

/ Descriptions

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

/ Features

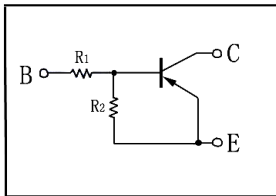
AEC-Q101

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process, high current, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

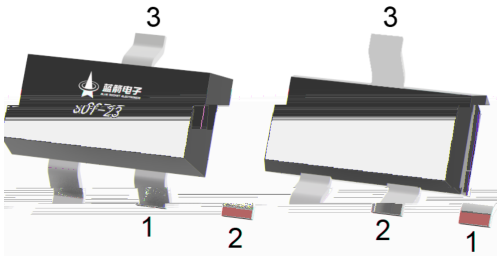
/ Applications

Switching, inverter circuit, 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	Q13
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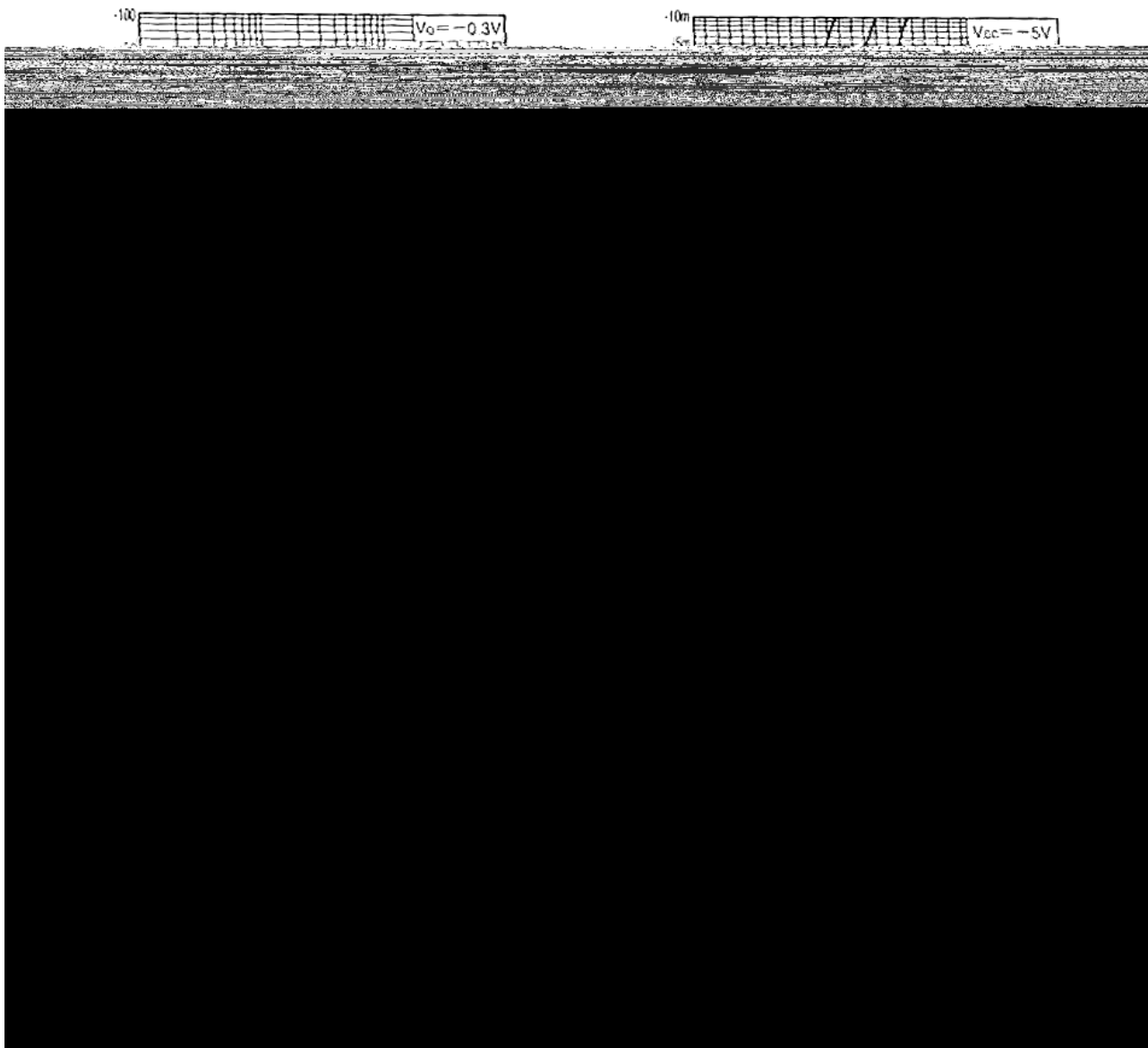
/ Absolute Maximum Ratings($T_a=25$)

