



Micro Commercial Components

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# DTA143XUA

## Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- 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 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
- Halogen free available upon request by adding suffix "-HF"

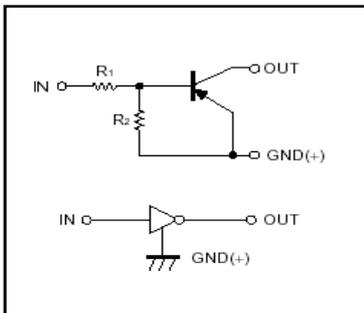
### Absolute maximum ratings @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$V_{CC}$	Supply voltage	---	-50	---	V
$V_{IN}$	Input voltage	-20	---	7	V
$I_O$	Output current	---	-100	---	mA
$P_d$	Power dissipation	---	200	---	mW
$T_j$	Junction temperature	---	150	---	°C
$T_{stg}$	Storage temperature	-55	---	150	°C

### Electrical Characteristics @ 25°C

Symbol	Parameter	Min	Typ	Max	Unit
$V_{I(off)}$	Input voltage ( $V_{CC}=-5V, I_O=-100 \mu A$ )	-0.3	---	---	V
$V_{I(on)}$	Input voltage ( $V_O=-0.3V, I_O=-20mA$ )	---	---	-2.5	V
$V_{O(on)}$	Output voltage ( $I_O/I_I=-10mA/-0.5mA$ )	---	-0.1	-0.3	V
$I_I$	Input current ( $V_I=-5V$ )	---	---	-1.8	mA
$I_{O(off)}$	Output current ( $V_{CC}=-50V, V_I=0$ )	---	---	-0.5	$\mu A$
$G_1$	DC current gain ( $V_O=-5V, I_O=-10mA$ )	30	---	---	
$R_1$	Input resistance	3.29	4.7	6.11	K $\Omega$
$R_2/R_1$	Resistance ratio	1.7	2.1	2.6	
$f_T$	Transition frequency ( $V_O=-10V, I_O=-5mA, f=100MHz$ )	---	250	---	MHz

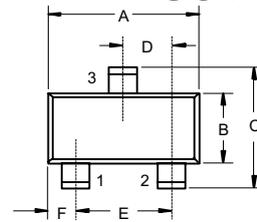
### Equivalent circuit



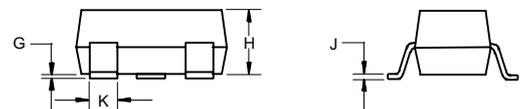
\*Marking: 33

## PNP Digital Transistors

### SOT-323

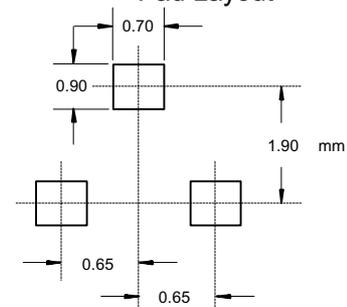


1: IN  
 2: GND  
 3: OUT



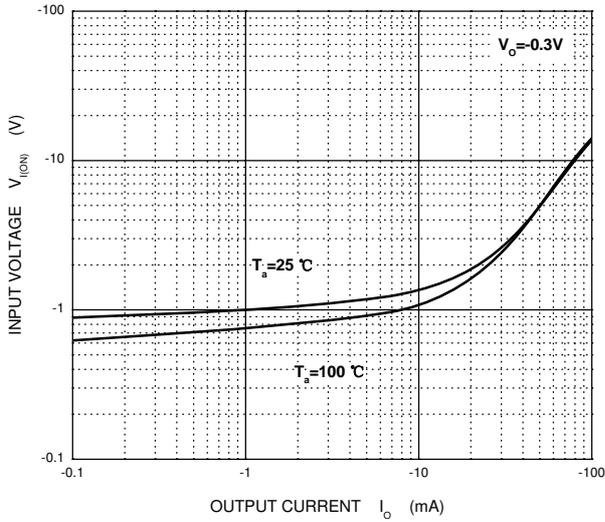
DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

