

DTC143EUA

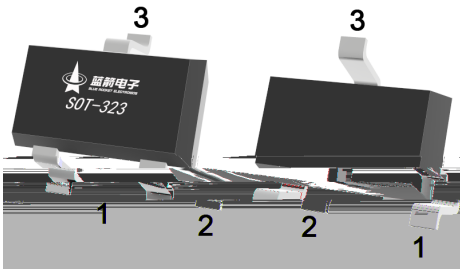
Rev.B Nov.-2024

SOT-323 NPN

Silicon NPN Digital transistor in a SOT-323 Plastic Package.

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

Switching applications, interface circuit and driver circuit applications.



PIN 1 IN PIN 2 GND PIN 3 OUT

/ h_{FE} Classifications & Marking

Marking	H23
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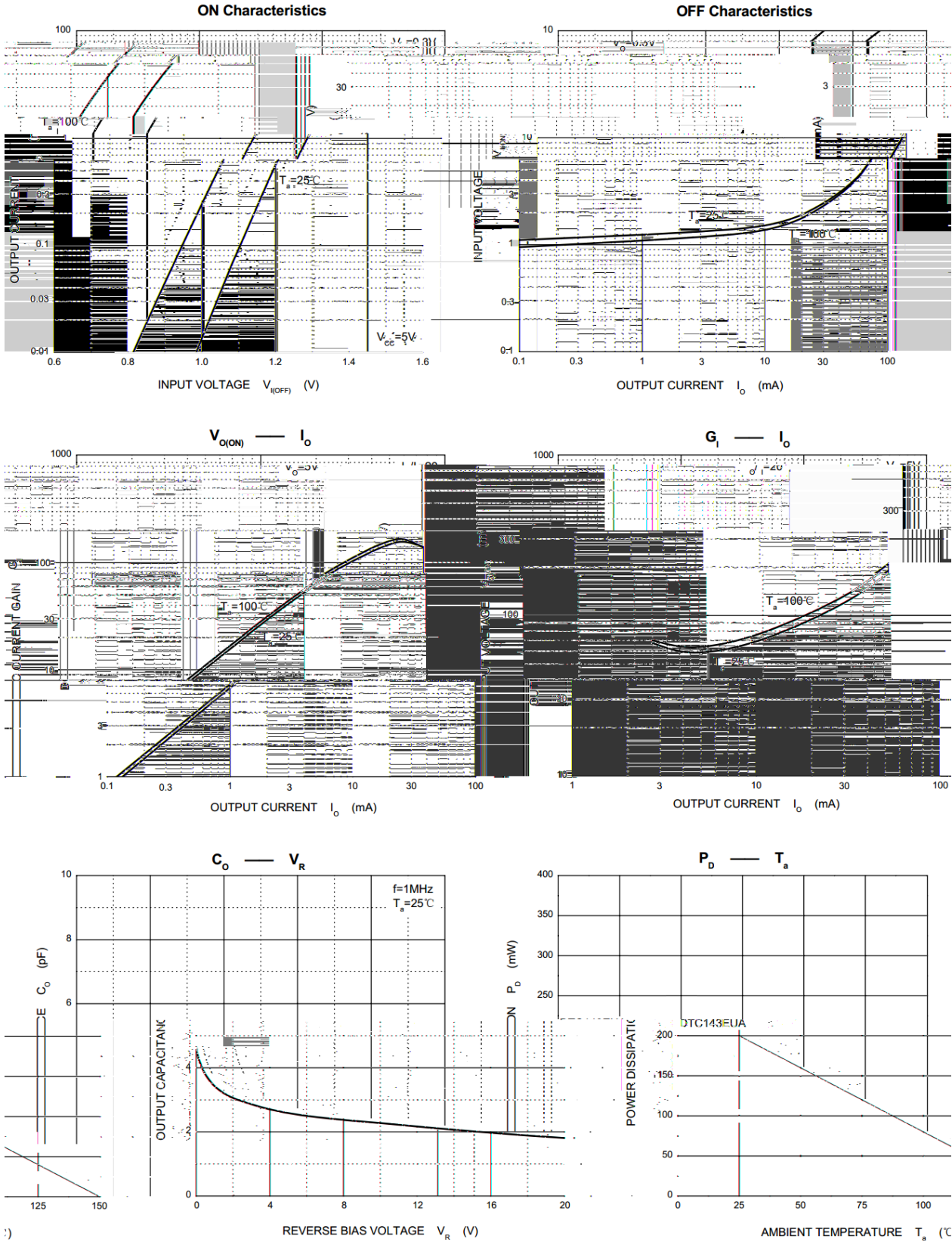
/ Absolute Maximum Ratings($T_a=25$)

Parameter	Symbol	Rating	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-10~30	V
Output Current	I_o	100	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics($T_a=25$)