Parameter	Symbol	Rating	Unit
Output Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-30	V
		10	V
Output Current	I_o	-100	mA
	$I_{C(MAX)}$	-100	mA
Power Dissipation	P_d	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	$V_{I(off)}$	$V_{CC}=-5.0V$ $I_o=-100\mu A$			-0.5	V
	$V_{I(on)}$	$V_o=-0.3V$ $I_o=-20mA$	-3.0			V
Output Voltage	$V_{O(on)}$	$I_o=-10mA$ $I_i=-0.5mA$		-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	$V_o=-5.0V$ $I_o=-10mA$	20			
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		0.8	1.0	1.2	

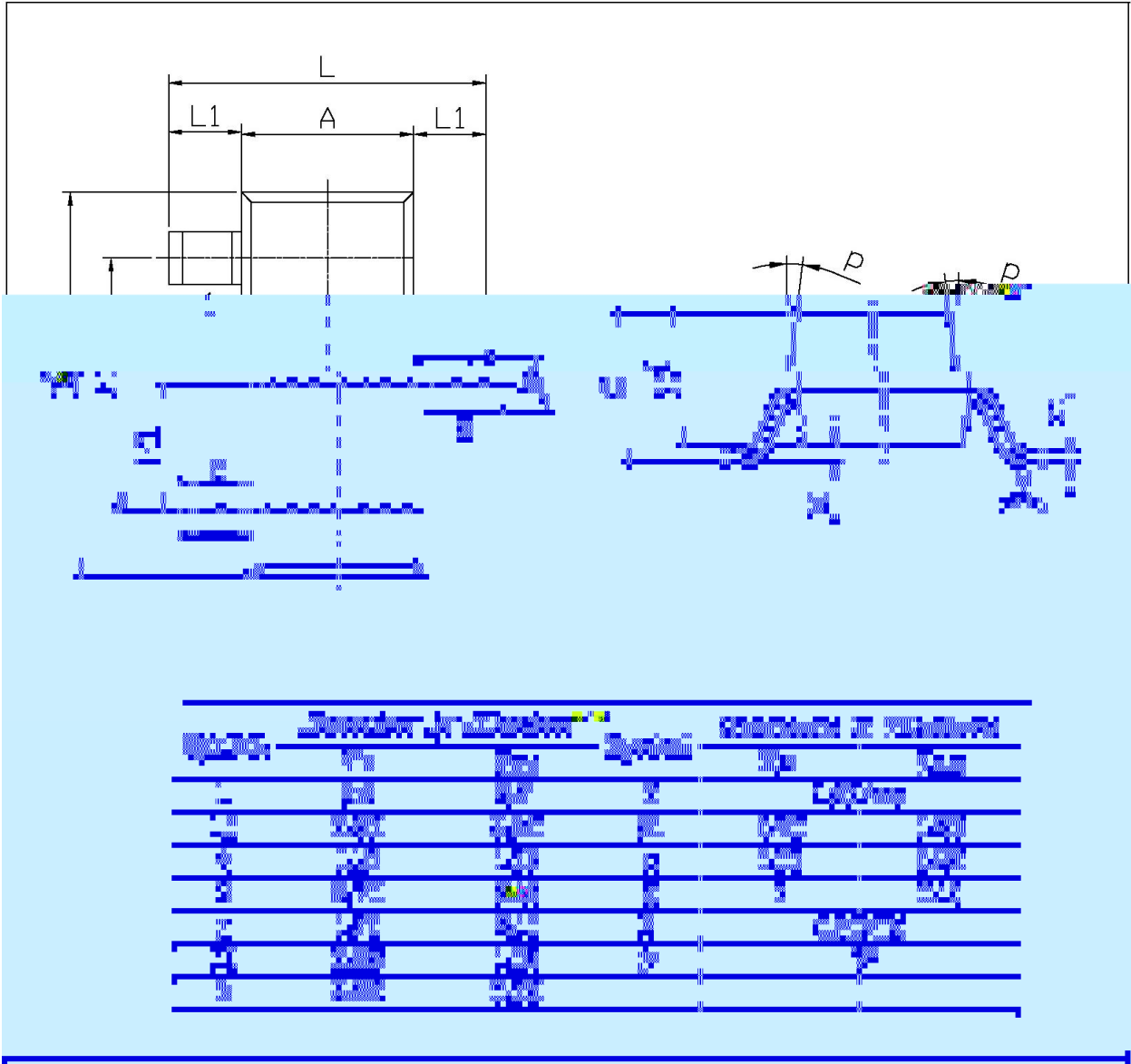
/ Electrical Characteristic Curve



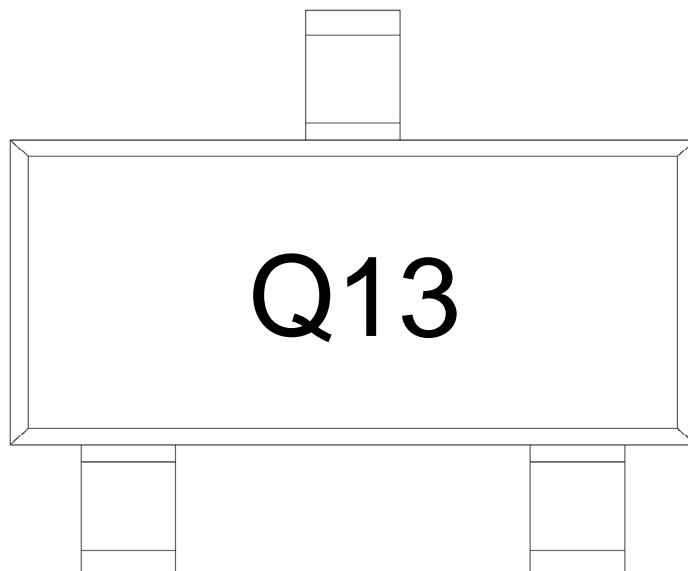
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



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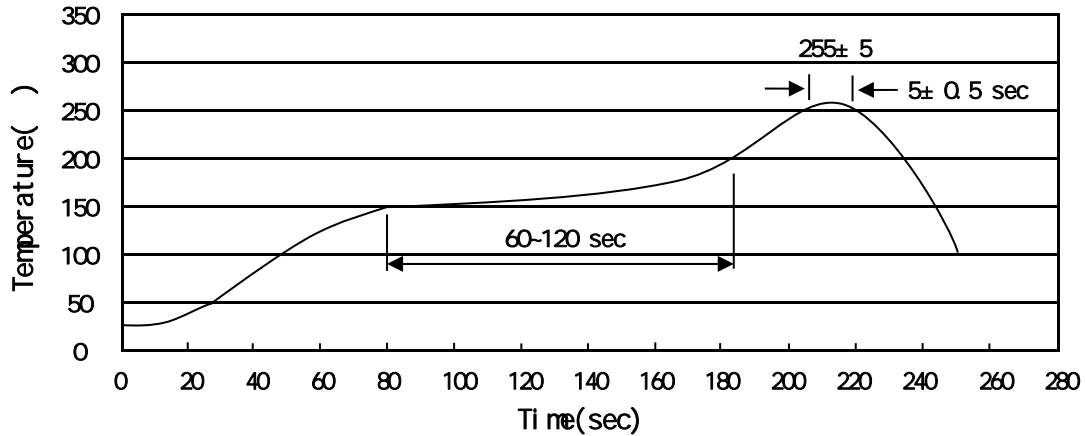
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Note:

Q: Automobile halogen-free product Code

13 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 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

/ Notices