DTA123JU3 HZG

PNP -100mA -50V Digital Transistor (Bias Resistor Built-in Transistor)

Datasheet

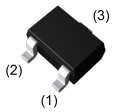
AEC-Q101 Qualified

Parameter	Value
V_{CC}	-50V
$I_{C(MAX.)}$	-100mA
R_1	2.2kΩ
R_2	47kΩ

●Outline

SOT-323

SC-70

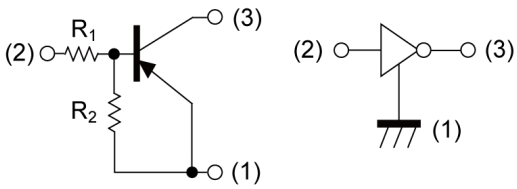


(UMT3)

●Features

1) Built-In Biasing Resistors
2) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see inner circuit) .
3) Only the on/off conditions need to be set for operation, making the circuit design easy.
4) Complementary NPN Types: DTC123JU3 HZG

●Inner circuit



(1) GND (+) (EMITTER)
(2) IN (BASE)
(3) OUT (COLLECTOR)

●Application

INVERTER, INTERFACE, DRIVER

●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
DTA123JU3 HZG	SOT-323 (UMT3)	2021	T106	180	8	3000	132

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●Absolute maximum ratings (T_a = 25°C)

Parameter	Symbol	Values	Unit
Supply voltage	V_{CC}	-50	V
Input voltage	V_{IN}	-12 to 5	V
Output current	I_O	-100	mA
Collector current	$I_{C(MAX)}$*1	-100	mA
Power dissipation	P_D*2	200	mW
Junction temperature	T_j	150	℃
Range of storage temperature	T_{stg}	-55 to +150	℃

●Electrical characteristics (T_a = 25°C)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Input voltage	$V_{I(off)}$	V_{CC} = -5V, I_O = -100μA	-	-	-0.5	V
	$V_{I(on)}$	V_O = -0.3V, I_O = -5mA	-1.1	-	-	
Output voltage	$V_{O(on)}$	I_O = -5mA, I_I = -0.25mA	-	-100	-300	mV
Input current	I_I	V_I = -5V	-	-	-3.6	mA
Output current	$I_{O(off)}$	V_{CC} = -50V, V_I = 0V	-	-	-500	nA
DC current gain	G_I	V_O = -5V, I_O = -10mA	80	-	-	-
Input resistance	R_1	-	1.54	2.2	2.86	kΩ
Resistance ratio	R_2/R_1	-	17	21	26	-
Transition frequency	f_T*1	V_{CE} = -10V, I_E = 5mA, f = 100MHz	-	250	-	MHz

*1 Characteristics of built-in transistor

*2 Each terminal mounted on a reference land.

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●Electrical characteristic curves (T_a =25°C)

Fig.1 Input voltage vs. output current (ON characteristics)

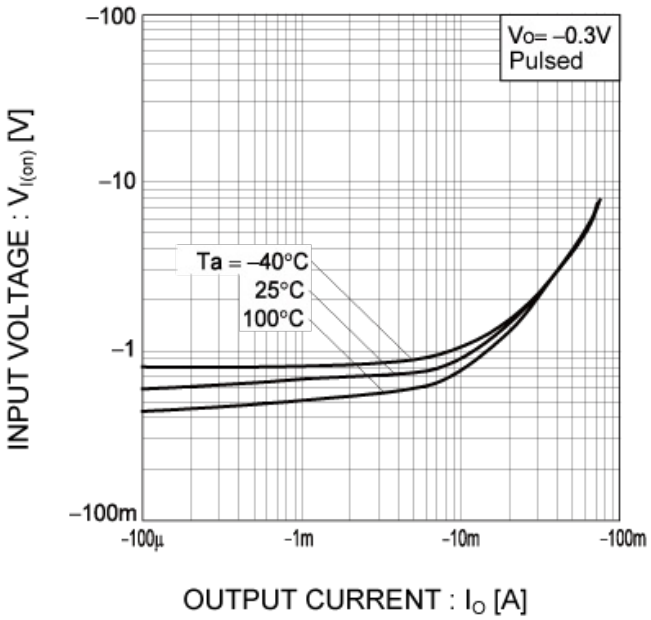


Fig.2 Output current vs. input voltage (OFF characteristics)

