



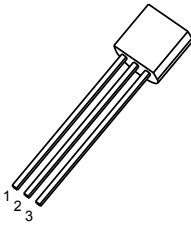
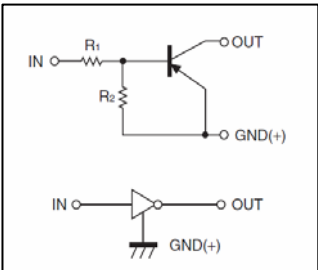
Digital Transistors (Built-in Resistors)

DTA113ZVA DIGITAL TRANSISTOR (PNP)

FEATURE

- 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 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

PIN CONNENCTIONS and EQUIVALENT CIRCUIT

DTA113ZVA	TO-92	Equivalent Circuit
	1. GND 2. OUT 3. IN	

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
DTA113ZVA	TO-92	Bulk	1000pcs/Bag
DTA113ZVA-TA	TO-92	Tape	2000pcs/Box

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

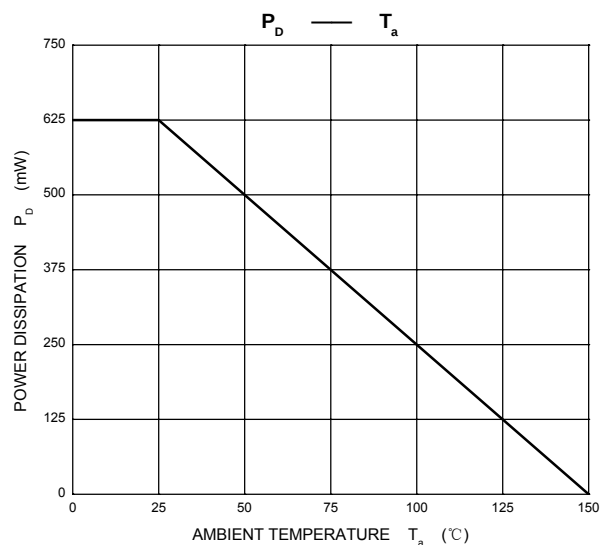
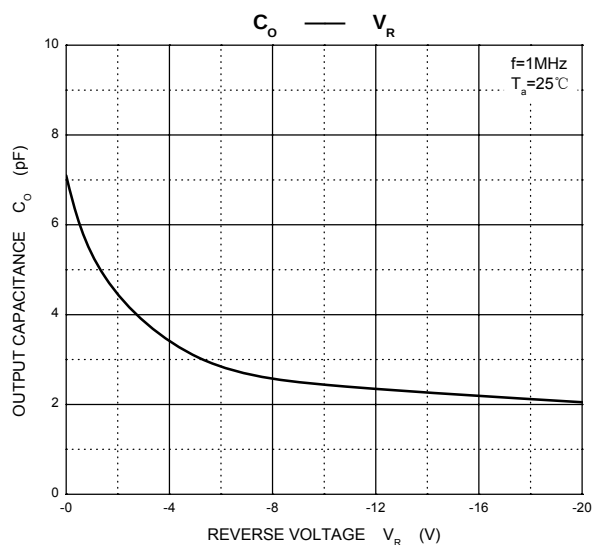
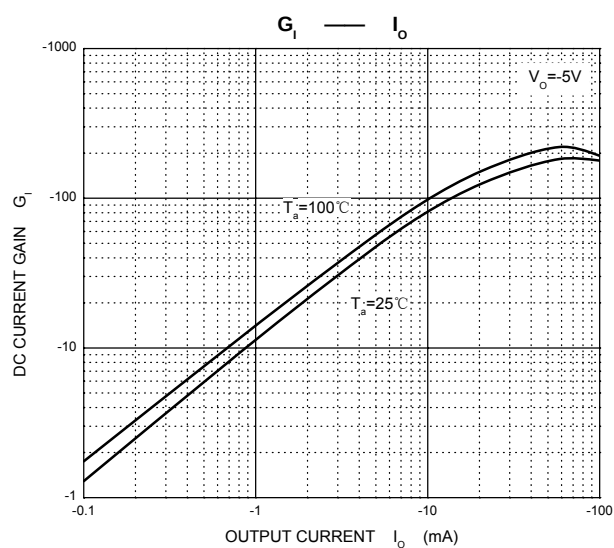
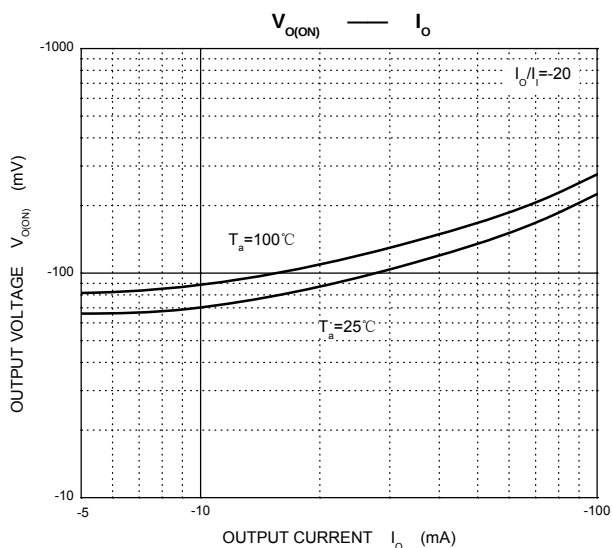
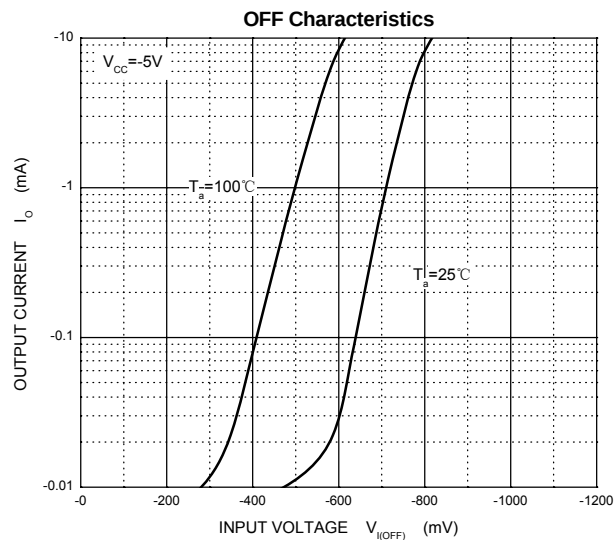
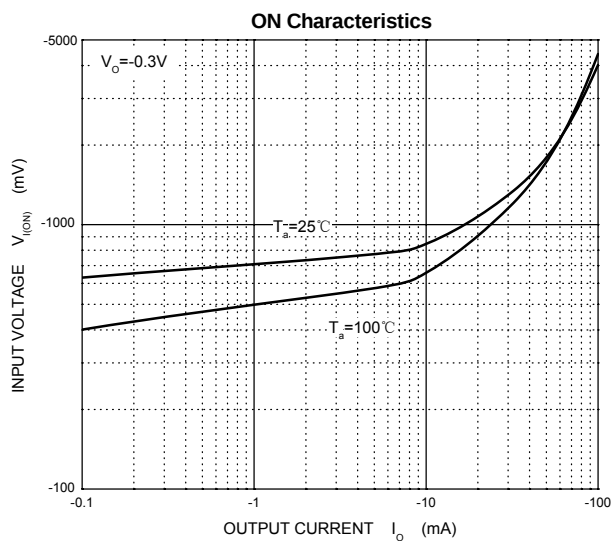
Symbol	Parameter	Limit	Unit
V _{CC}	Supply Voltage	-50	V
V _{IN}	Input Voltage	-10~+5	V
I _O	Output Current	-100	mA
P _D	Power Dissipation	625	mW
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

