

# BRDTA114EUAQ

Rev.A Nov.-2024

## / Descriptions

SOT-323 PNP

Silicon PNP Digital Transistor in a SOT-323 Plastic Package.

## / Features

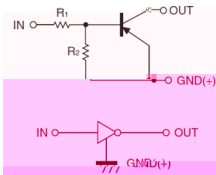
AEC-Q101

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

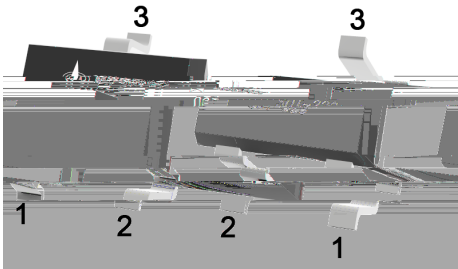
## / Applications

Switching applications, interface circuit and driver circuit applications, Meet the stringent requirements of automotive applications.

## / Equivalent Circuit



## / Pinning



PIN1 IN      PIN 2 GND      PIN 3 OUT

## / hFE Classifications & Marking

Marking	Q14
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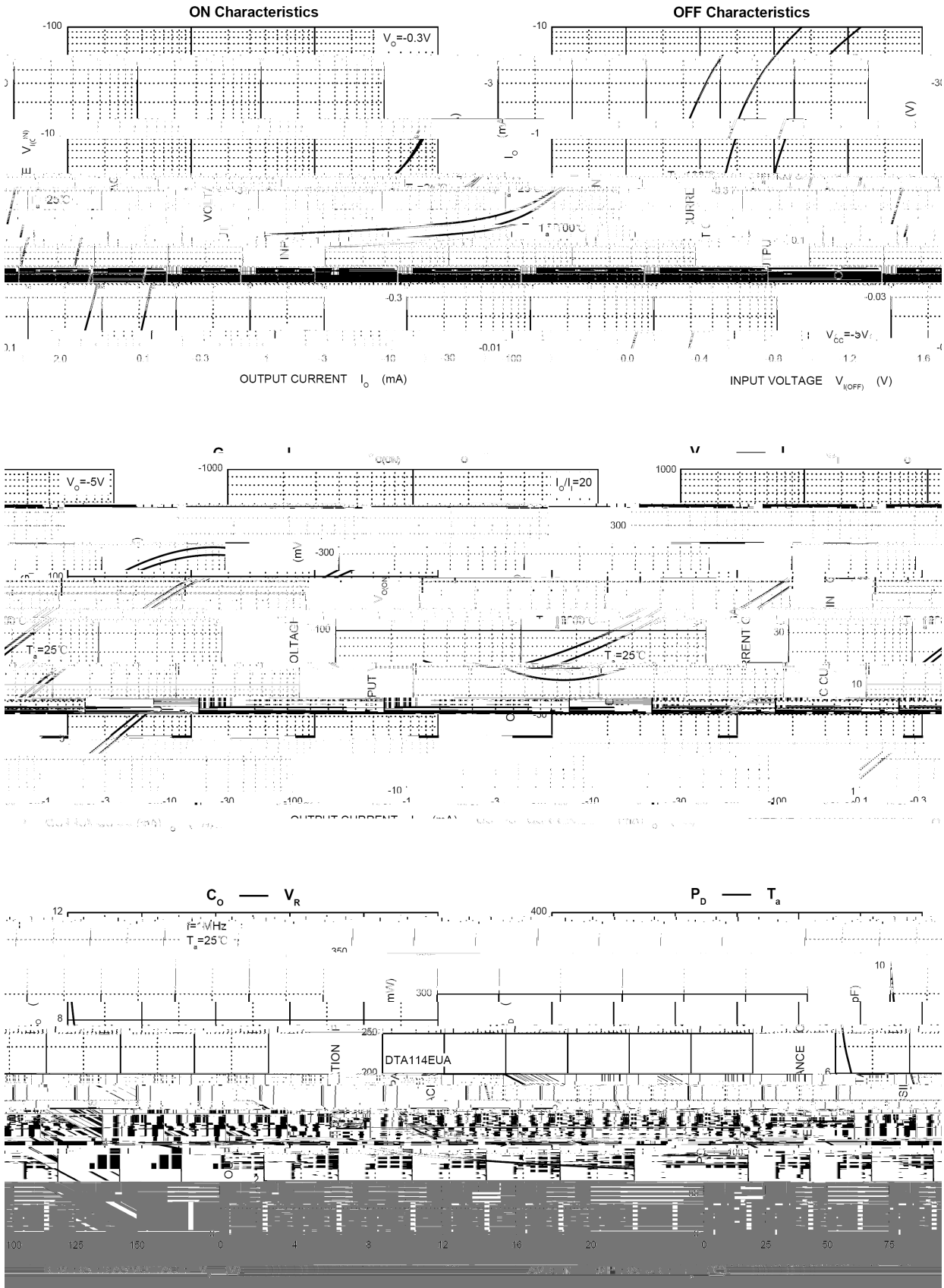
## / Absolute Maximum Ratings(Ta=25 )

