

BRDTA114EUAQ

Rev.A Nov.-2024

/ Descriptions

SOT-323 PNP

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

/ Features

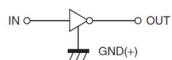
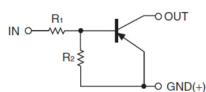
AEC-Q101

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.

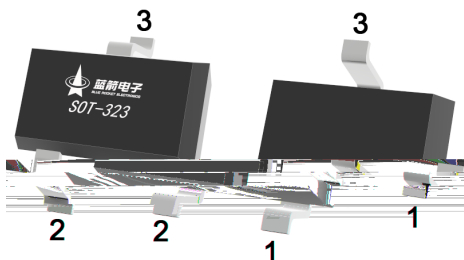
/ Applications

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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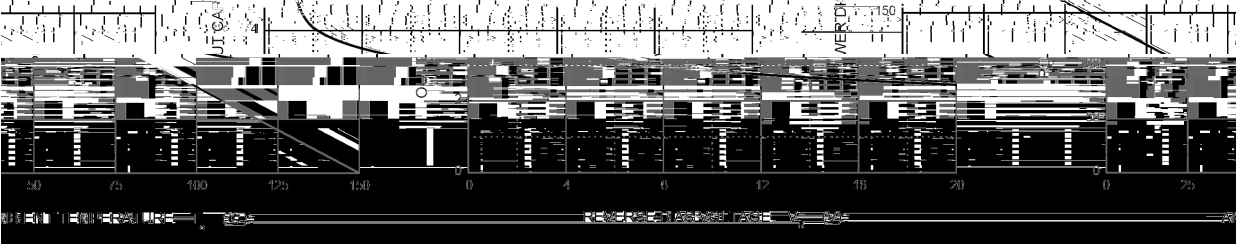
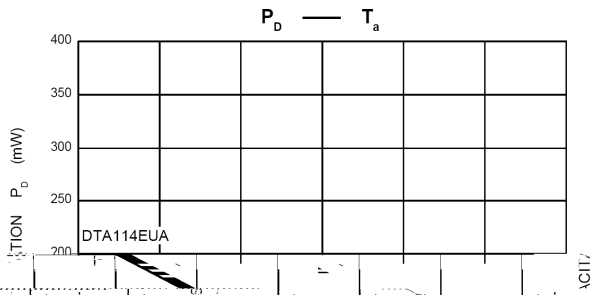
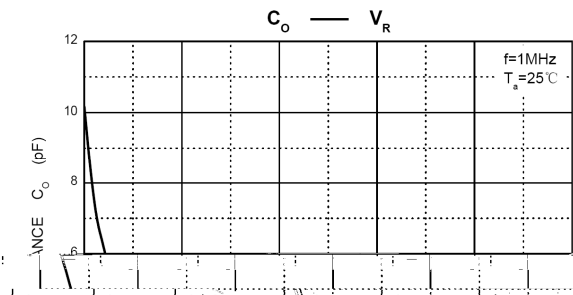
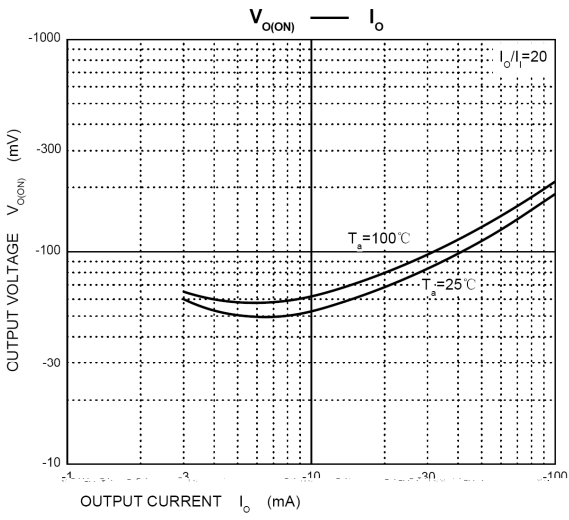
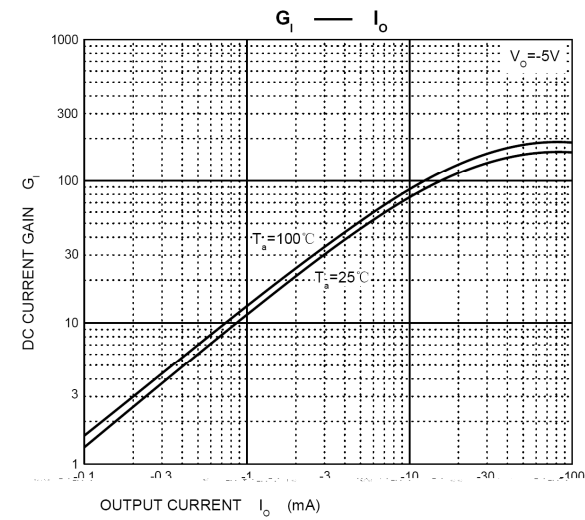
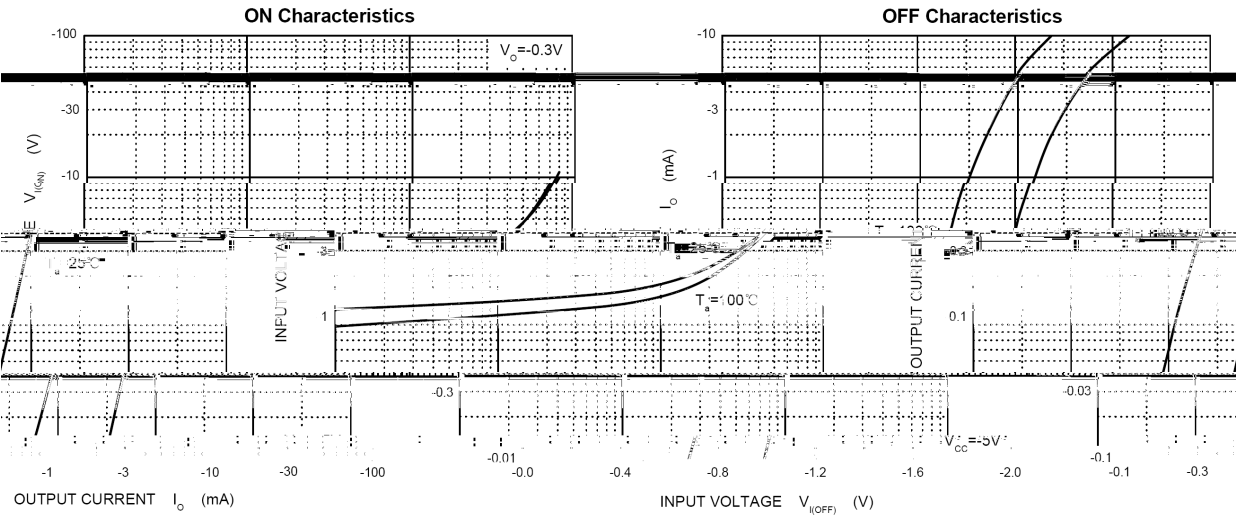
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Output Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	10	V
		-40	V
Output Current	I_O	-50	mA
Peak Collector Current	I_{CM}	-100	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_j	-55 150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics($T_a=25^\circ\text{C}$)