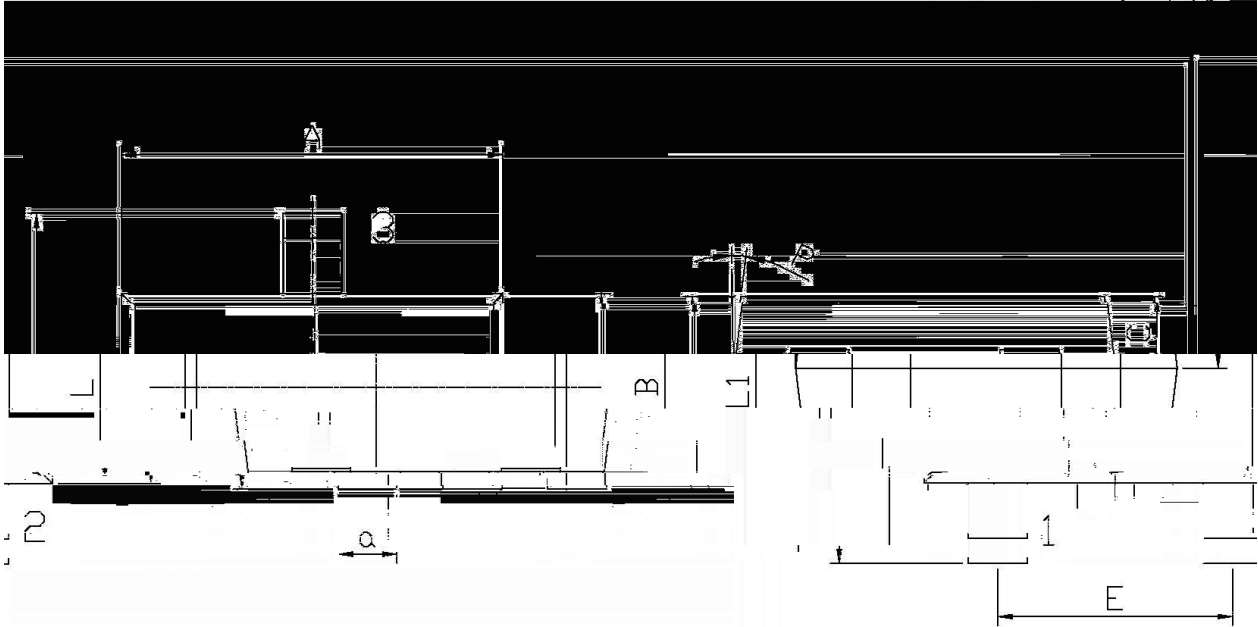
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage(OFF)	$V_{I(off)}$	$V_{CC}=5.0V$ $I_o=0.1mA$	0.5			V
Input Voltage(ON)	$V_{I(on)}$	$V_o=0.3V$ $I_o=20mA$			3.0	V
Output Voltage	$V_{O(on)}$	$I_o=10mA$ $I_i=0.5mA$		0.1	0.3	V
Input Current	I_i	$V_i=5.0V$			1.8	mA
Output Cut-off Current	$I_{O(off)}$	$V_{CC}=50V$ $V_i=0$			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
Resistance Ratio	R_2/R_1		0.8	1.0	1.2	

/ Electrical Characteristic Curve



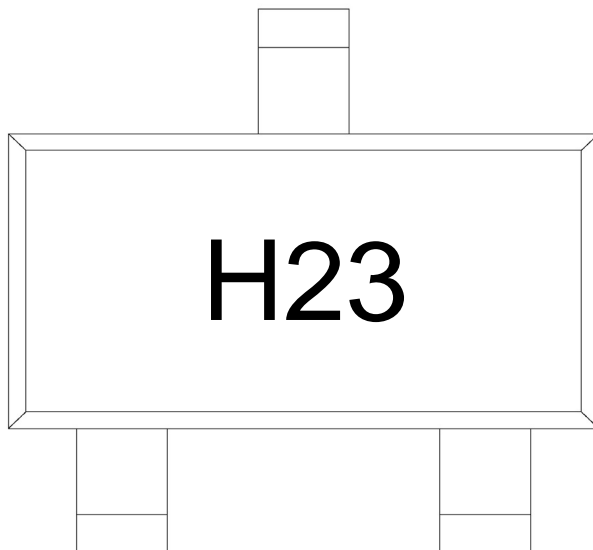
/ Package Dimensions

SOT-323 单位: mm



Symbol		Dimensions In Millimeters		Symbol		Dimensions In Millimeters	
Min	Max	Symbol	Dimensions In Millimeters	Min	Max	Symbol	Dimensions In Millimeters
1.95	2.35	C	0.30	0.50		A	
2.00	2.2	L1	0.85	1.15		L	
1.20	1.40	a	0.20	0.40		E	
1.15	1.35	P		7°		B	

/ Marking Instructions



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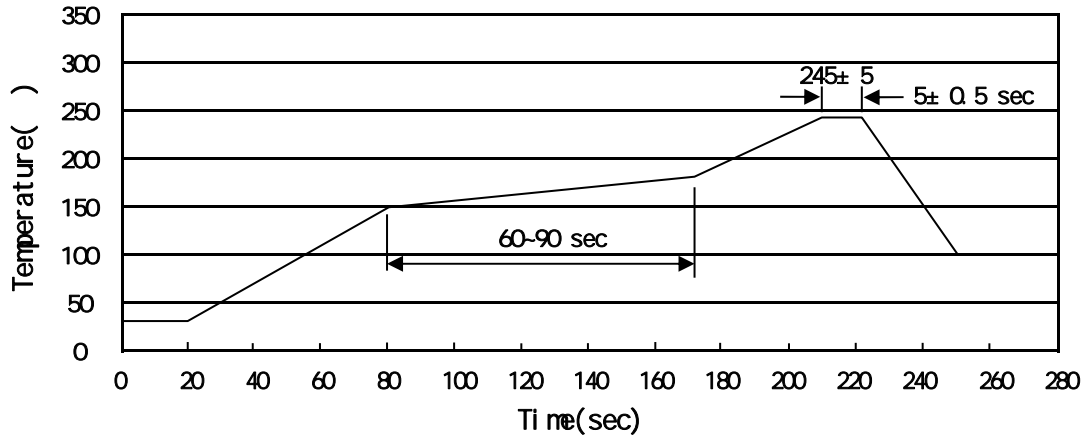
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Note:

H Company Code

23 Product Type Code

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



Note:

- | | | | | | |
|---|-------|-----|-------|----------|-----------------------------------------|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | | 5±0.5 | sec; | 2.Peak Temp.:245±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	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-323	3,000	10	30,000	6	180,000	7 x8	180x120x180	390x385x205

/ Notices