/ Descriptions

SOT-23 Ṃ Ṃ Ŀ NPN Ṁ ǁ ˥ Silicon NPN transistor in a SOT-23 Plastic Package.

/ Features

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Excellent h_{FE} linearity, high h_{FE}, low noise. HF Product.

/ Applications

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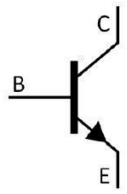
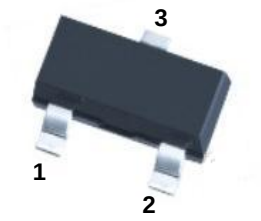
General amplifier and switching application.

/ Equivalent Circuit



/ Pinning



PIN 1 Base PIN 2 Emitter PIN 3 Collector

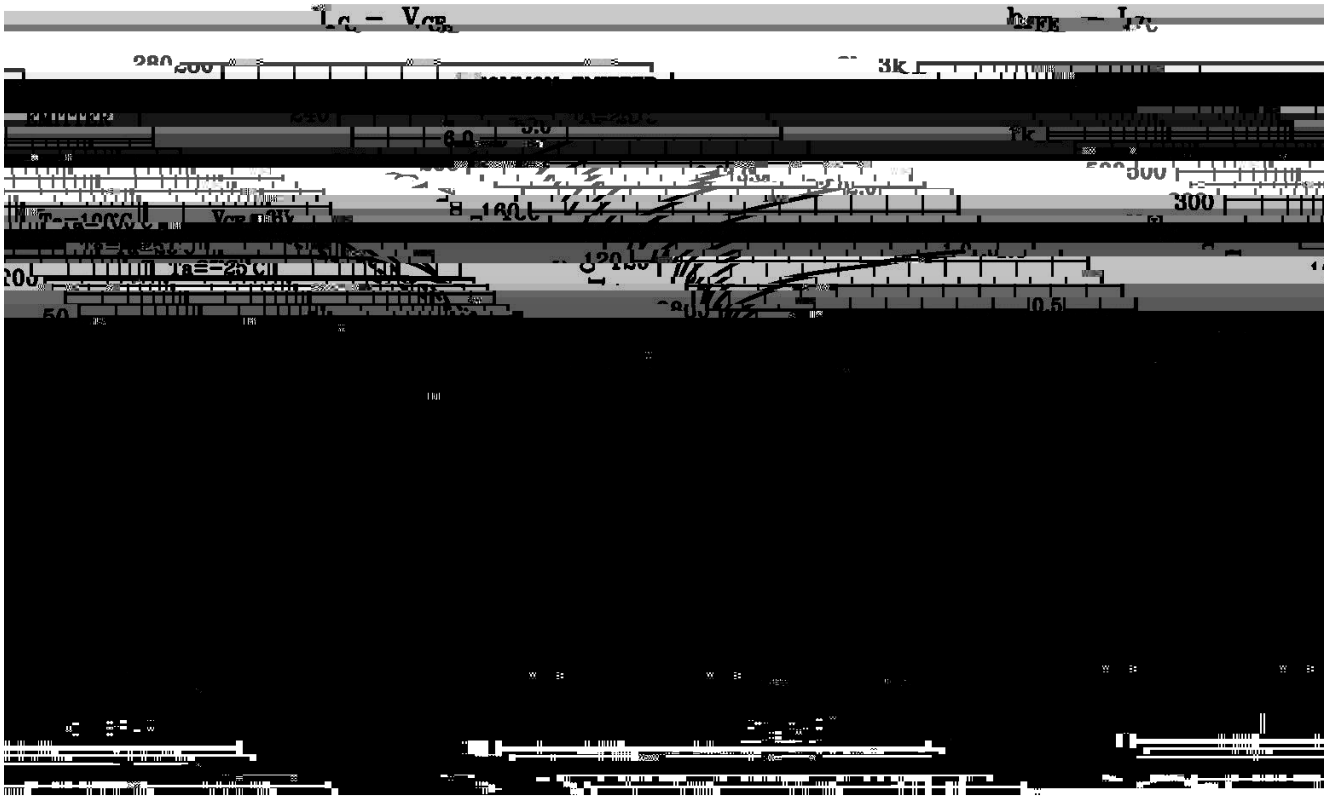
/ h_{FE} Classifications & Marking

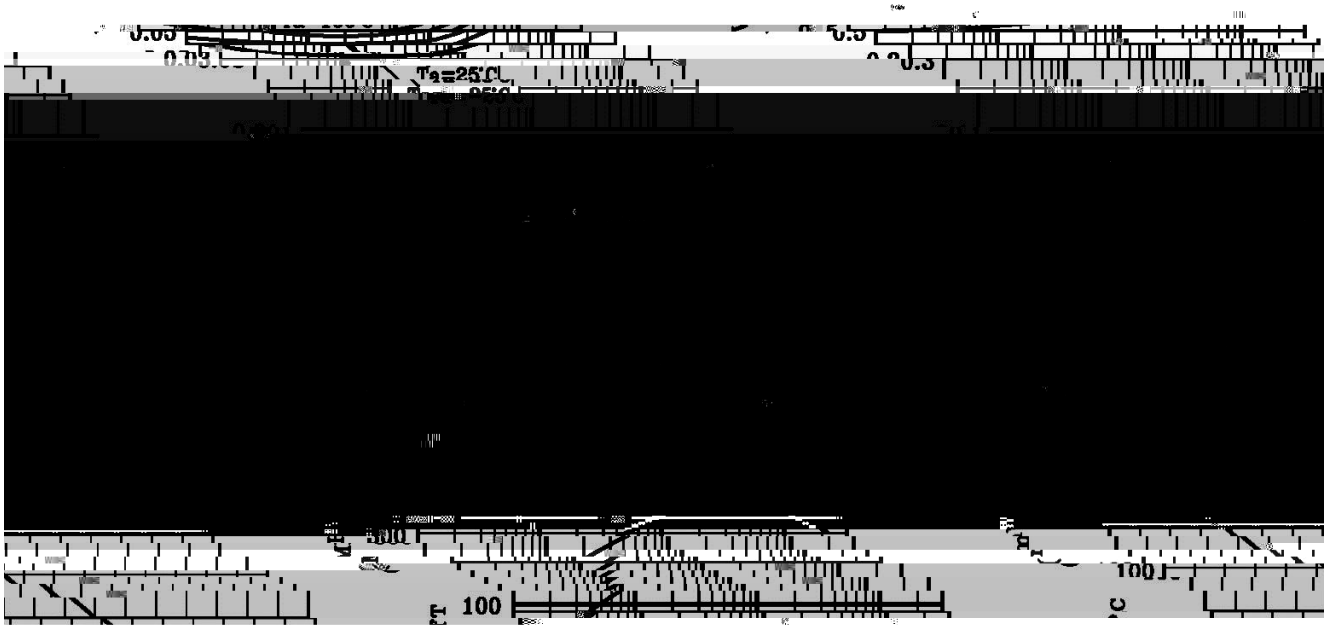
h_{FE} Classifications Symbol	O	Y	GR	BL
h_{FE} Range	70 140	120 240	200 400	350 700