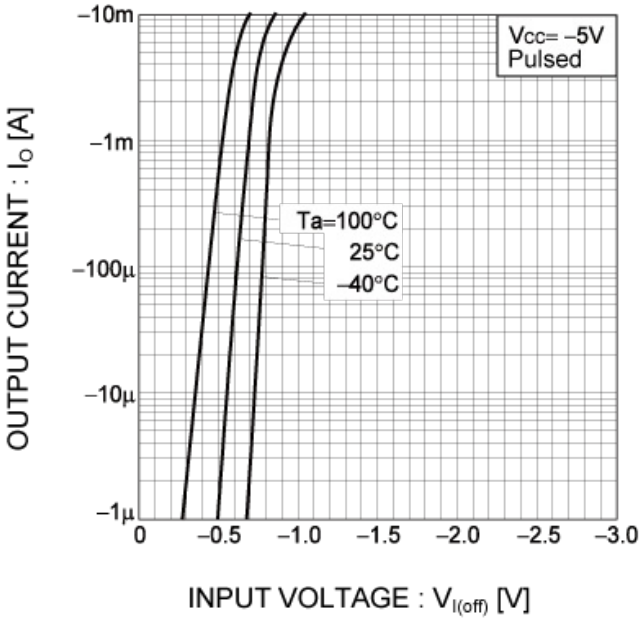


Fig.3 Output current vs. output voltage

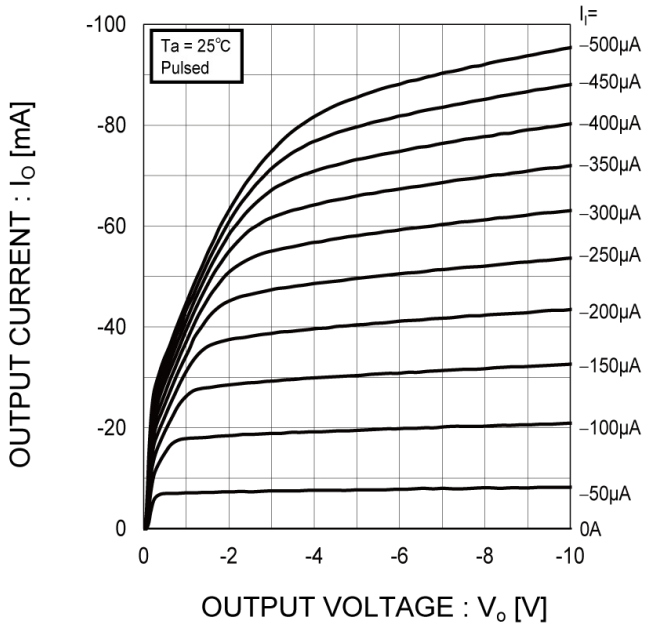
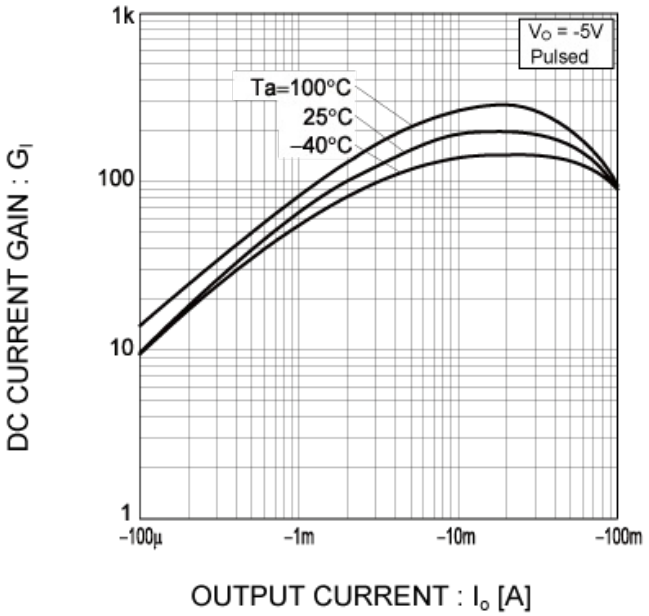


