 ⁽²⁾ W•XXX	TO-92S	Tape	3000pcs/Box

Notes: (1). Solid dot = Green molding compound device, if none, the normal device.

(2). XXX=Code

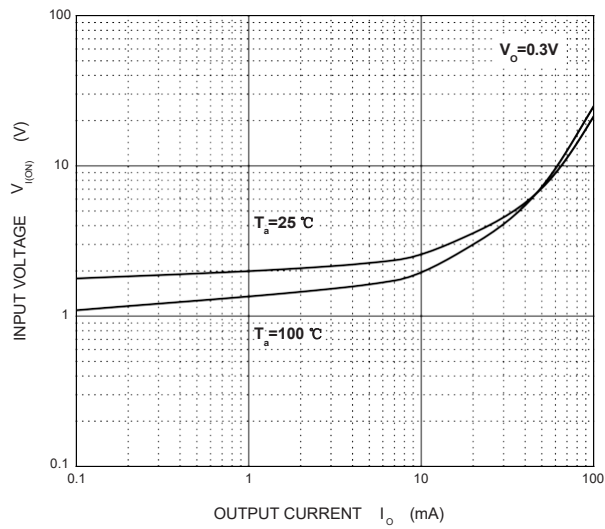
MAXIMUM RATINGS(Ta=25°C unless otherwise noted)

Symbol	Parameter	Limits(DTC114W□)						Unit
		M	E	UA	CA	KA	SA	
V _{CC}	Supply Voltage	50						V
V _{IN}	Input Voltage	-10~+30						V
I _O	Output Current	100						mA
P _D	Power Dissipation	100	150	200	200	200	300	mW
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150						°C

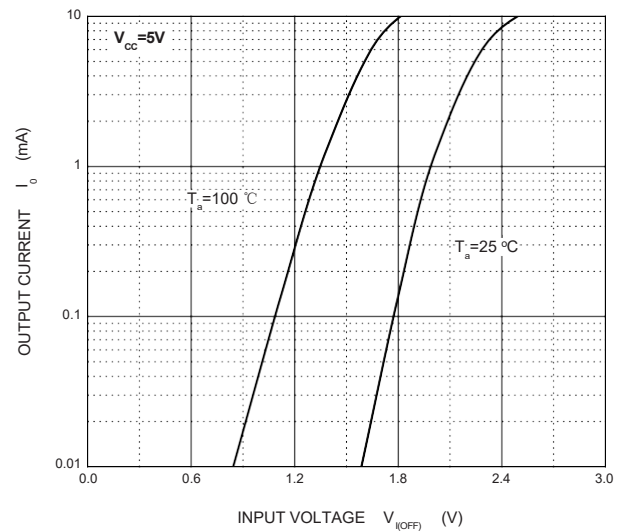
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

