

Rev.A Mar.-2023

SOT-23

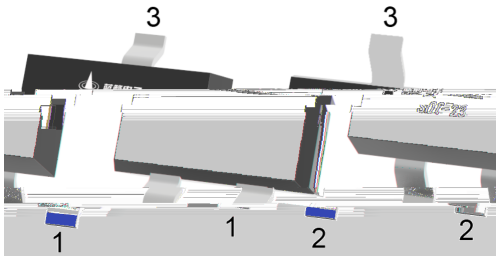
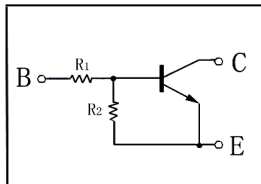
NPN

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



PIN 1 Base

PIN 2 Emitter

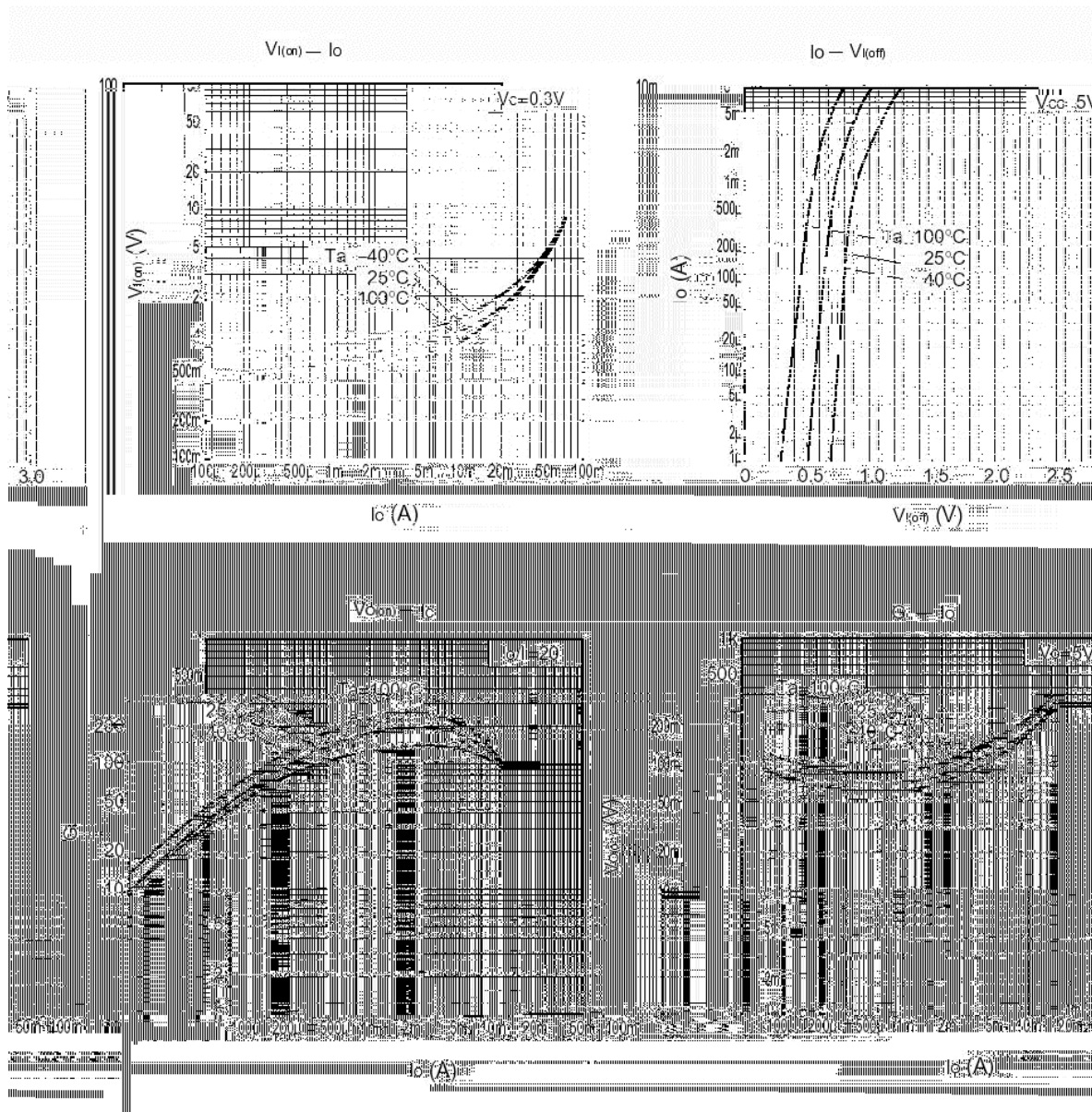
PIN 3 Collector

Marking

QE23

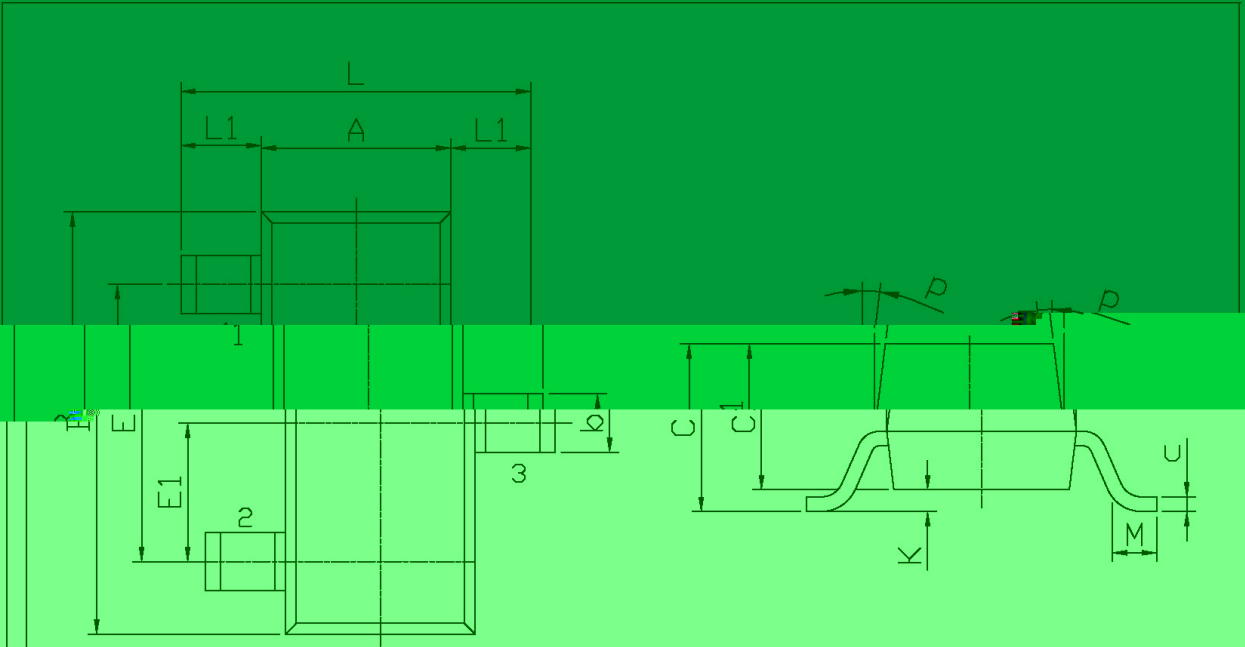
Parameter	Symbol	Rating	Unit
Output Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	30	V
		-5.0	V
Output Current	I_O	100	mA
	I_C	100	mA
Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 150	°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage(OFF)	$V_{I(off)}$	$V_{CC}=5.0V$ $I_O=100\mu A$			0.5	V
Input Voltage(ON)	$V_{I(on)}$	$V_O=0.3V$ $I_O=5.0mA$	1.3			V