ELECTRICAL CHARACTERISTICS

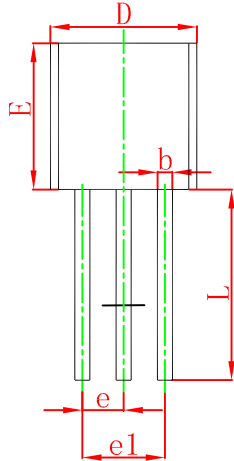
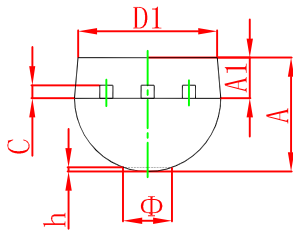
$T_a=25\text{ }^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input voltage	$V_{I(off)}$	$V_{CC}=-5V, I_O=-100\mu A$	-0.3			V
	$V_{I(on)}$	$V_O=-0.3V, I_O=-20mA$			-3	V
Output voltage	$V_{O(on)}$	$I_O/I_I=-10mA/-0.5mA$			-0.3	V
Input current	I_I	$V_I=-5V$			-7.2	mA
Output current	$I_{O(off)}$	$V_{CC}=-50V, V_I=0$			-0.5	μA
DC current gain	G_I	$V_O=-5V, I_O=-5mA$	33			
Input resistance	R_1		0.7	1	1.3	k Ω
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

