

/ Descriptions

Silicon NPN transistor in a SOT-23 Plastic Package.

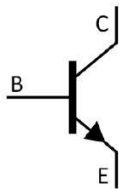
/ Features

Collector currents up to 600 mA.

/ Applications

General purpose amplifier.

/ Equivalent Circuit



/ Pinning



PIN 1 Base PIN 2 Emitter PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Range	100~300
Marking	H1P

/ Absolute Maximum Ratings(Ta=25)

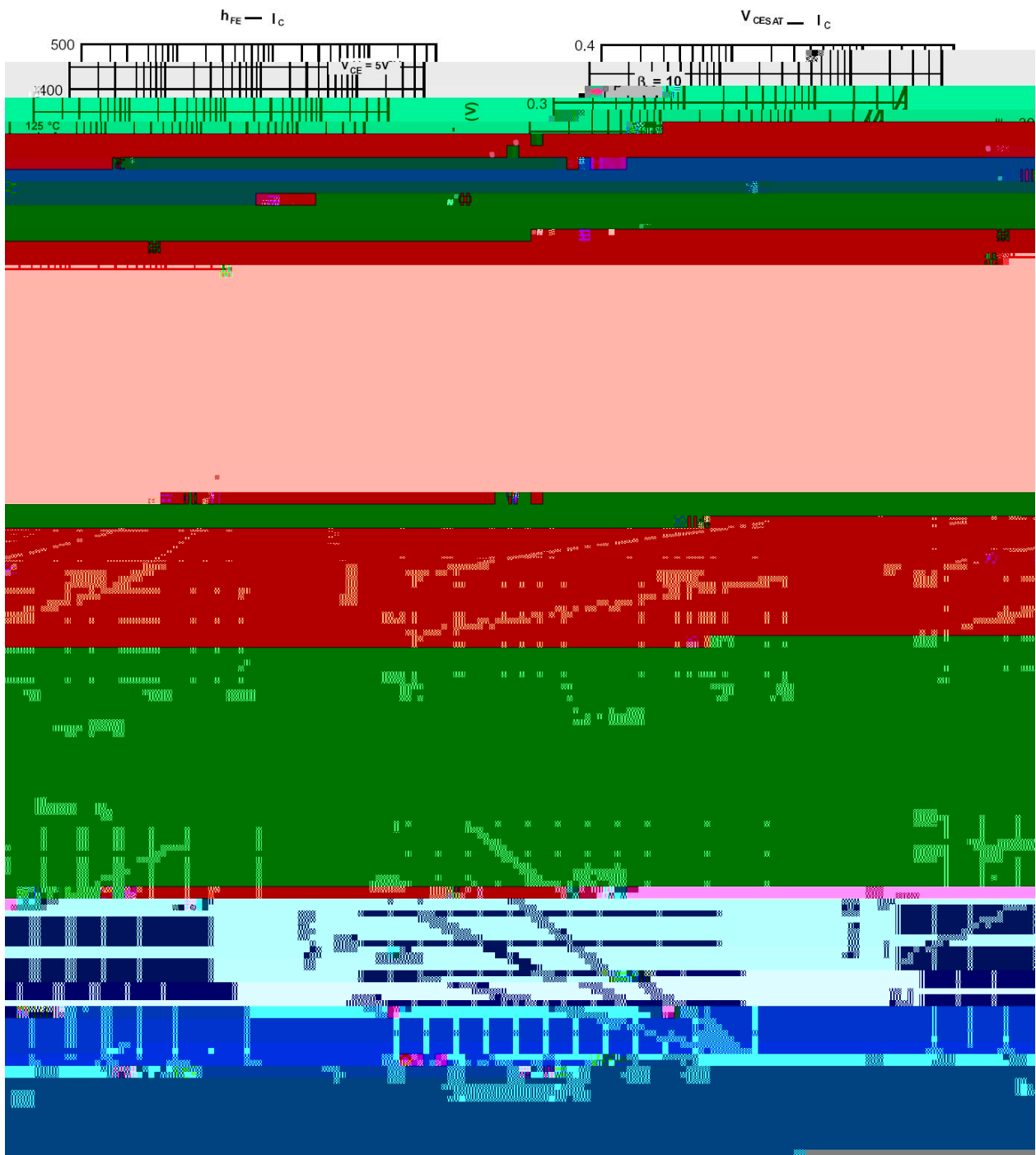
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	75	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\text{ A}$ $I_E=0$	75			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=10\text{mA}$ $I_B=0$	40			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\text{ A}$ $I_C=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60\text{V}$ $I_E=0$			0.01	A
Base Cut-Off Current	I_{EBO}	$V_{EB}=5.0\text{V}$ $I_C=0$			0.1	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=10\text{V}$ $I_C=150\text{mA}^*$	100		300	
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=150\text{mA}$ $I_B=15\text{mA}$			0.3	V
	$V_{CE(sat)(2)}$	$I_C=500\text{mA}$ $I_B=50\text{mA}$			1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=150\text{mA}$ $I_B=15\text{ mA}$	0.6		1.2	V
	$V_{BE(sat)(2)}$	$I_C=500\text{mA}$ $I_B=50\text{mA}$			2.0	V
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$ $f=1.0\text{MHz}$ $I_E=0$			8.0	pF
Transition Frequency	f_T	$I_C=20\text{mA}$ $V_{CE}=20\text{V}$ $f=100\text{MHz}$	300			MHz
Turn-On Time	t_{on}	$V_{CC}=30\text{V}$ $V_{BE}=-0.5\text{V}$ $I_C=150\text{mA}$ $I_{B1}=15\text{mA}$			35	ns
Turn-Off Time	t_{off}	$V_{CC}=30\text{V}$ $I_C=150\text{mA}$ $I_{B1}=I_{B2}=15\text{mA}$			285	ns