Output Voltage	$V_{O(on)}$	$I_O=5.0mA$ $I_I=0.25mA$		0.1	0.3	V
Input Current	I_I	$V_I=5.0V$			1.8	mA
Output Cut-off Current	$I_{O(off)}$	$V_{CC}=50V$ $V_I=0V$			0.5	μA
DC Current Gain	G_I	$V_O=5.0V$ $I_O=10mA$	80			
Transition Frequency	f_T	$V_{CE}=10V$ $I_E=-5.0mA$ $f=100MHz$		250		MHz
Resistance1	R_1		3.29	4.7	6.11	K Ω
Resistance Ratio	R_2/R_1		8.0	10	12	



SOT-23

单位: 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	2.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			



Q

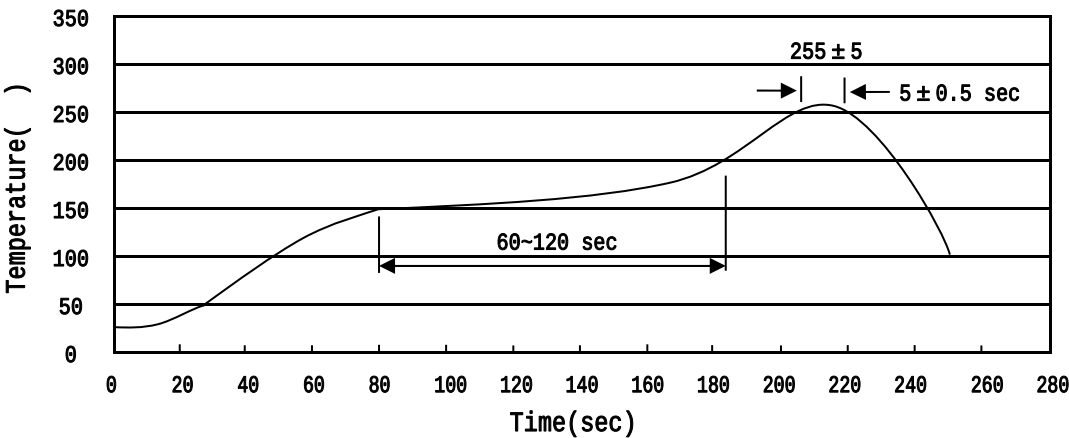
E23

Note:

Q: Automobile halogen-free product Code

E23 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.

260±5

10±1 sec.

Temp.:260±5℃

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205