

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		

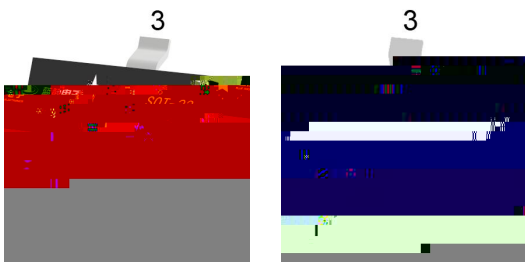
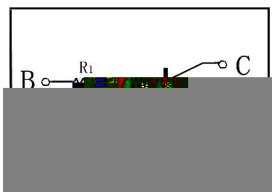
Rev.A Aug.-2022

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 process, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

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



PIN 1 Base

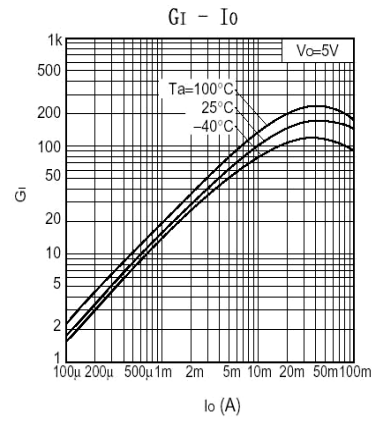
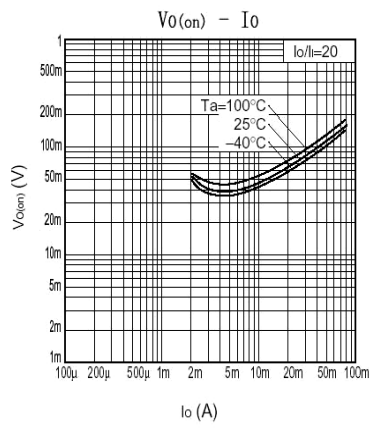
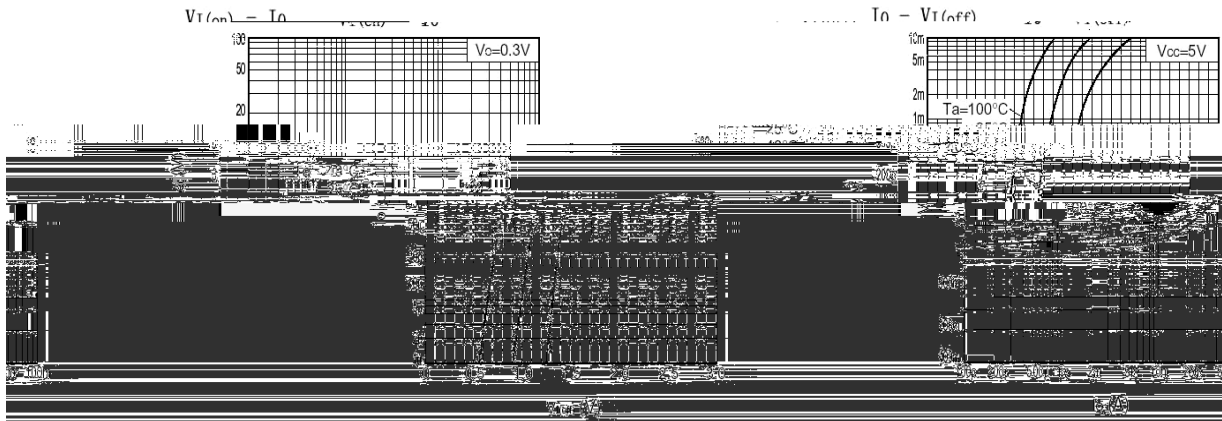
PIN 2 Emitter

