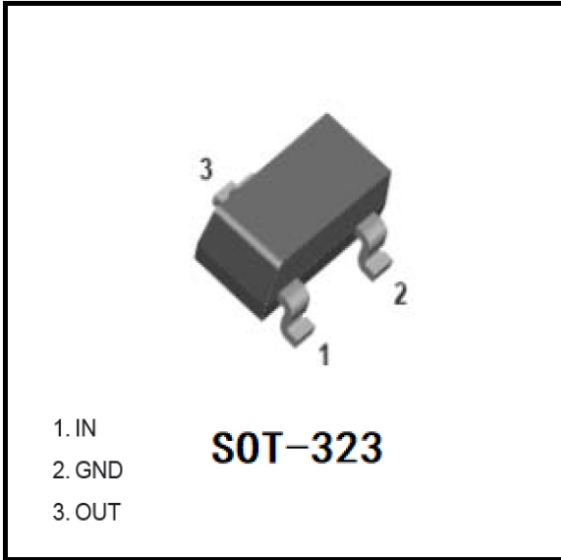


## Digital Transistors (Built-in Resistors)



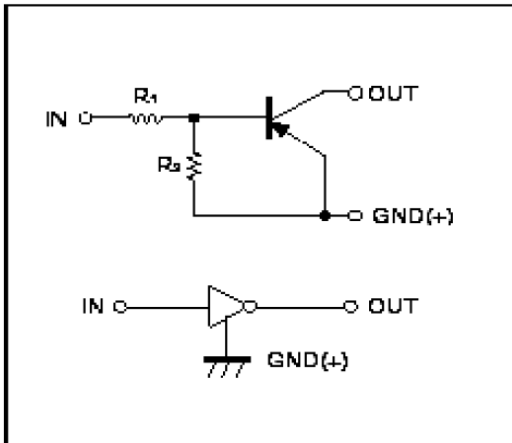
### Features

- 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
- Surface mount package ideally Suited for Automatic Insertion
- PNP

### Mechanical Data

- **Package:** SOT-323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 33

### Equivalent circuit



### Maximum Ratings (Ta=25°C Unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Supply Voltage	VCC	V		-50
Input Voltage	VIN	V		-20 to +7
Output Current	IO	mA		-100
Power Dissipation	PD	mW		200
Junction Temperature	Tj	°C		150
Storage Temperature	TSTG	°C		-55 to +150



# DTA143XUA

## ■ Electrical Characteristics (Ta=25°C unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Input voltage	$V_{I(off)}$	V	$V_{CC}=-5V, I_c=-100\mu A$	-0.3		
	$V_{I(on)}$	V	$V_o=-0.3V, I_c=-20mA$			-2.5
Output voltage	$V_{O(on)}$	V	$I_o / I_i = -10mA / -0.5 mA$			-0.3
Input current	$I_I$	mA	$V_I = -5V$			-1.8
Output current	$I_{O(off)}$	$\mu A$	$V_{CC} = -50V, V_i = 0$			-0.5
DC current gain	$G_I$		$V_o = -5V, I_o = -10mA$	30		
Input resistance	$R_1$	$k\Omega$		3.29	4.7	6.11
Resistance ratio	$R_2/R_1$			1.7	2.1	2.6
Transition frequency	$f_T$	MHz	$V_{CE} = -10V, I_E = 5mA, f = 100MHz$		250	

## ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DTA143XUA	F2	Approximate 0.009	3000	30000	120000	7" reel

## ■ Characteristics (Typical)

Fig. 1 - DC Current Gain Characteristics

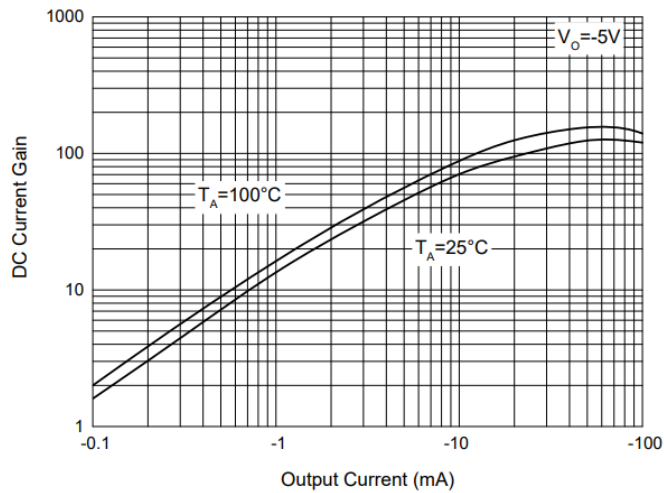


Fig. 2 - Input Voltage (on) Characteristics

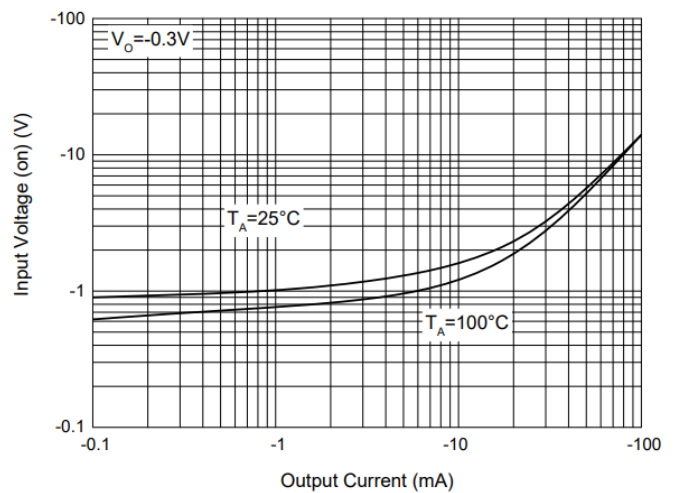


Fig. 3 - Input Voltage (off) Characteristics

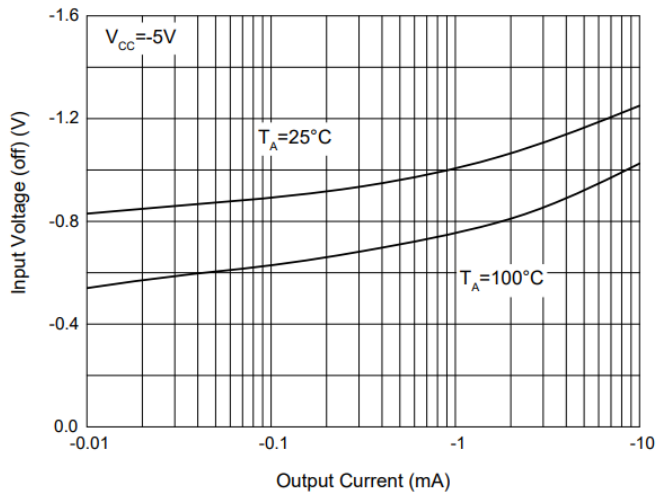
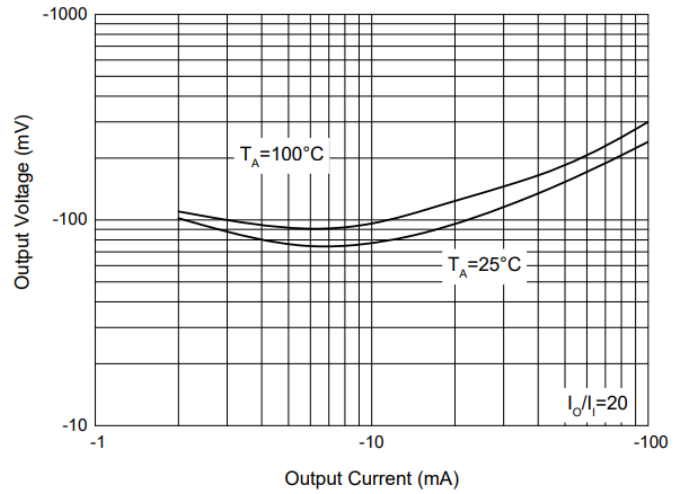
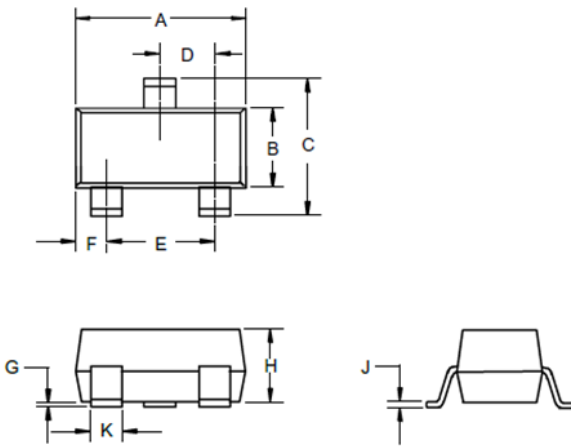


Fig. 4 - Output Voltage Characteristics

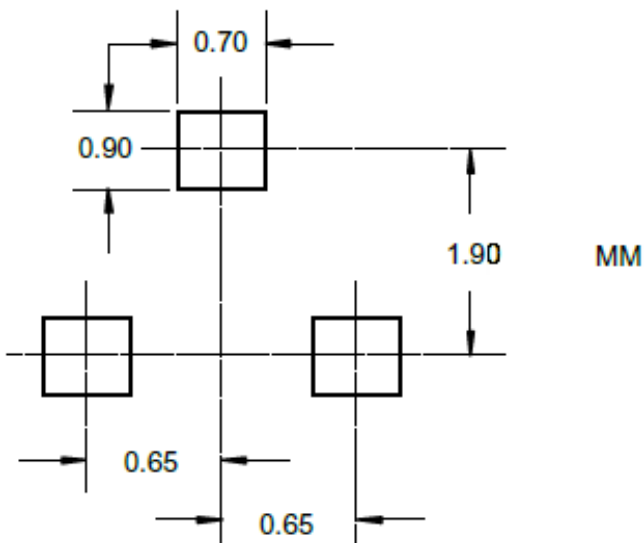


## ■SOT-323 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026Nominal		0.65Nominal		
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.039	0.90	1.00	
J	0.004	0.010	0.10	0.250	
K	0.006	0.016	0.15	0.40	

## ■SOT-323Suggested Pad Layout





## DTA143XUA

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