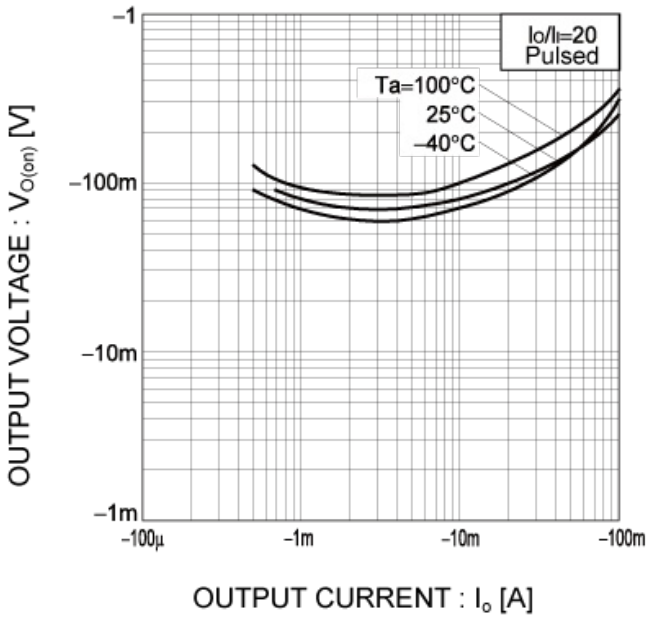
Fig.4 DC current gain vs. output current



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● **Electrical characteristic curves** (T_a =25°C)

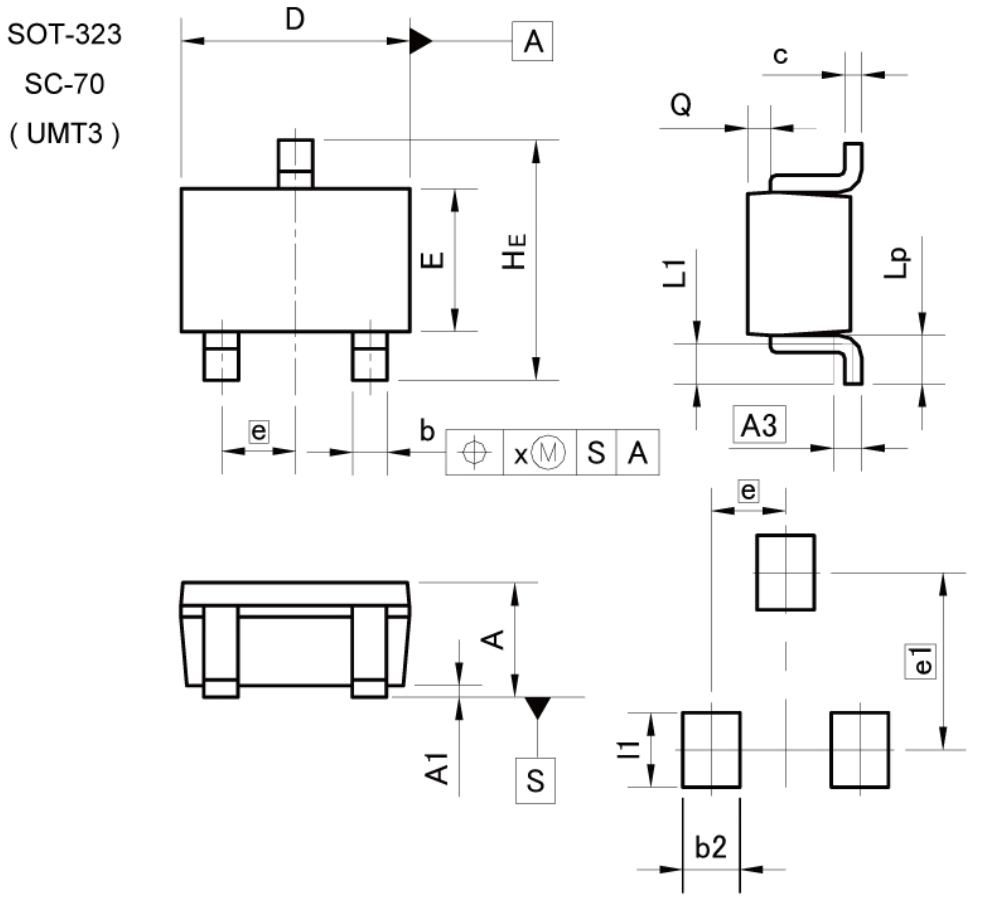
Fig.5 Output voltage vs. output current



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●Dimensions

SOT-323
SC-70
(UMT3)



Pattern of terminal position areas
[Not a pattern of soldering pads]

