

/ Descriptions

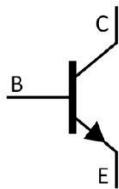
Silicon NPN transistor in a SOT-23 Plastic Package.

/ Features

Low $V_{CE(sat)}$, high current.

/ Applications

General purpose switching and muting, LCD back-lighting, supply line switching circuits.

/ Equivalent Circuit**/ Pinning**

PIN 1 Base PIN 2 Emitter PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Range	300~900
Marking	HZTP

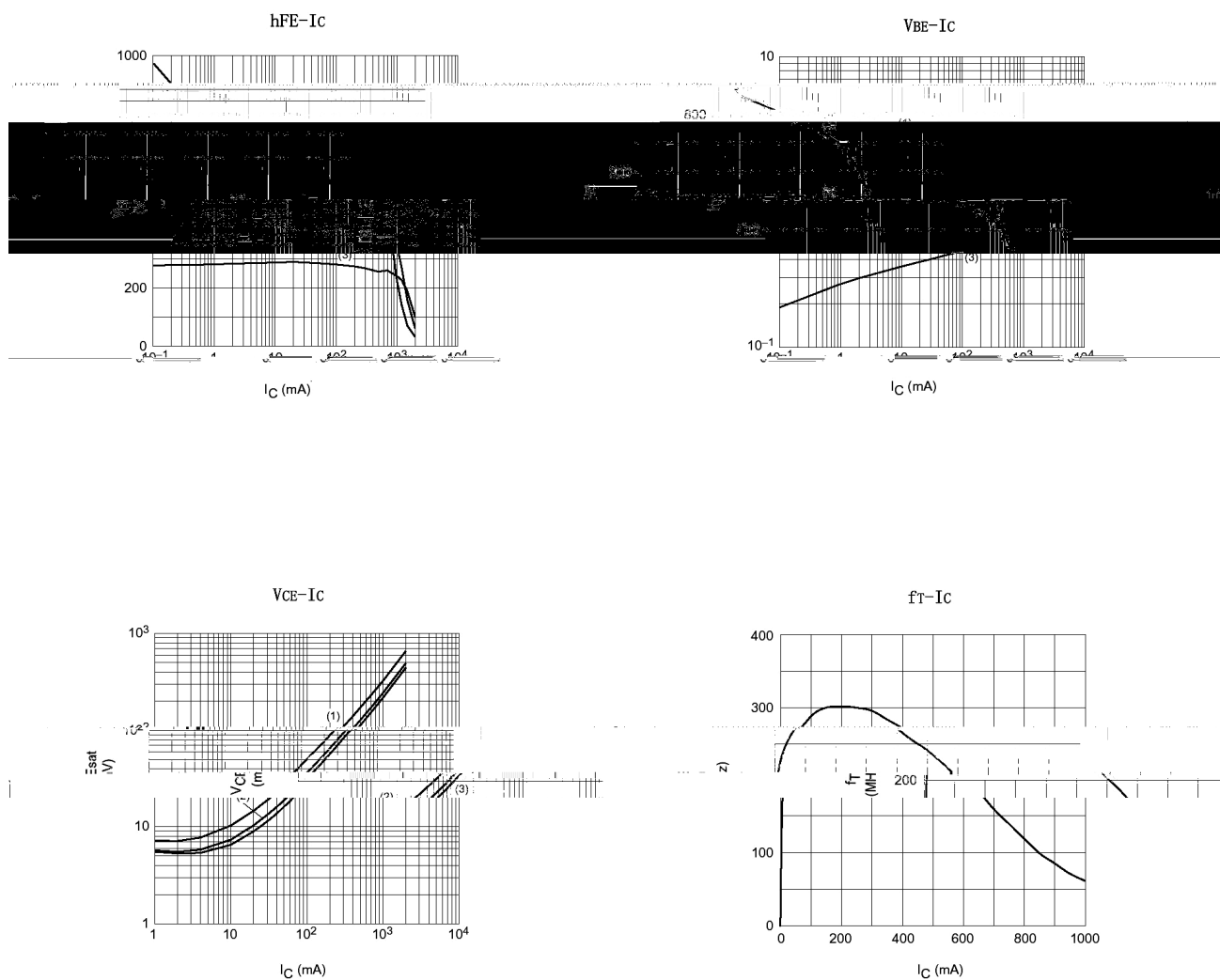
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	1.0	A
Peak Collector Current	I_{CM}	2.0	A
Peak Base Current	I_{BM}	1.0	A
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=40V$ $I_E=0$			0.1	μA
Collector Cut-Off Current	I_{CEO}	$V_{CB}=30V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{CE}=5.0V$ $I_C=0$			0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=500mA$	300		900	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=1.0mA$	300			
	$h_{FE(3)}$	$V_{CE}=5.0V$ $I_C=1.0A$	200			
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=100mA$ $I_B=1.0mA$			200	mV
	$V_{CE(sat)(2)}$	$I_C=500mA$ $I_B=50mA$			250	mV
	$V_{CE(sat)(3)}$	$I_C=1.0A$ $I_B=100mA$			500	mV
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.0A$ $I_B=100mA$			1.2	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=1.0A$			1.1	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=50mA$ $f=100MHz$	150			MHz
Output Capacitance	C_C	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$			10	pF