Marking	HALO	HALY	HALG	HALB

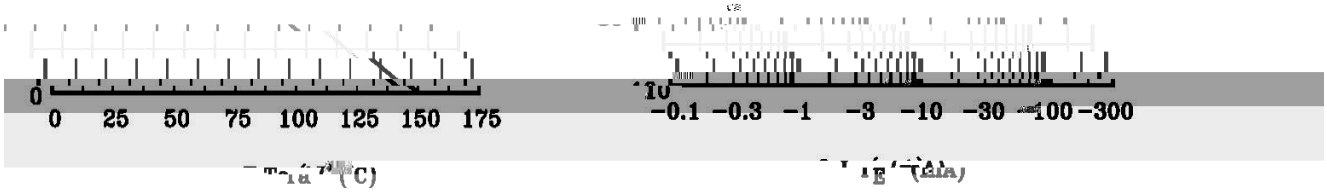
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	150	mA
Base Current	I_B	30	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CBO}	I_C	I_E=0	60			V
Collector to Base Breakdown Voltage	V_{CEO}	I_C	I_B=0	50			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E	I_C=0	5.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=60V	I_E=0			0.1	
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5.0V	I_C=0			0.1	
DC Current Gain	h_{FE}	V_{CE}=6.0V	I_C=2.0mA	70		700	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=100mA	I_B=10mA		0.1	0.25	V
Transition Frequency	f_T	V_{CE}=10V	I_C=1.0mA	80			MHz
Collector output capacitance	C_{ob}	V_C					

