

BRDTA114EUAQ

Rev.A Nov.-2024

/ Descriptions

SOT-323 PNP

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

/ Features

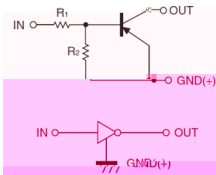
AEC-Q101

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.

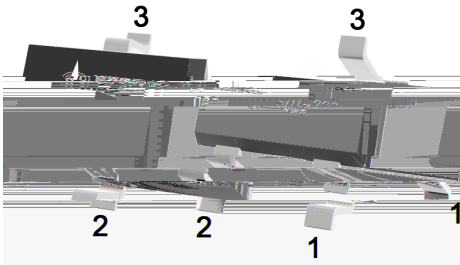
/ Applications

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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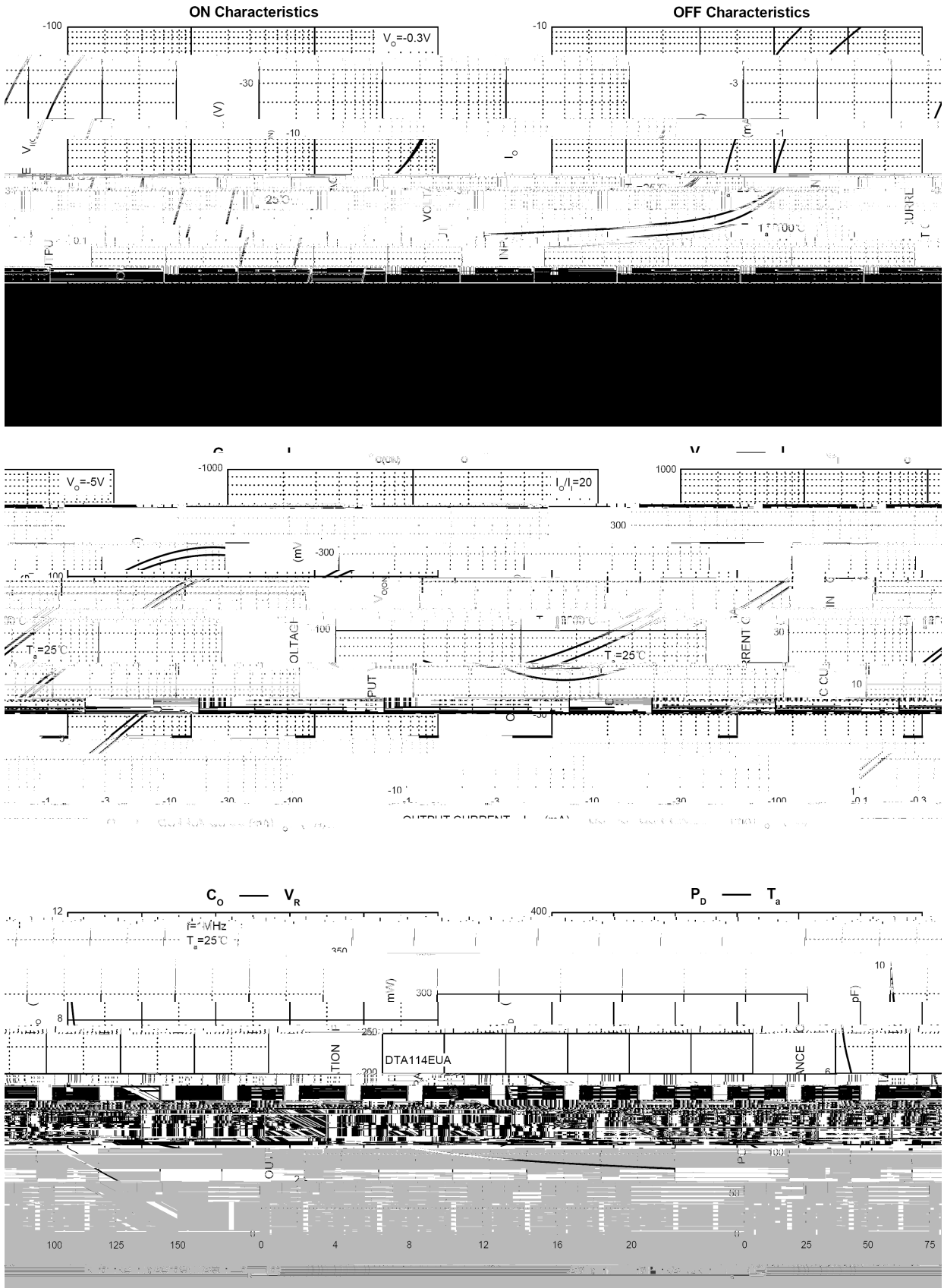
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Output Voltage	V _{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(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage	V _{I(off)}	V _{CC} =-5.0V I _O =-100μA	-0.5			V
	V _{I(on)}	V _O =-0.3V I _O =-10mA			-3.0	V
Output Voltage	V _{O(on)}	I _O =-10 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
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

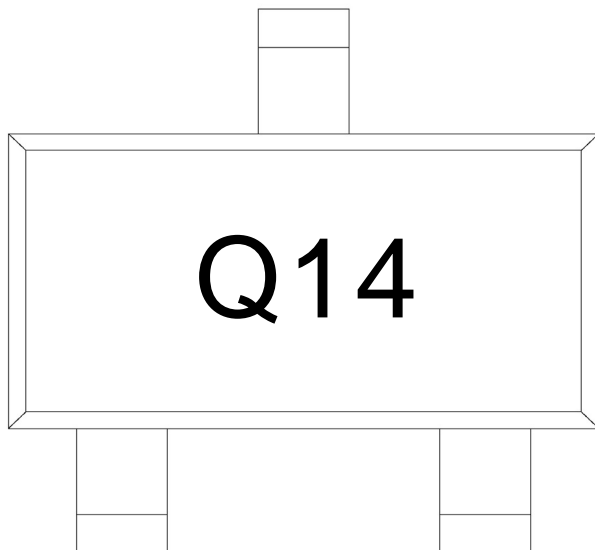


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DATA SHEET

/ Marking Instructions



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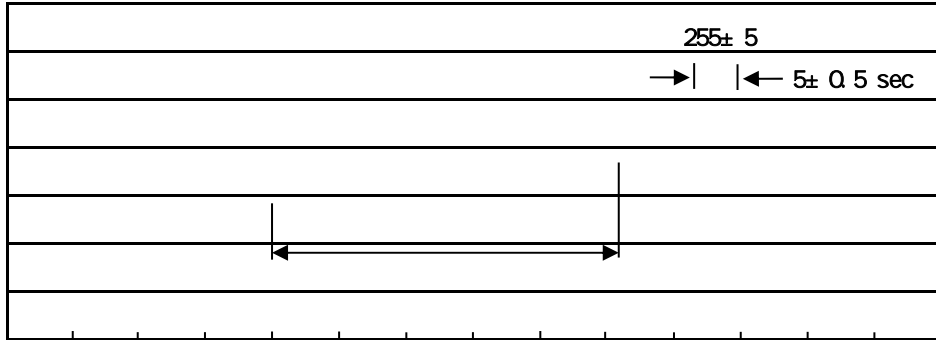
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Note:

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 ³)		
	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