

# BRDTA114EKAQ

Rev.A Jun.-2023

## / Descriptions

SOT-23                      PNP                      Silicon PNP Digital transistor in a SOT-23 Plastic Package.

## / Features

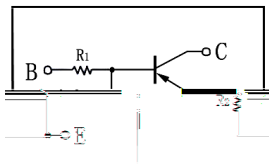
AEC-Q101

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.

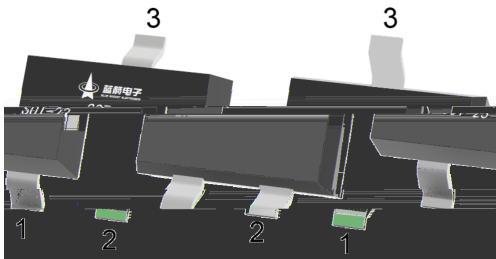
## / Applications

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

## / Equivalent Circuit



## / Pinning



PIN 1 Base

PIN 2 Emitter

PIN 3 Collector

## / hFE Classifications & Marking

Marking	Q14
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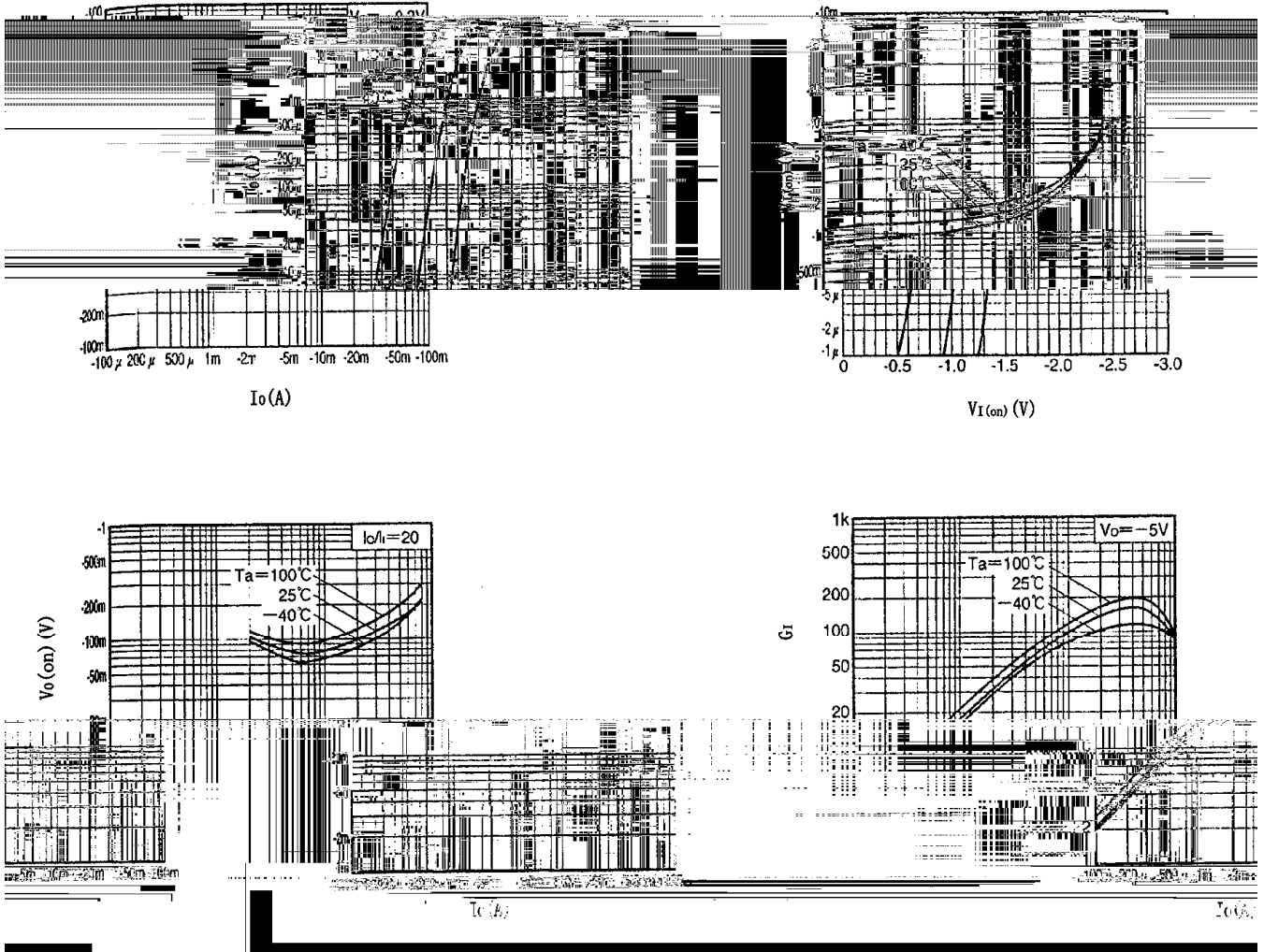
/ Absolute Maximum Ratings( $T_a=25$  )

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

/ Electrical Characteristics( $T_a=25$  )

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage(OFF)	$V_{I(off)}$	$V_{CC}=-5.0V$ $I_O=-100\mu A$			-0.5	V
Input Voltage(ON)	$V_{I(on)}$	$V_O=-0.3V$ $I_O=-10mA$	-3			V
Output Voltage	$V_{O(on)}$	$I_O=-10mA$ $I_I=-0.5mA$			-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	$\mu A$
DC Current Gain	$G_I$	$V_O=-5.0V$ $I_O=-5.0mA$	30			
Transition Frequency	$f_T$	$V_{CE}=-10V$ $I_C=-5.0mA$ $f=100MHz$		250		MHz
Resistance1	$R_1$		7	10	13	K
Resistance Ratio	$R_2/R_1$		0.8	1	1.2	

/ Electrical Characteristic Curve



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DATA SHEET

**/ Marking Instructions**



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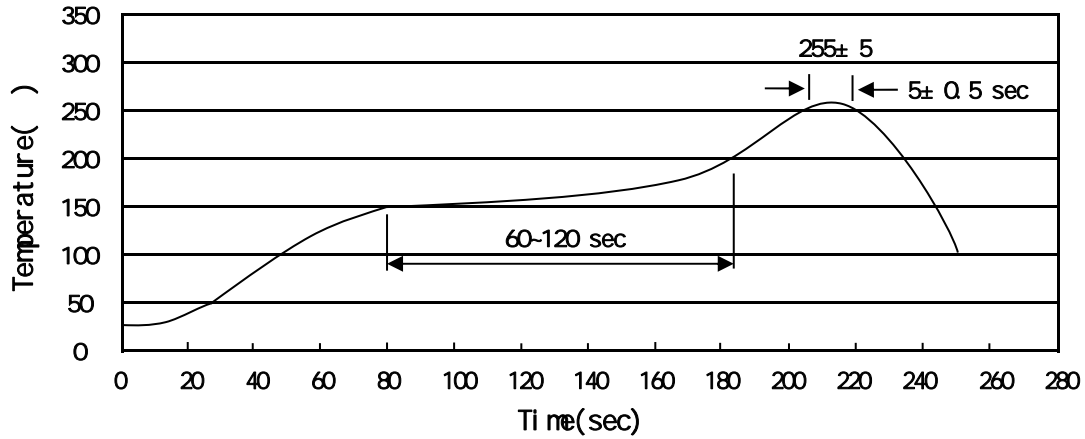
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Note:

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-23	3,000	10	30,000	6	180,000	7 x8	180x120x180	390x385x205

/ Notices