/ Electrical Characteristic Curve

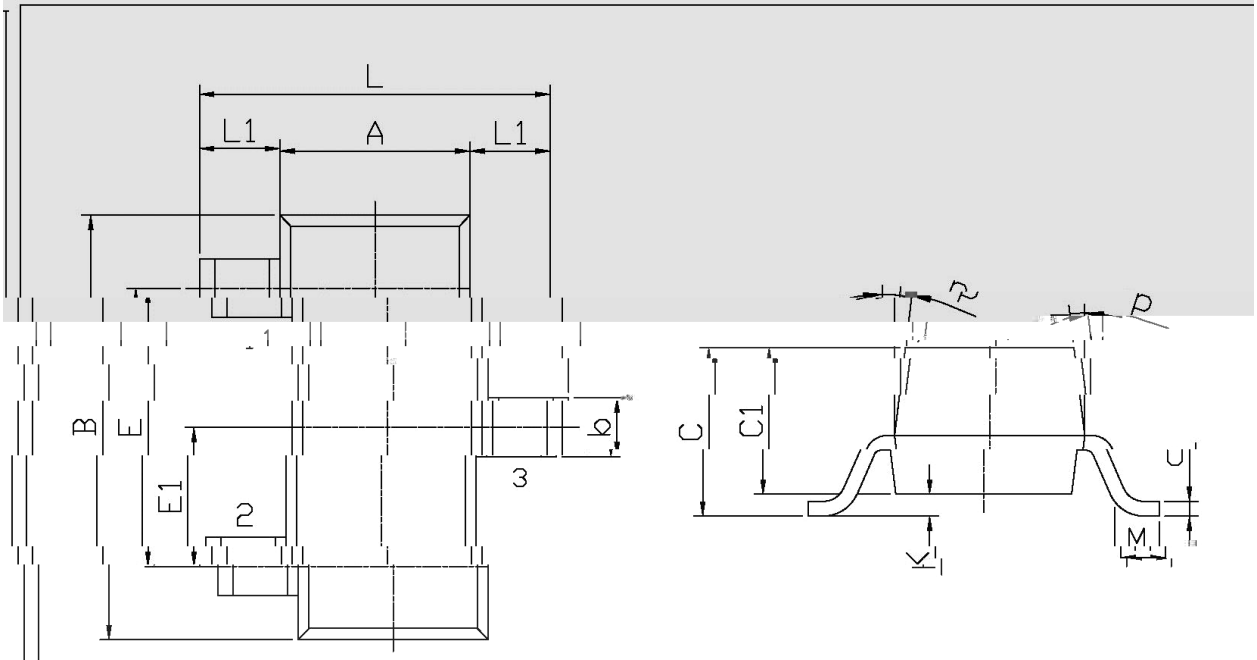






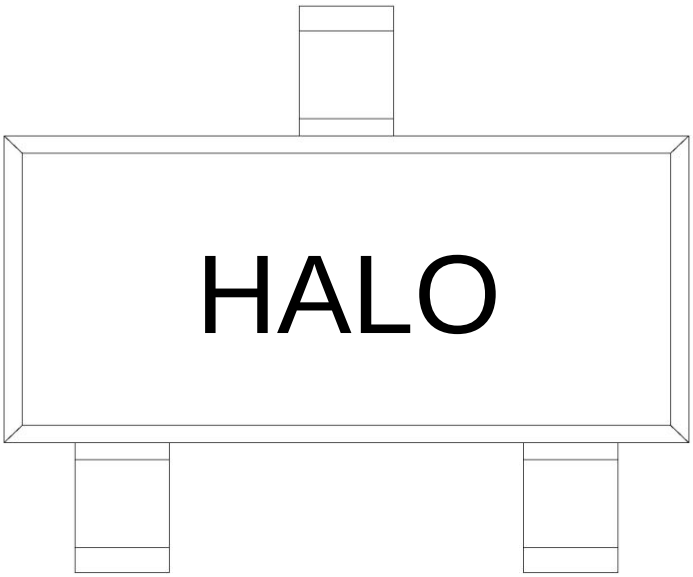
/ Package Dimensions

SOT-23 单位：mm



Symbol	Min	Max	Symbol	Min	Max
L	2.72	2.72	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
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

/ Marking Instructions



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H .

AL ʒ .

O h_{FE} ⁶ ₭ .

Note:

H	Company Code
AL	Product Type
O	h_{FE} Classifications Symbol

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



[redacted]

ب ˝

1 أ ♬ □ ỷ 25 150 `H ڑ 60 90sec;

2 Š □ ỷ 245±5 `H ڑ ˋY ٨ 5±0.5sec;

3 ì ٧ ھ ỷ 2 10 /sec.

Note:

1.Preheating:25~150 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ 260±5 `H ڑ 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

` ᒪ / REEL

Package Type								
	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 x 8	180x 120x 180	390x 385x 205

/ Notices