

/ Descriptions

SOT-23

NPN

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

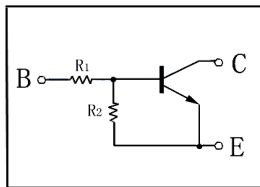
/ Features

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

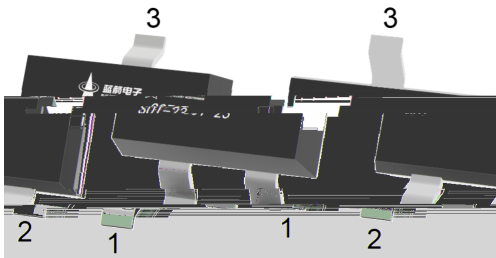
/ Applications

Switching, inverter circuit, interface circuit and driver circuit applications.

/ Equivalent Circuit



/ Pinning



PIN 1 Base

PIN 2 Emitter

PIN 3 Collector

/ h_{FE} Classifications & Marking

Marking

HE23

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

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
Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 150	$^\circ\text{C}$

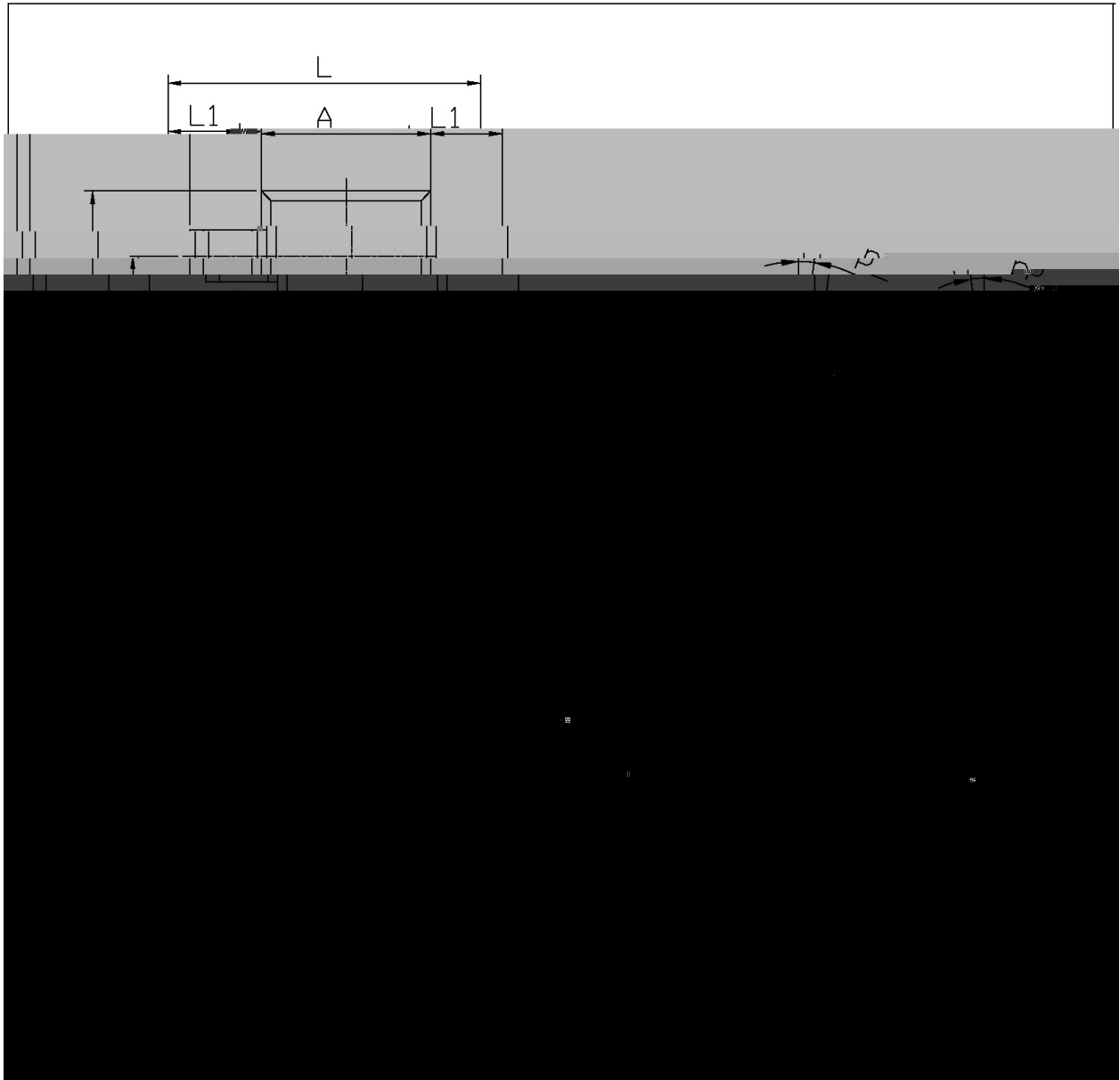
/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage(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	