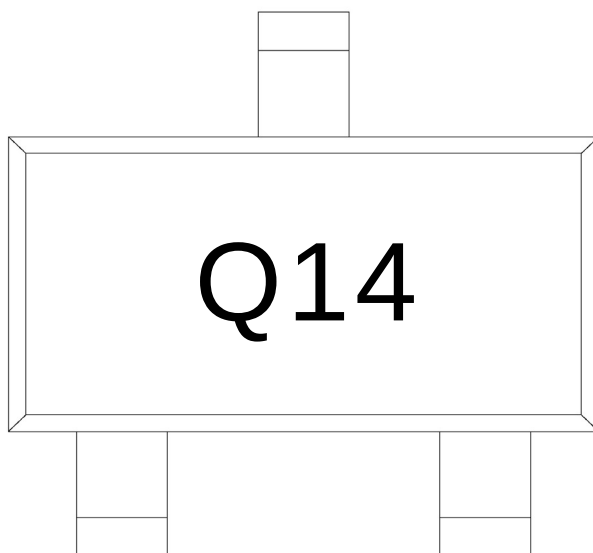
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage	$V_{I(off)}$	$V_{CC}=-5.0V$ $I_O=-100\mu A$	-0.5			V
	$V_{I(on)}$	$V_O=-0.3V$ $I_O=-10mA$			-3.0	V
Output Voltage	$V_{O(on)}$	$I_O=-10\text{ mA}$ $I_I=-0.5mA$			-0.3	V
Input Current	I_I	$V_I=-5.0V$			-0.88	mA
Output Cut-off Current	$I_{O(off)}$	$V_{CC}=-50V$ $V_I=0V$			-0.5	μA
DC Current Gain	G_I	$V_O=-5.0V$ $I_O=-5.0mA$	30			
Resistance1	R_1		7	10	13	K Ω
Resistance Ratio	R_2/R_1		0.8	1.0	1.2	
Transition Frequency	f_T	$V_O=-10V$ $I_O=-5.0mA$ $f=100MHz$		250		MHz

/ Electrical Characteristic Curve





/ Marking Instructions



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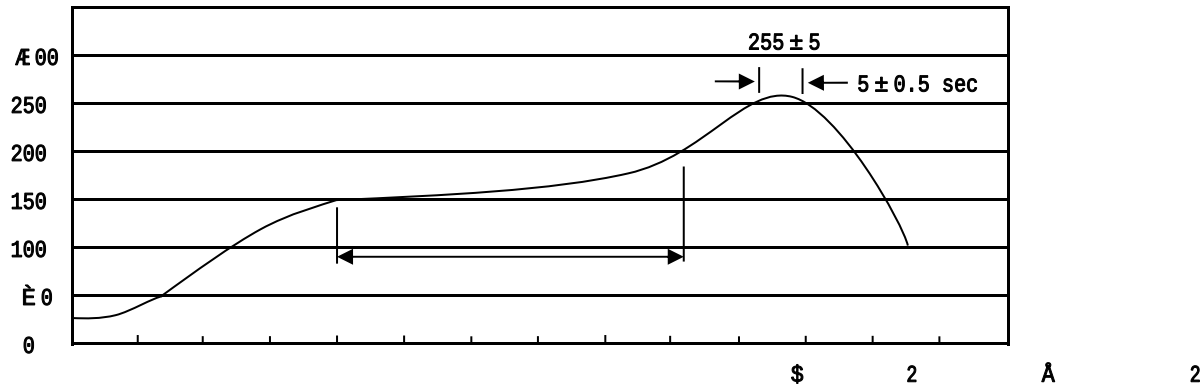
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Note:

Q: Automobile halogen-free product Code

14 Product Type Code

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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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-323	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices