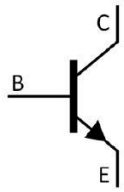
Rev.F Apr.-2017

Silicon NPN transistor in a SOT-23 Plastic Package.

High f_T.

UHF/VHF frequency converter, local oscillator.

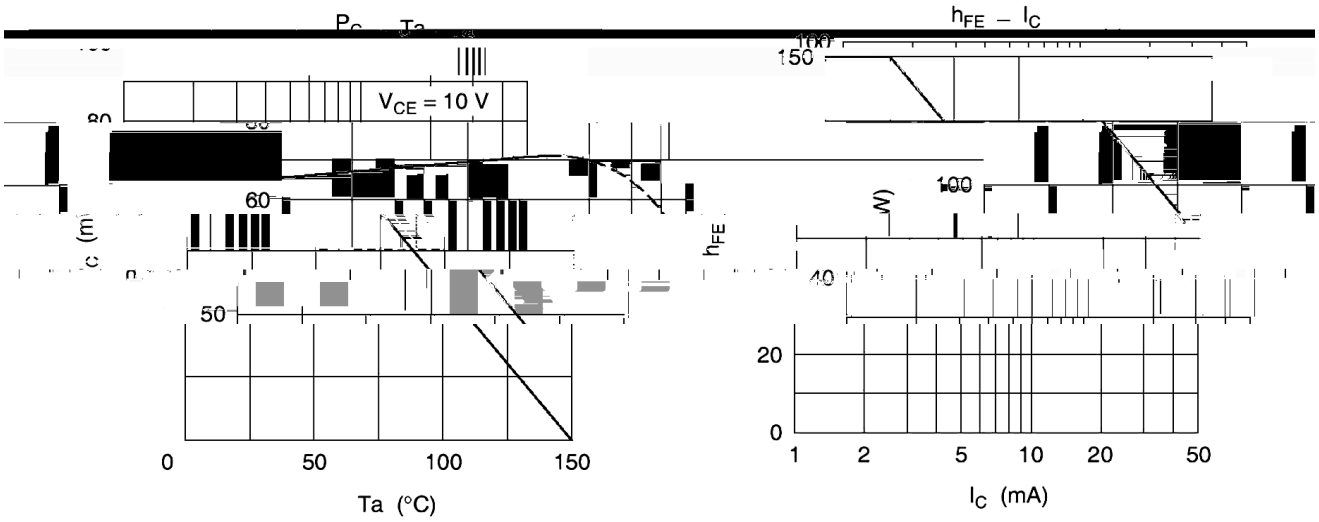


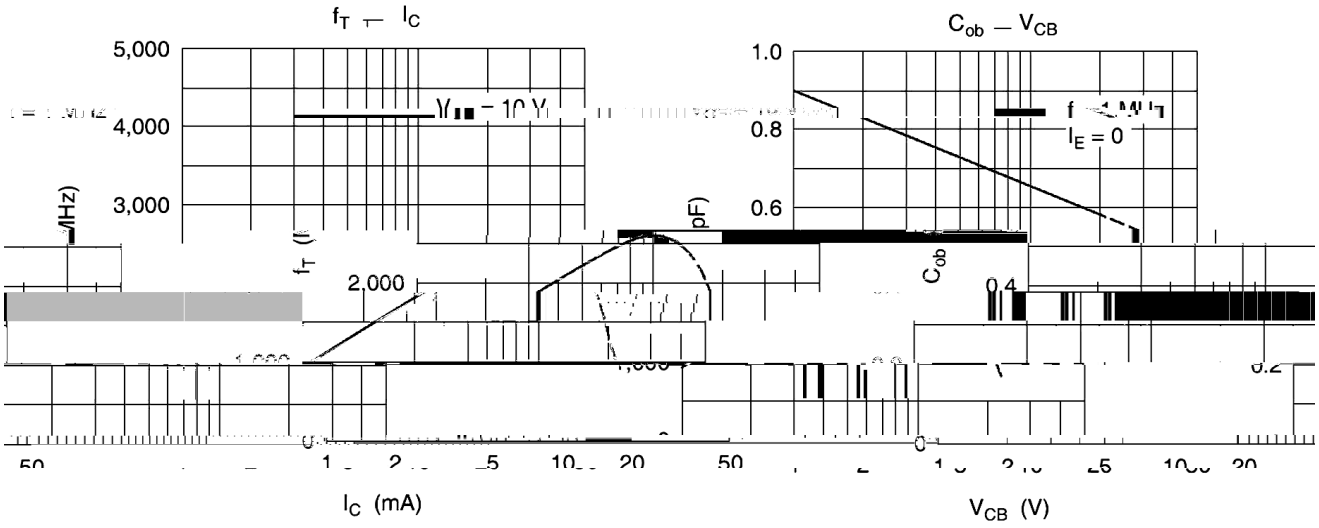
PIN1 Base PIN 2 Emitter PIN 3 Collector

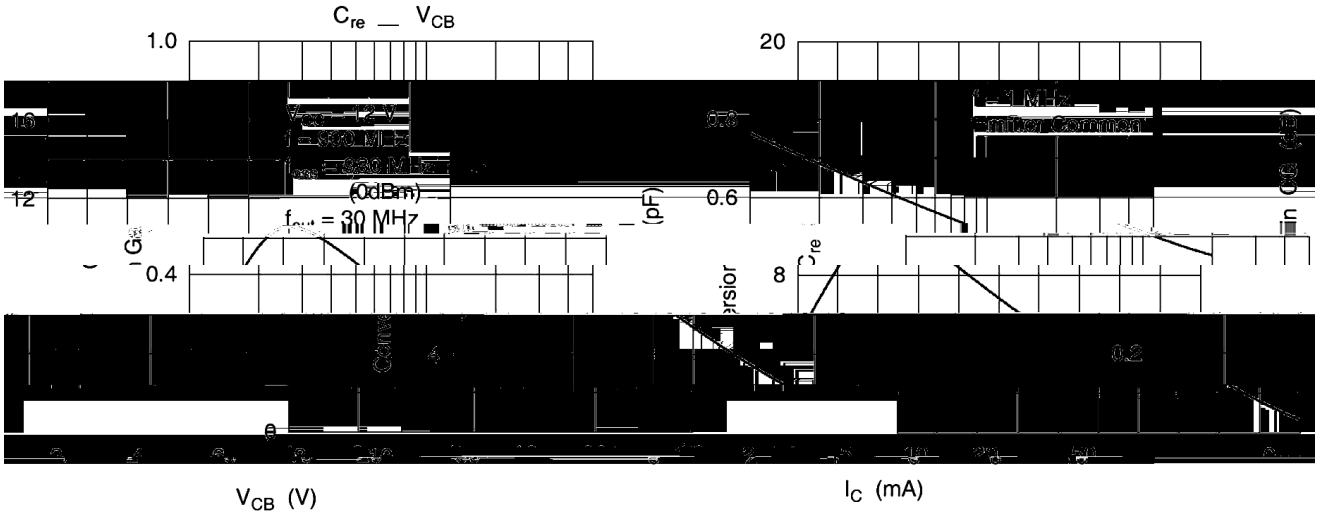
h_{FE} Range	30～200
Marking	HTC

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	20	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

