

BRDTC114EKAQ

Rev.A Aug.-2022



DATA SHEET

/ Revised record

F	2017-4				
G	2019-5-29	2 6	I _I Input Voltage Input Current		
H	2021-10-21	1			
A	2022-8-2	all	BR/Q AEC-Q101 , H Q 245±5°C 5±0.5sec 255±5°C 5± 0.5sec		

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DATA SHEET

SOT-23

NPN

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

AEC-Q101

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing

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

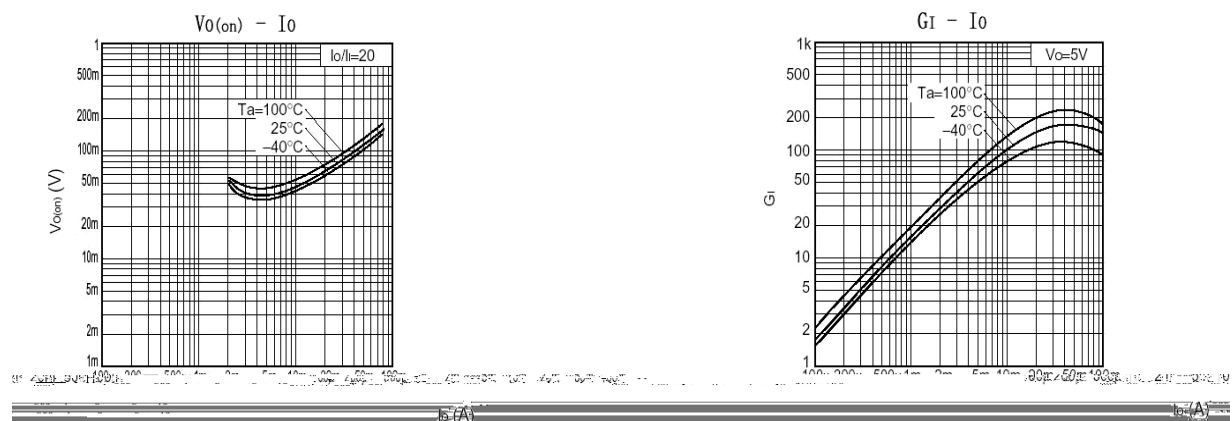
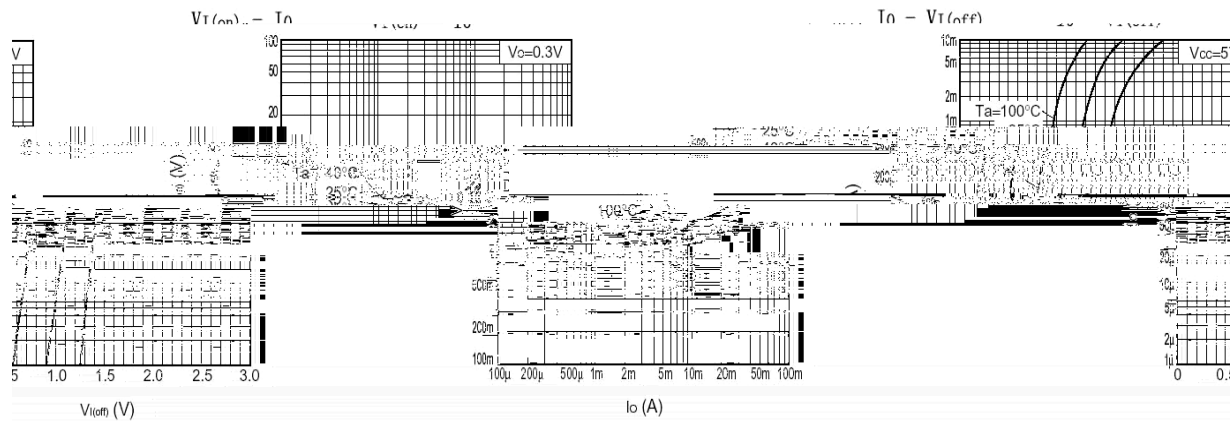
Parameter	Symbol	Rating	Unit
Output Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	40	V
		-10	V
Output Current	I_{CM}	100	mA
	I_O	50	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$