### Suggested Solder Pad Layout

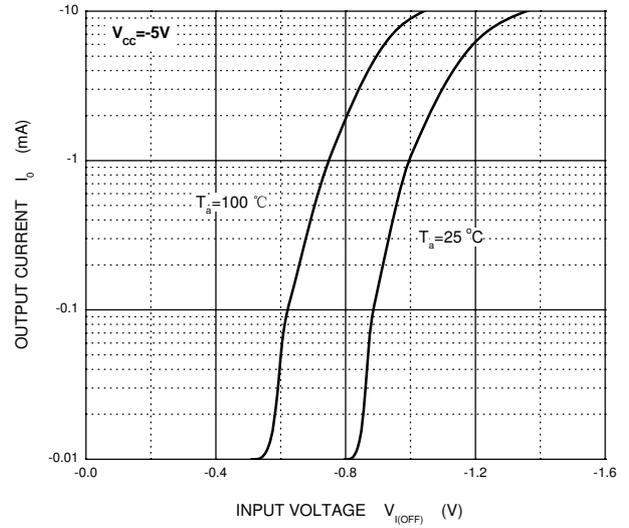


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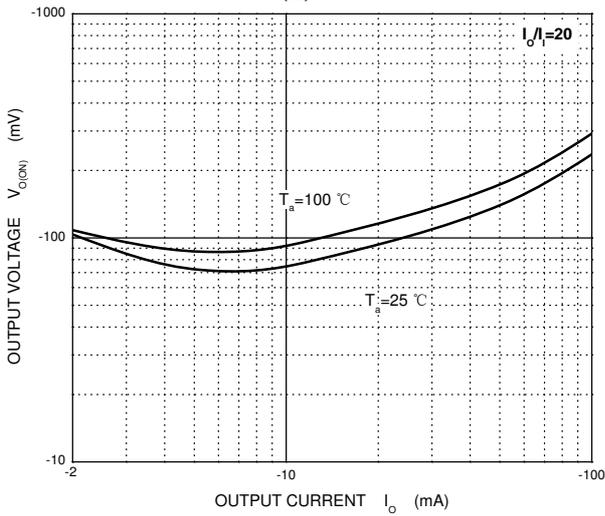
ON Characteristics



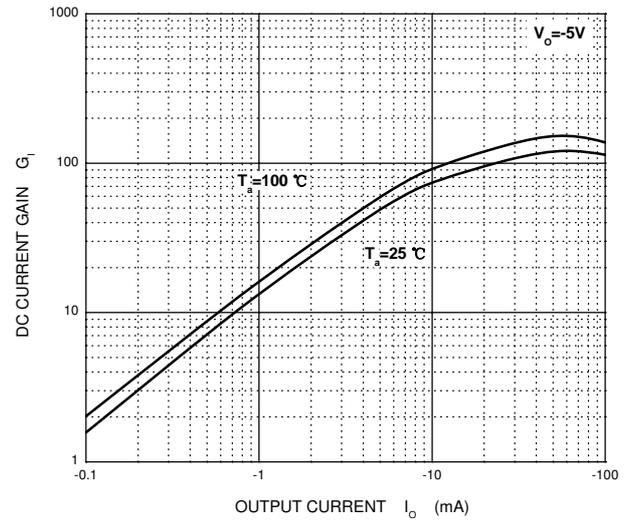
OFF Characteristics



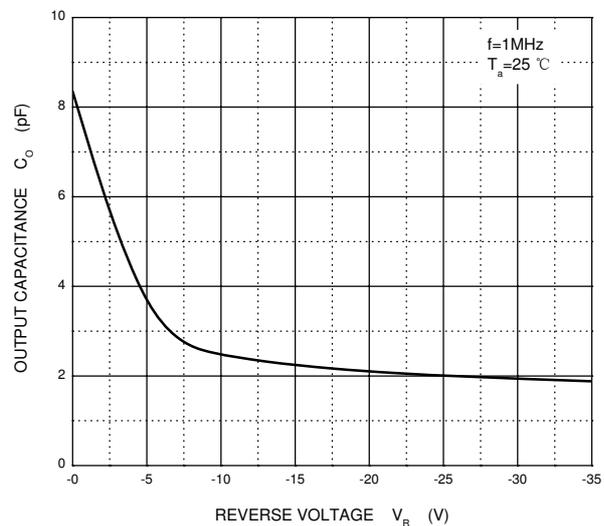
$V_{o(ON)}$  —  $I_o$



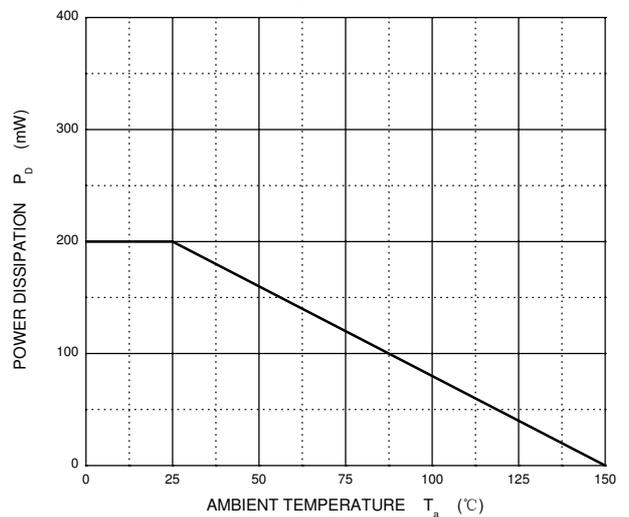
$G_1$  —  $I_o$



$C_o$  —  $V_R$



$P_D$  —  $T_a$





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### Ordering Information :

Device	Packing
Part Number-TP	Tape & Reel; 3 Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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