Parameter	Symbol	Rating	Unit
Output Voltage	V <sub>CC</sub>	-50	V
Input Voltage	V <sub>IN</sub>	10	V
		-40	V
Output Current	I <sub>O</sub>	-50	mA
Peak Collector Current	I <sub>CM</sub>	-100	mA
Power Dissipation	P <sub>D</sub>	200	mW
Junction Temperature	T <sub>j</sub>	-55 150	
Storage Temperature Range	T <sub>stg</sub>	-55 150	

## / Electrical Characteristics(Ta=25 )

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage	V <sub>I(off)</sub>	V <sub>CC</sub> =-5.0V I <sub>O</sub> =-100μA	-0.5			V
	V <sub>I(on)</sub>	V <sub>O</sub> =-0.3V I <sub>O</sub> =-10mA			-3.0	V
Output Voltage	V <sub>O(on)</sub>	I <sub>O</sub> =-10 mA I <sub>I</sub> =-0.5mA			-0.3	V
Input Current	I <sub>I</sub>	V <sub>I</sub> =-5.0V			-0.88	mA
Output Cut-off Current	I <sub>O(off)</sub>	V <sub>CC</sub> =-50V V <sub>I</sub> =0V			-0.5	μA
DC Current Gain	G <sub>I</sub>	V <sub>O</sub> =-5.0V I <sub>O</sub> =-5.0mA	30			
Resistance1	R <sub>1</sub>		7	10	13	K
Resistance Ratio	R <sub>2</sub> /R <sub>1</sub>		0.8	1.0	1.2	
Transition Frequency	f <sub>T</sub>	V <sub>O</sub> =-10V I <sub>O</sub> =-5.0mA f=100MHz		250		MHz

**/ Electrical Characteristic Curve**

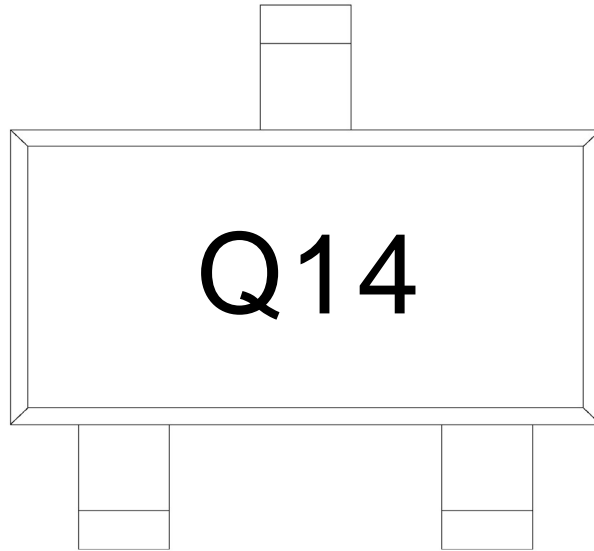


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DATA SHEET

**/ Marking Instructions**



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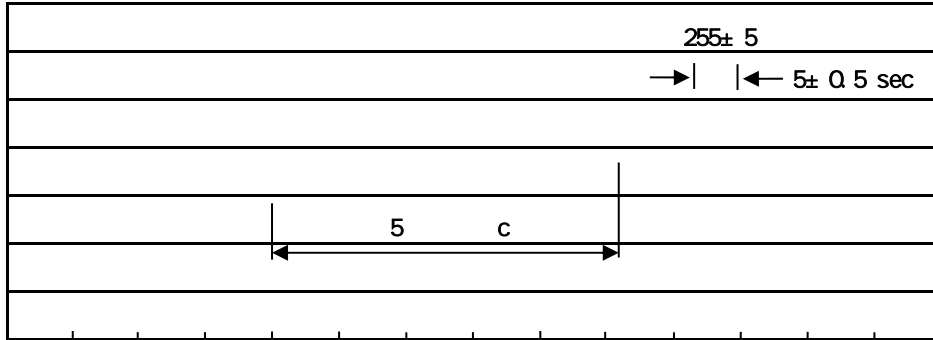
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Note:

Q: Automobile halogen-free product Code

14 Product Type Code

**( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



**Note:**

- 1            150 200            60 120sec;    1.Preheating:150~200 , Time:60~120sec.
- 2            255±5                    5±0.5sec;    2.Peak Temp.:255±5 , Duration:5±0.5sec.
- 3                            2 10 /sec.            3. Cooling Speed: 2~10 /sec.

**/ Resistance to Soldering Heat Test Conditions**

260±5                    10±1 sec.                    Temp.:260±5                    Time:10±1 sec

**/ Packaging SPEC.**

**/ REEL**

Package Type	Units					Dimension (unit mm <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-323	3,000	10	30,000	6	180,000	7 x8	180x120x180	390x385x205

**/ Notices**