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

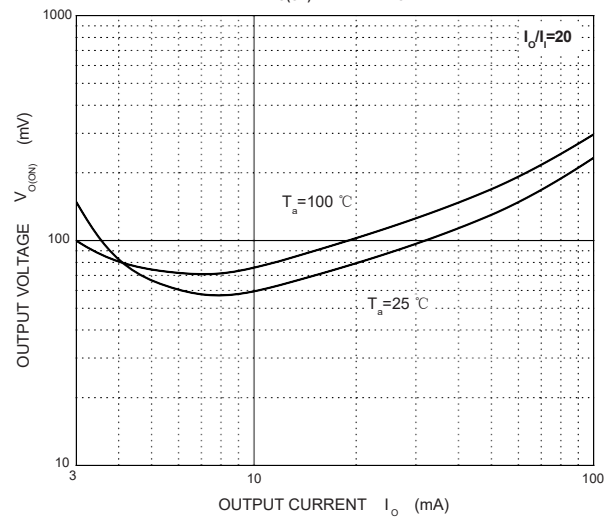
ON Characteristics



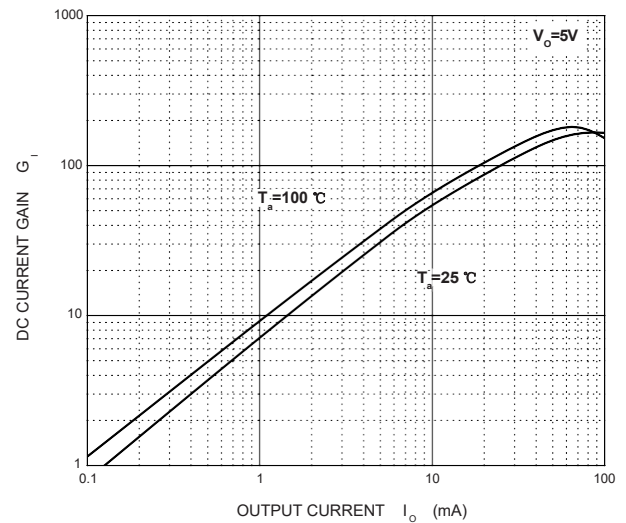
OFF Characteristics



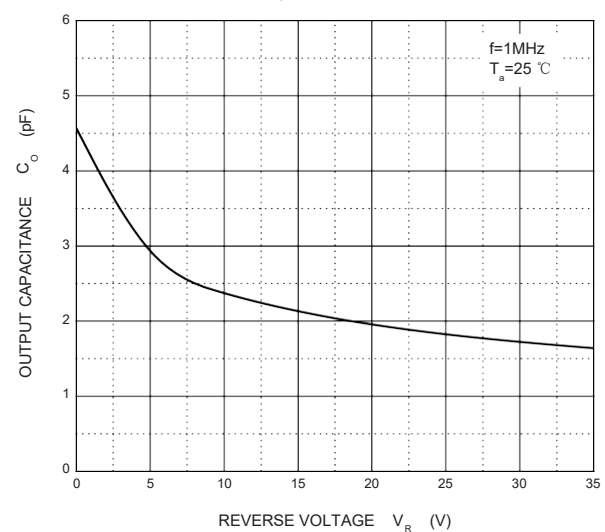
$V_{O(ON)} - I_O$



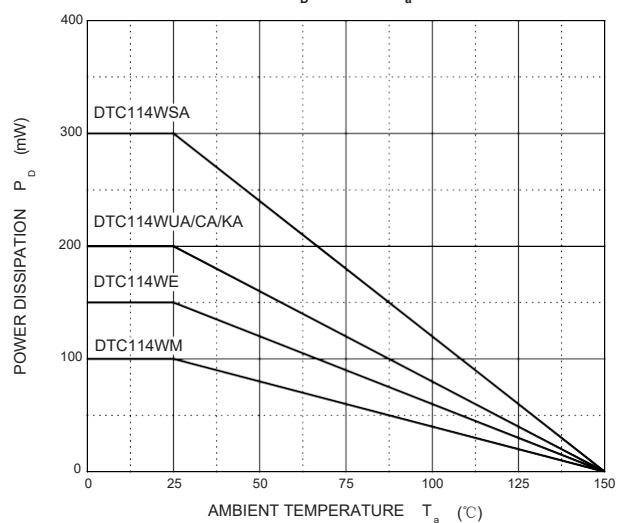
$G_I - I_O$

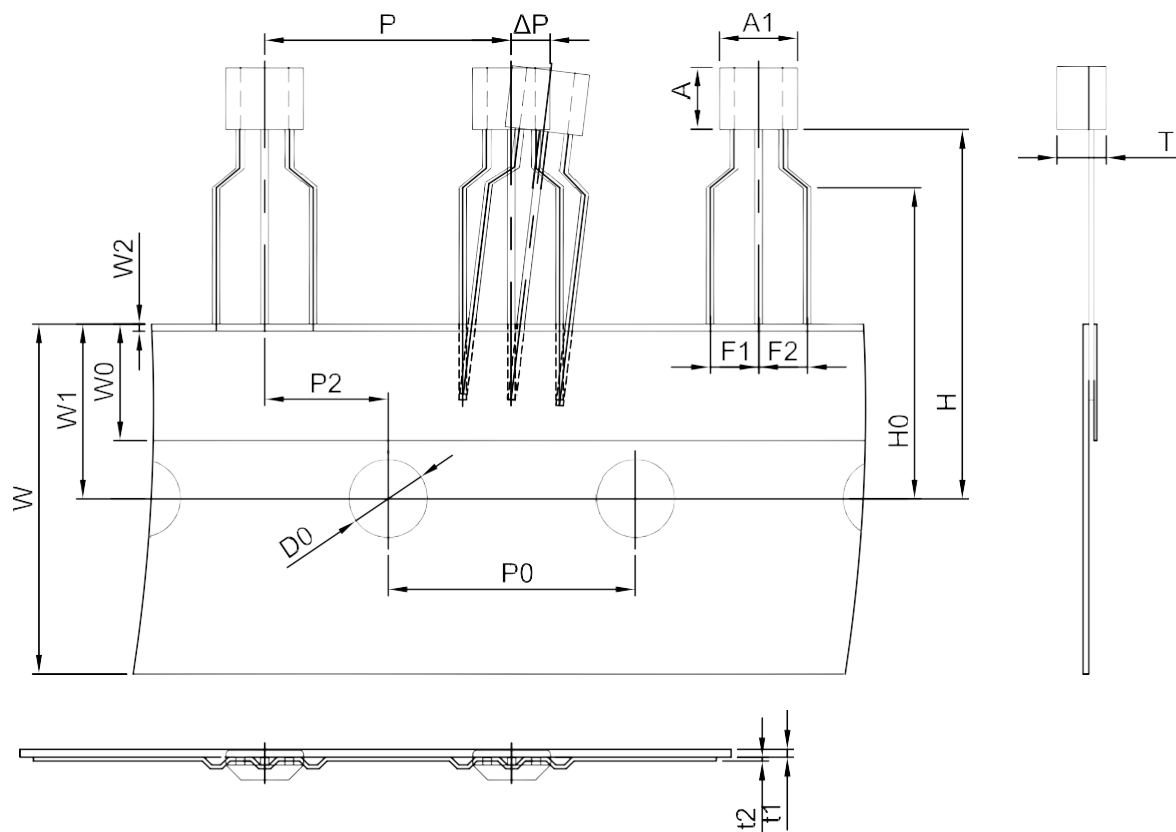