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

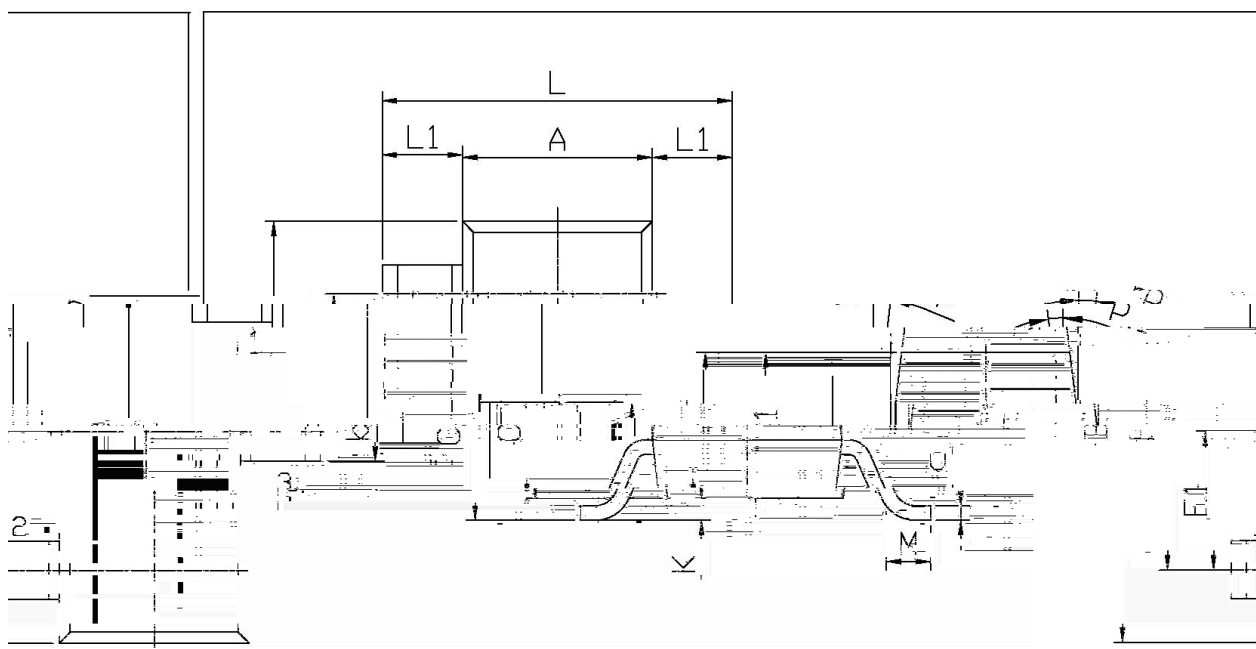
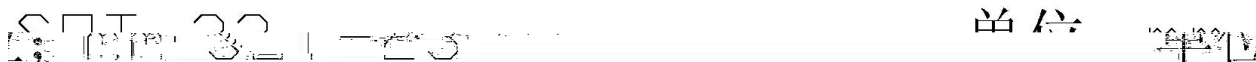
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage	$V_{I(off)}$	$V_{CC}=5.0\text{V}$ $I_O=100\mu\text{A}$			0.5	V
Input Voltage	$V_{I(on)}$	$V_O=0.3\text{V}$ $I_O=10\text{mA}$	3			V
Output Voltage	$V_{O(on)}$	$I_O=10\text{mA}$ $I_i=0.5\text{mA}$			0.3	V
Input Current	I_i	$V_i=5.0\text{V}$			0.88	mA
Output Cut-off Current	$I_{O(off)}$	$V_{CC}=50\text{V}$ $V_i=0\text{V}$			0.5	μA
DC Current Gain	G_I	$V_O=5.0\text{V}$ $I_O=5.0\text{mA}$	30			
Transition Frequency	f_T	$V_{CE}=10\text{V}$ $I_C=5.0\text{mA}$ $f=100\text{MHz}$		250		MHz
Resistance1	R_1		7	10	13	K Ω
Resistance Ratio	R_2/R_1		0.8	1	1.2	



/ Electrical Characteristic Curve



/ Package Dimensions



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10

Flow	Flow	Flow	Flow
1	3.85	1.05	0.1
6	0.35	0.55	0.1

/ Marking Instructions



Q

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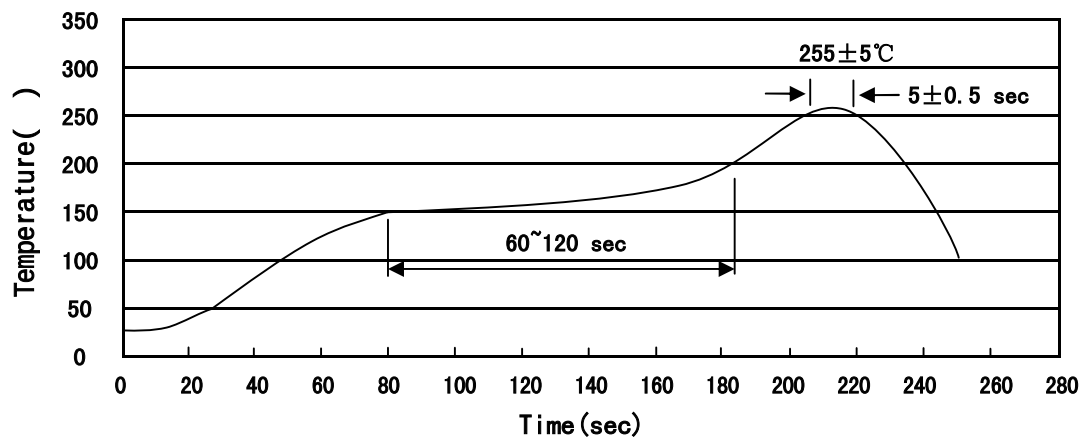
Note:

Q: Automobile halogen-free product Code

24 Product Type



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



Note:

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

/ Resistance to Soldering Heat Test Conditions

260±5°C

10±1 sec.

Temp.:260±5°C

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-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

/ Notices