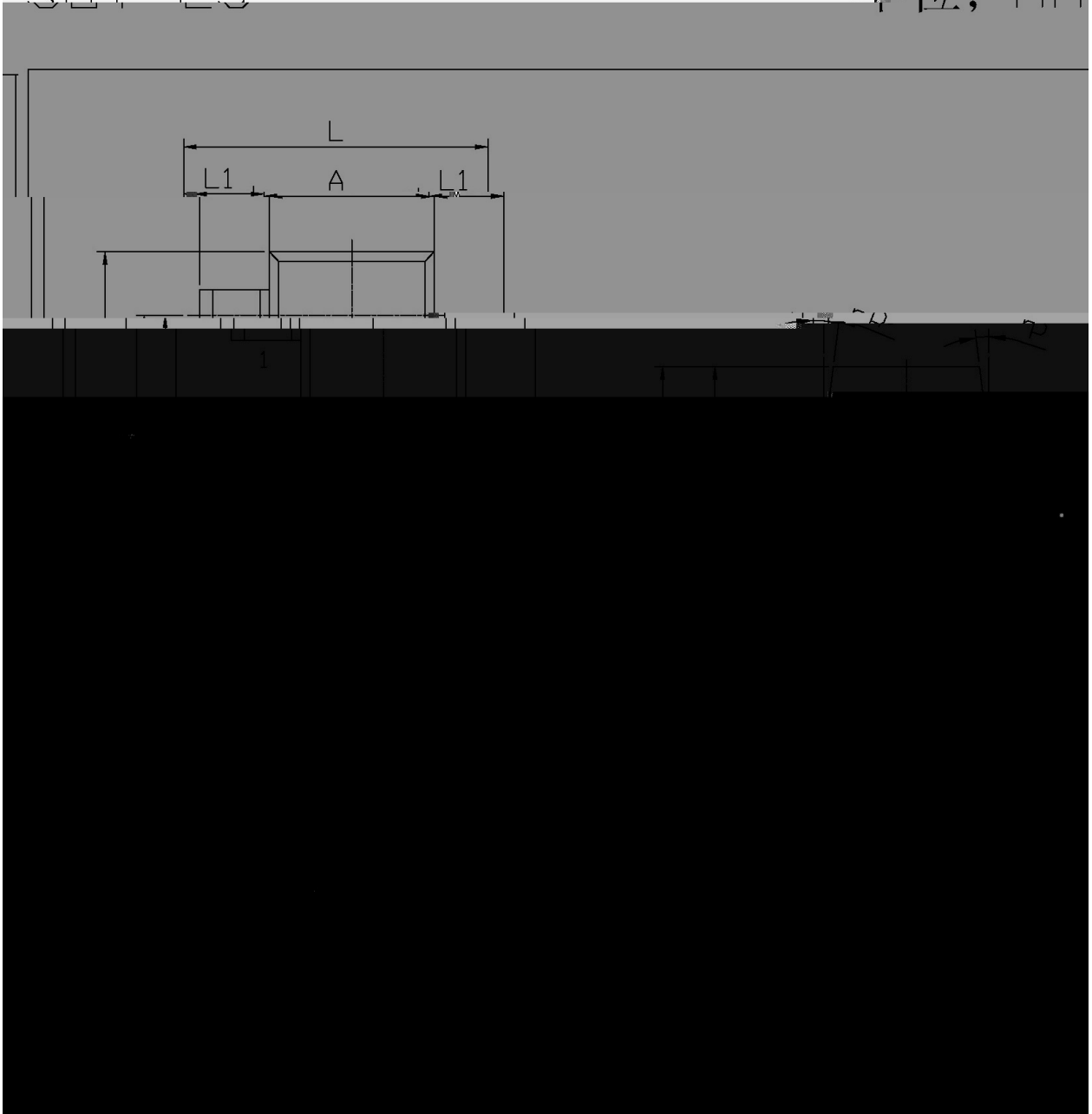
/ Electrical Characteristic Curve



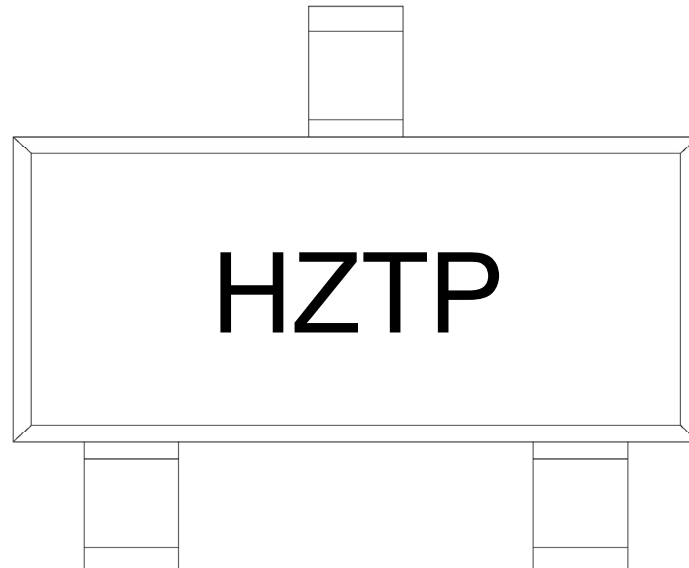
/ Package Dimensions

UNIT-23

单位: mm



/ Marking Instructions



ZTP

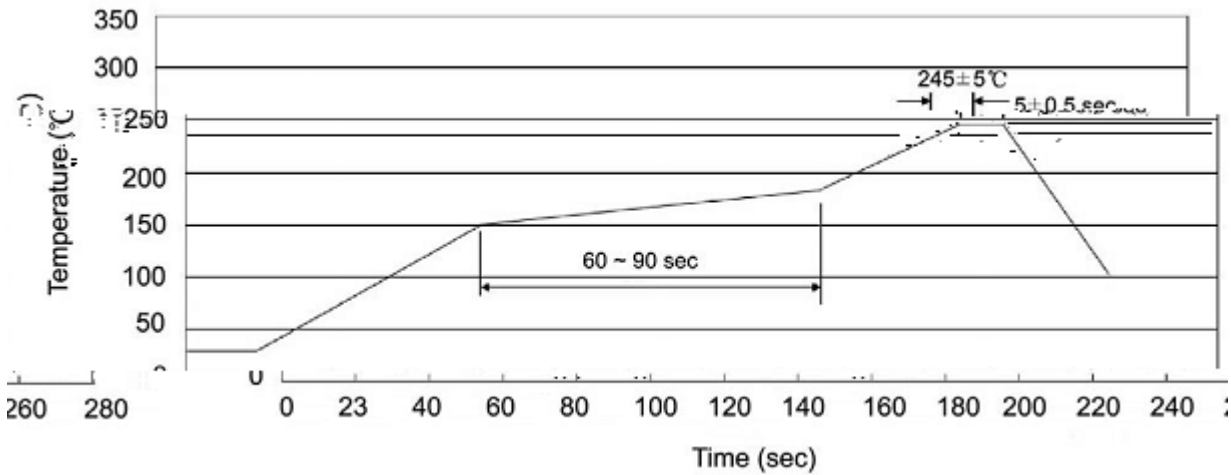
Note:

Company Code

ZTP

Product Type

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



Note:

- | | | | | | |
|---|-----|-----|----|----------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , 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	180,000	7 ×8	180×120×180	390×385×205

/ Notices