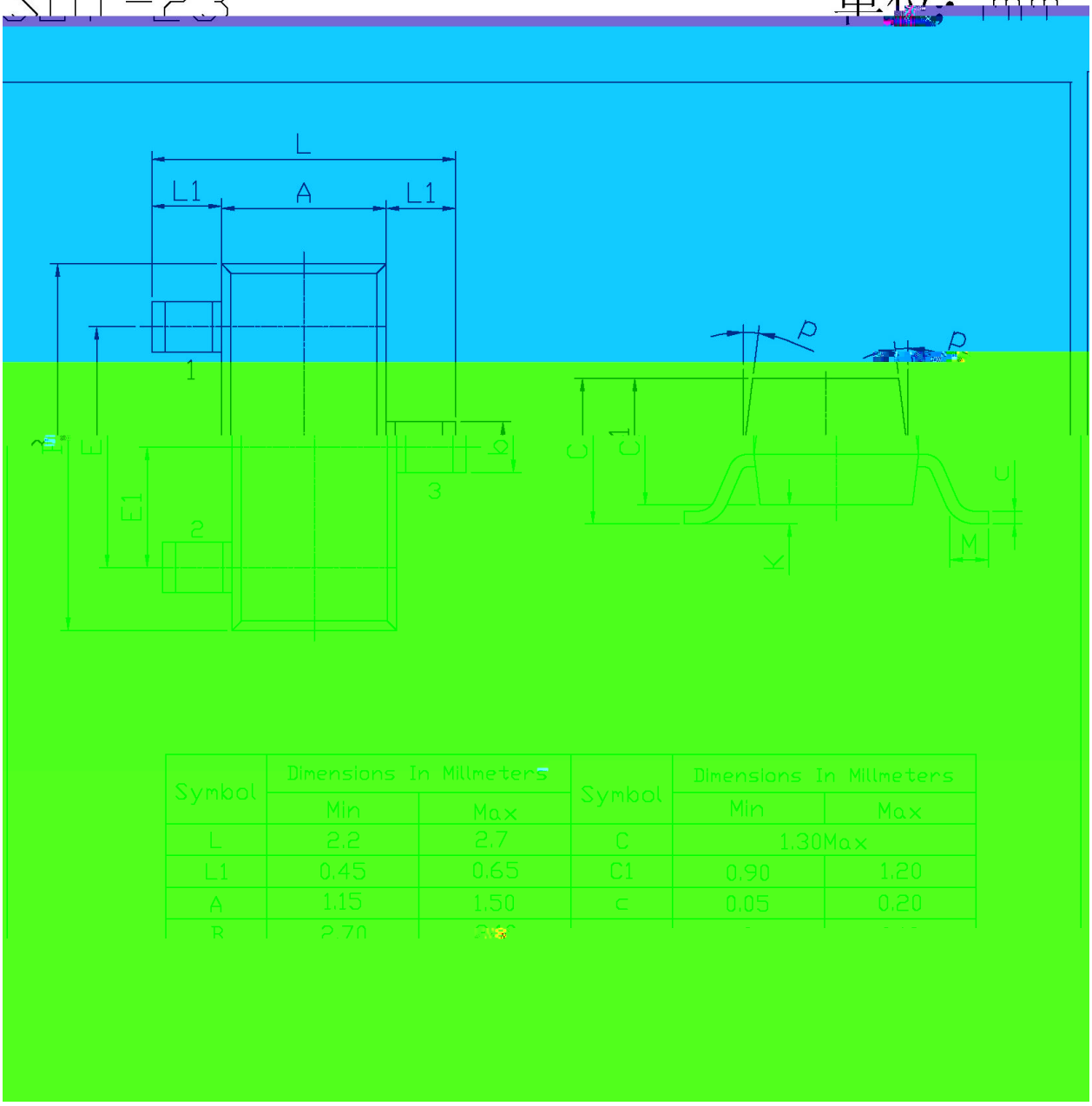
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- Base Breakdown Voltage	V_{CBO}	I_C=10μA I_E=0	30			V
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=1.0mA R_{BE}=∞	20			V
Emitter-Base Breakdown Voltage	V_{EBO}	I_E=10μA I_C=0	3.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=15V I_E=0			0.5	μA
DC Current Gain	h_{FE}	V_{CE}=10V I_c=5.0mA	30		200	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=10mA I_B=5.0mA			0.7	V
Transition Frequency	f_T	V_{CE}=10V I_C=5.0mA	1400	2200		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V I_E=0			1.0	pF
Conversion gain	CG_1	V_{CC}=12V I_C=2.0mA f=200MHz f_{OSC}=230MHz(0dBm)		22.5		dB
	CG_2	V_{CC}=12V I_C=2.0mA f=900MHz f_{OSC}=930MHz(0dBm) f_{out}=30MHz		10		dB
Noise Figure	NF	V_{CC}=12V I_C=2.0mA f=200MHz f_{OSC}=230MHz(0dBm)		4.0		dB
The Output Clock Supply Voltage	V_{OSC1}	V_{cc}=12V I_C=7.0mA f_{osc}=300MHz		300		mV
	V_{OSC2}	V_{cc}=12V I_C=7.0mA f_{osc}=930MHz		200		mV