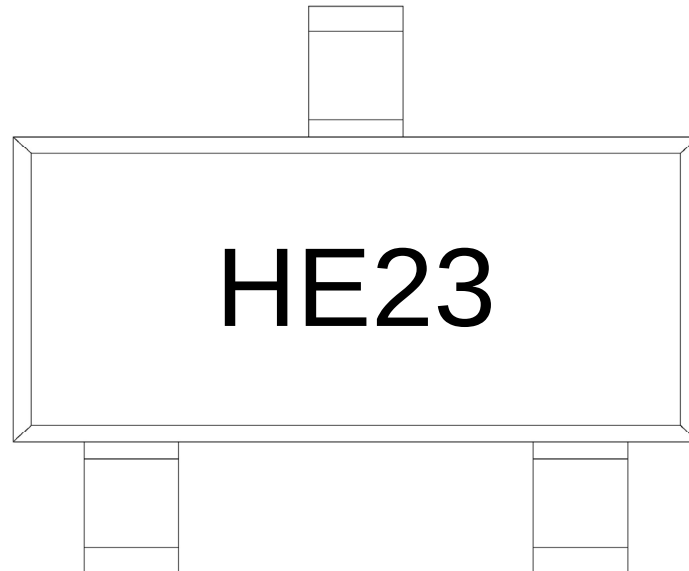
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



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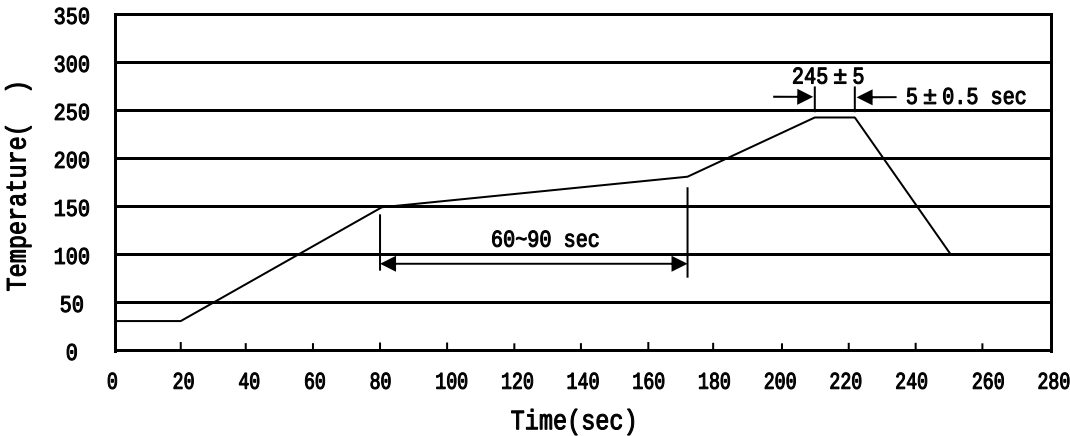
E23

Note:

H Company Code

E23 Product Type Code

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



Note:

- | | | | | | |
|---|-------|-----|----|-----------|--|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 °C , Time:60~90sec. |
| 2 | 245±5 | | | 5±0.5sec; | 2.Peak Temp.:245±5 °C , Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 °C/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 ³)		
	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 ×8	180×120×180	390×385×205

/ Notices