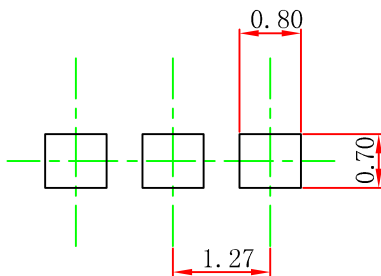


TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

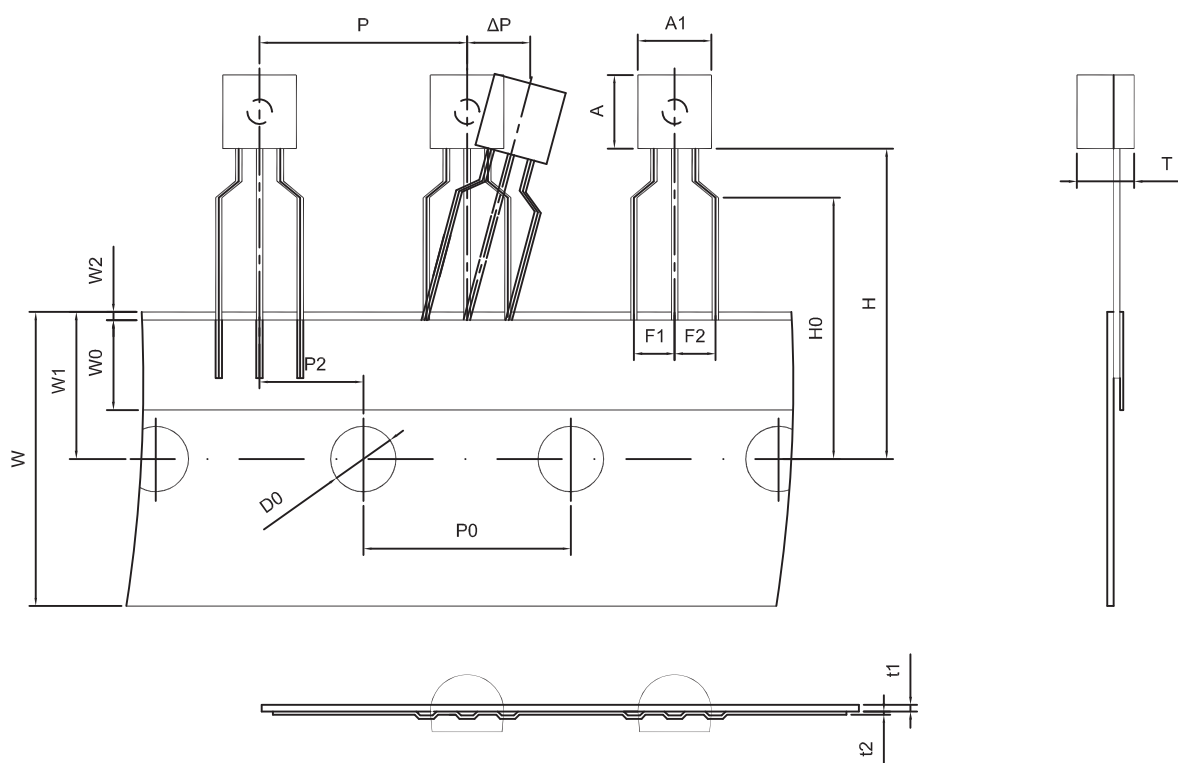
TO-92 Suggested Pad Layout



Note:

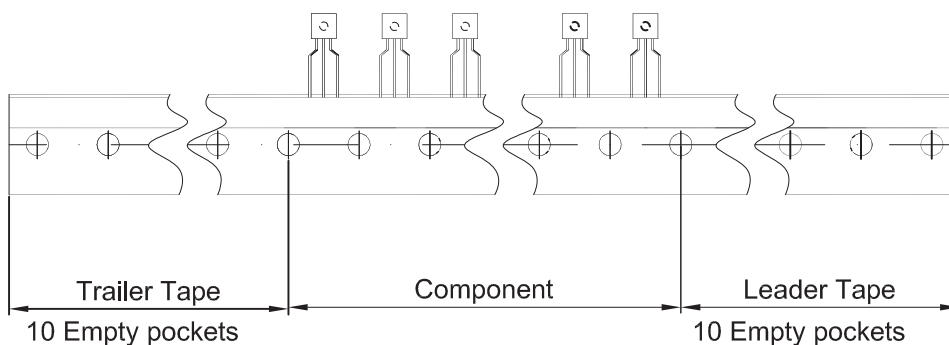
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	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 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250