PIN 3 Collector

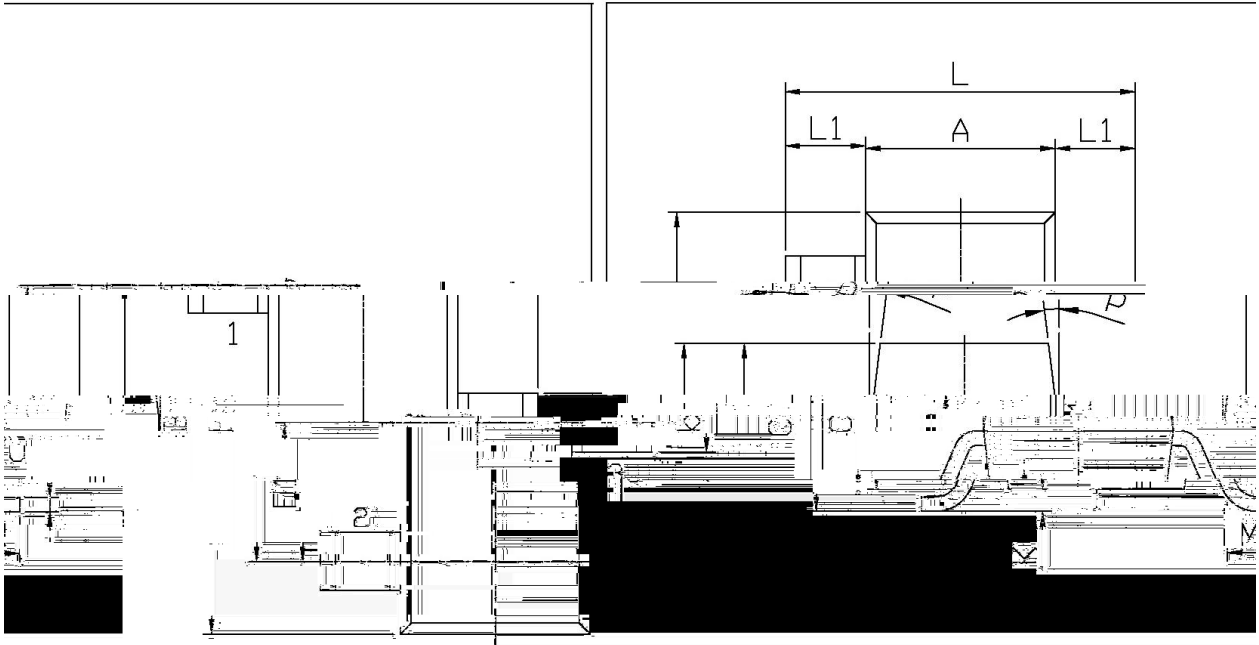
Marking	Q24
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Parameter	Symbol	Rating	Unit
Output Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	40	V
		-10	V
Output Current	I_{CM}	100	mA
	I_O	50	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°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
Input Voltage	$V_{I(on)}$	$V_O=0.3V$ $I_O=10mA$	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	μA
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	



单位: 毫米 (Unit: mm)



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
E1	0.85	1.05	P	7°	
b	0.35	0.55			



Q

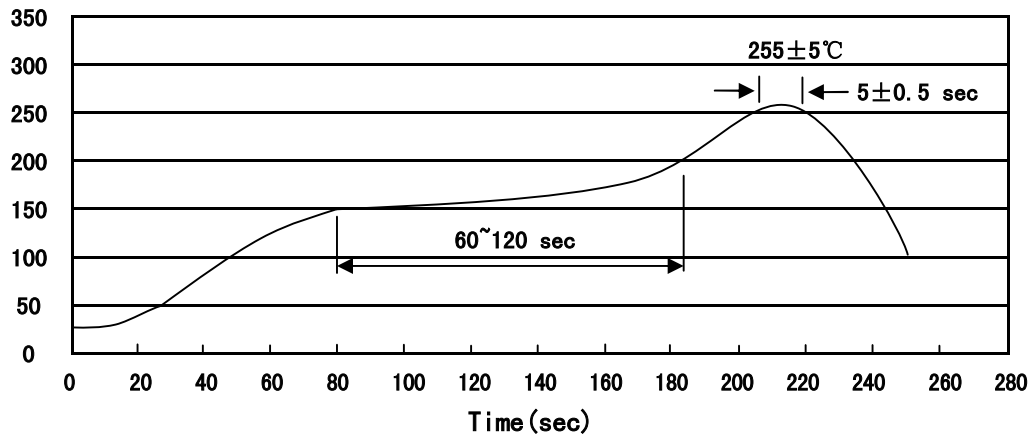
24

Note:

Q: Automobile halogen-free product Code

24 Product Type

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

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

260±5°C

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

/ 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" x8	180x120x180	390x385x205