P_C — Ta
V_{CE} = 10 V
80
60
50
0
50
100
150
Ta (°C)
h_{FE} — I_C
150
100
40
20
0
1
2
5
10
20
50
I_C (mA)

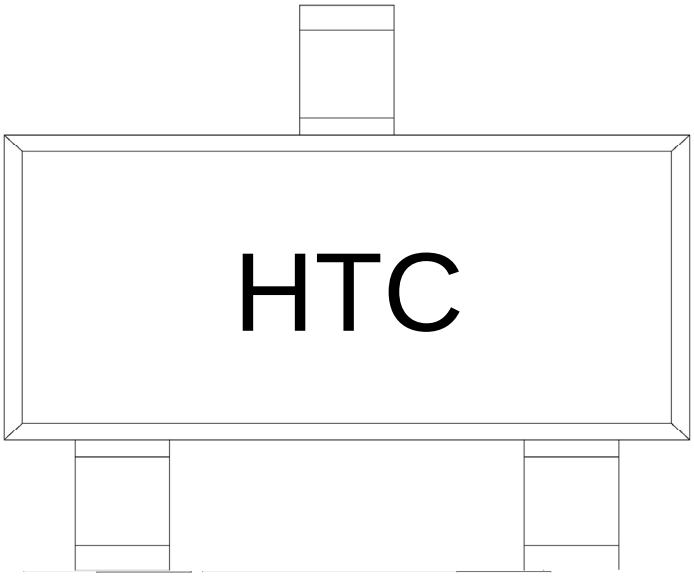

f_T — I_C
5,000
4,000
3,000
2,000
I_C (mA)
C_{ob} — V_{CB}
1.0
0.8
0.6
0.4
I_E = 0
C_{ob}
V_{CB} (V)


C_{re} — V_{CB}
1.0
0.6
0.4
C_{re}
V_{CB} (V)
20
8
I_C (mA)

SOT-23 单位：mm



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
R	2.70				

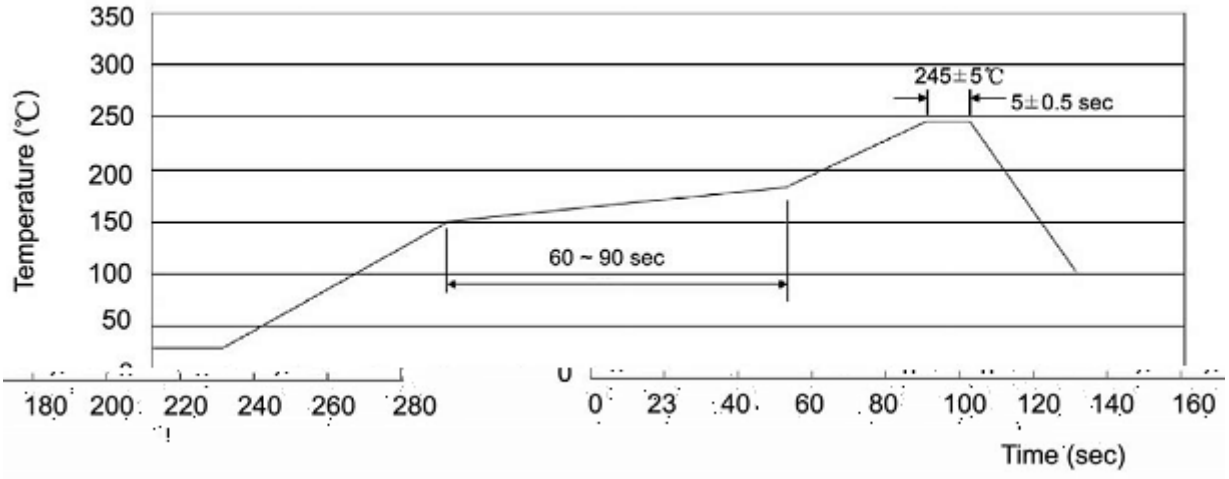


Note:

Company Code

Product Type Code

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.

260±5℃ 10±1 sec.

Temp.:260±5℃ Time:10±1 sec

/ REEL

	Units 包装数量	Dimension 包装尺寸 (unit: mm^3)