$C_O - V_R$



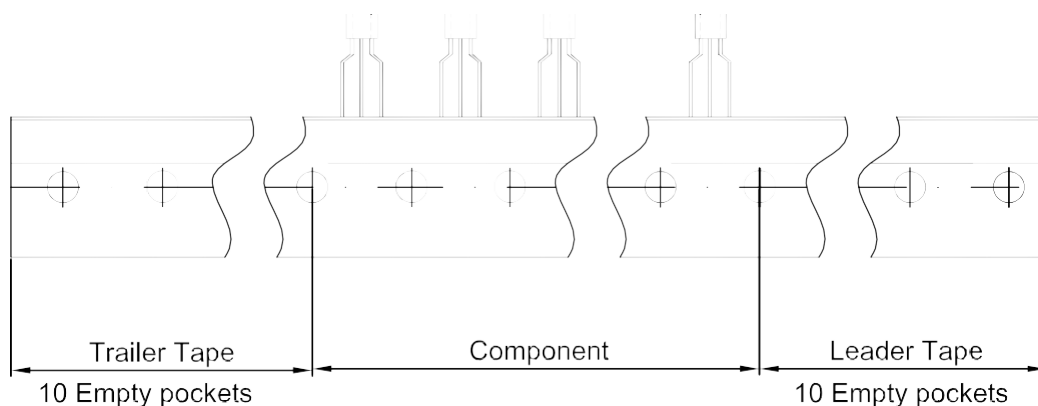
$P_D - T_a$



TO-92S PACKAGE TAPING DIMENSION


Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.0	3.15	1.52	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size (mm)	Carton	Carton Size (mm)
TO-92S	3,000 pcs	330×184×40	30,000 pcs	505×405×240