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.00	0.031	0.039
A1	0.00	0.10	0.000	0.004
A3	0.25		0.010	
b	0.25	0.40	0.010	0.016
c	0.10	0.20	0.004	0.008
D	1.90	2.10	0.075	0.083
E	1.15	1.35	0.045	0.053
e	0.65		0.026	
HE	2.00	2.20	0.079	0.087
L1	0.10	0.40	0.004	0.016
Lp	0.25	0.55	0.010	0.022
Q	0.10	0.30	0.004	0.012
x	–	0.10	–	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	–	0.50	–	0.020
e1	1.55		0.061	
l1	–	0.65	–	0.026

Dimension in mm/inches

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(Note1) Medical Equipment Classification of the Specific Applications

JAPAN	USA	EU	CHINA
CLASSⅢ	CLASSⅢ	CLASSⅡb	CLASSⅢ
CLASSⅣ		CLASSⅢ	

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   [b] Use of our Products outdoors or in places where the Products are exposed to direct sunlight or dust
   [c] Use of our Products in places where the Products are exposed to sea wind or corrosive gases, including Cl_2, H_2S, NH_3, SO_2, and NO_2
   [d] Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
   [e] Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
   [f] Sealing or coating our Products with resin or other coating materials
   [g] Use of our Products without cleaning residue of flux (even if you use no-clean type fluxes, cleaning residue of flux is recommended); or Washing our Products by using water or water-soluble cleaning agents for cleaning residue after soldering
   [h] Use of the Products in places subject to dew condensation

4. The Products are not subject to radiation-proof design.

5. Please verify and confirm characteristics of the final or mounted products in using the Products.

6. In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse. is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.

7. De-rate Power Dissipation depending on ambient temperature. When used in sealed area, confirm that it is the use in the range that does not exceed the maximum junction temperature.

8. Confirm that operation temperature is within the specified range described in the product specification.

9. ROHM shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.

Precaution for Mounting / Circuit board design

1. When a highly active halogenous (chlorine, bromine, etc.) flux is used, the residue of flux may negatively affect product performance and reliability.

2. In principle, the reflow soldering method must be used on a surface-mount products, the flow soldering method must be used on a through hole mount products. If the flow soldering method is preferred on a surface-mount products, please consult with the ROHM representative in advance.

For details, please refer to ROHM Mounting specification

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This Product is electrostatic sensitive product, which may be damaged due to electrostatic discharge. Please take proper caution in your manufacturing process and storage so that voltage exceeding the Products maximum rating will not be applied to Products. Please take special care under dry condition (e.g. Grounding of human body / equipment / solder iron, isolation from charged objects, setting of Ionizer, friction prevention and temperature / humidity control).

Precaution for Storage / Transportation

1. Product performance and soldered connections may deteriorate if the Products are stored in the places where:
   [a] the Products are exposed to sea winds or corrosive gases, including Cl2, H2S, NH3, SO2, and NO2
   [b] the temperature or humidity exceeds those recommended by ROHM
   [c] the Products are exposed to direct sunshine or condensation
   [d] the Products are exposed to high Electrostatic

2. Even under ROHM recommended storage condition, solderability of products out of recommended storage time period may be degraded. It is strongly recommended to confirm solderability before using Products of which storage time is exceeding the recommended storage time period.

3. Store / transport cartons in the correct direction, which is indicated on a carton with a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.

4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

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DTA123JU3HZG - Web Page

Part Number	DTA123JU3HZG
Package	UMT3
Unit Quantity	3000
Minimum Package Quantity	3000
Packing Type	Taping
Constitution Materials List	inquiry
RoHS	Yes

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

ROHM:

BD00GC0WEFJ-E2 BD9702T-V5 RB060MM-30TR BR24G08FJ-5E2 BR25G128FVM-5ATR
RB-D62Q1367TB32 SMLK28WBNCW1 BD5291GWL-E2 BD90640UEFJ-CE2 ESR18EZPF6R80
LTR100LJZPFSR036 RBR5L40ADDTE25 RRH050P03GZETB SML-D12M8WT86 YQ8RSM10SDTL1
RB162LAM-60TR RGW50TK65DGVC11 YQ3RSM10SDTL1 BD9G201UEFJ-ME2 BU18TD2WNVX-TL
ESR18EZPF1302 ESR25JZPF3R00 2SD1782KT146R BD2232G-GTR ESR10EZPF2004 ESR18EZPF2002
R6524KNX3C16 YQ3RSM10SDTFTL1 BD14220G-CTR 2SD2701TL