*Pulse Test: Pulse Width 300 s, Duty Cycle 2.0%

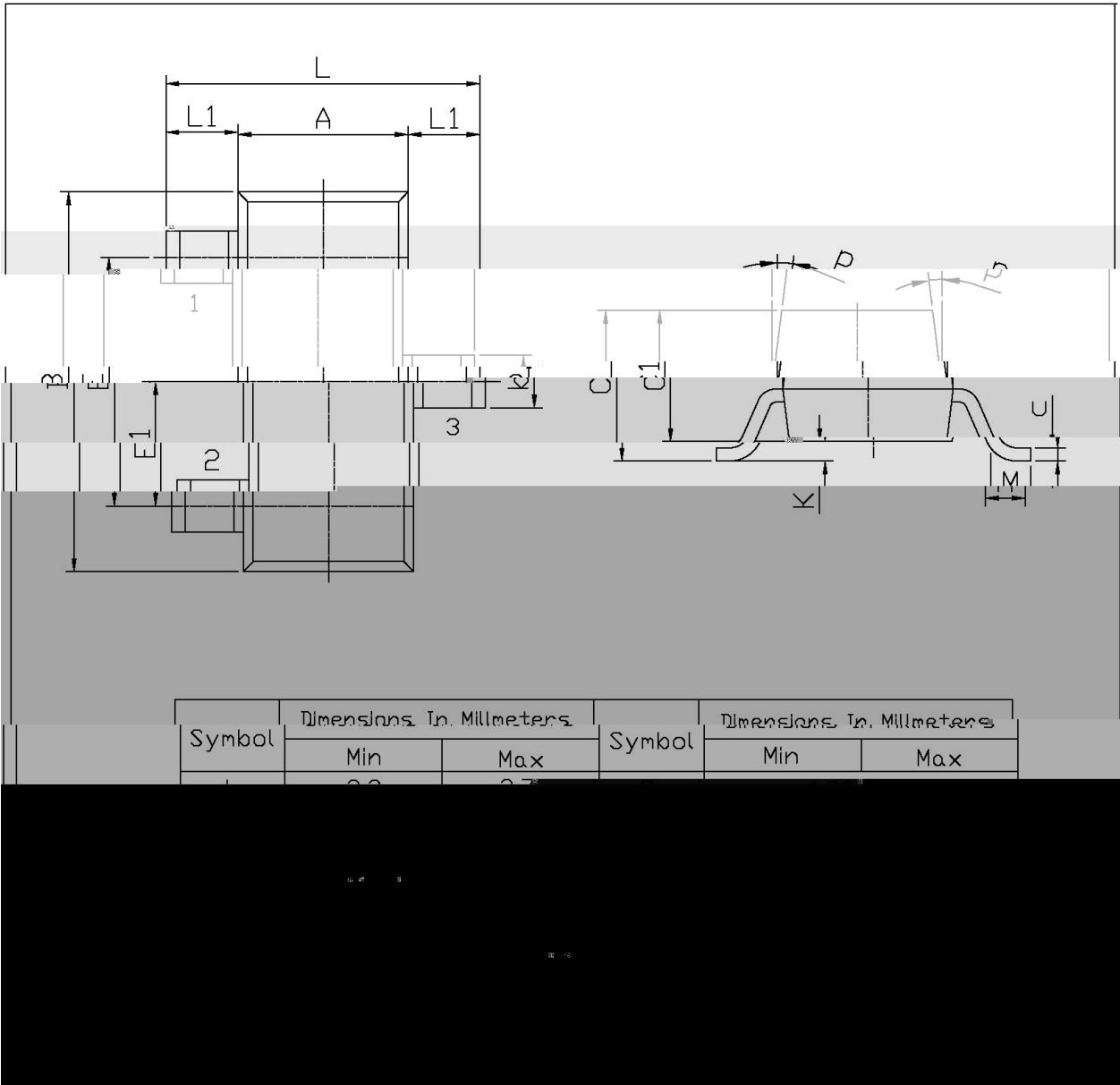
/ Electrical Characteristic Curve



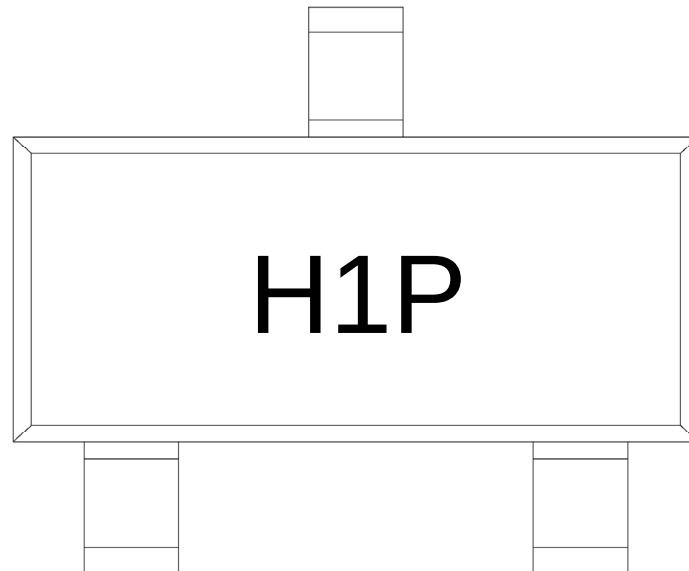
/ Package Dimensions

SOT-23

单位：mm



/ Marking Instructions



1P

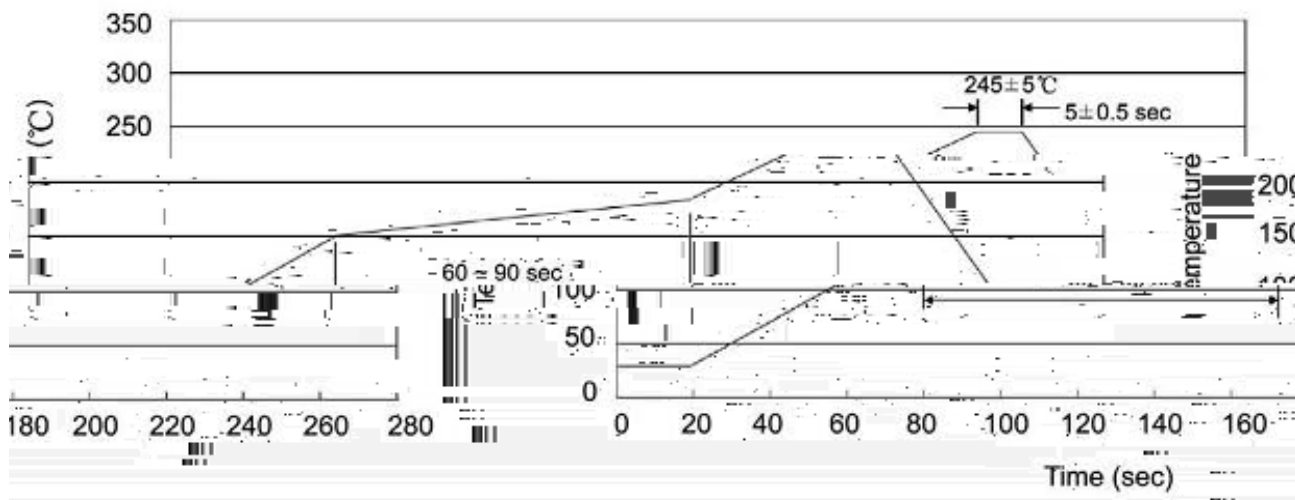
Note:

Company Code

1P

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 0.5sec;

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 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	180000	7" ×8	180×120×180	390×385×205

/ Notices