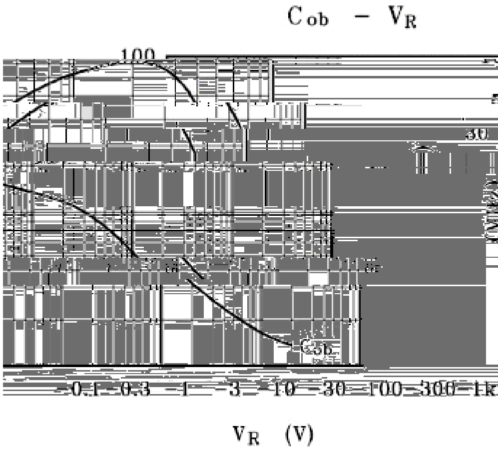
SOT-23 PNP Silicon PNP transistor in a SOT-23 Plastic Package.

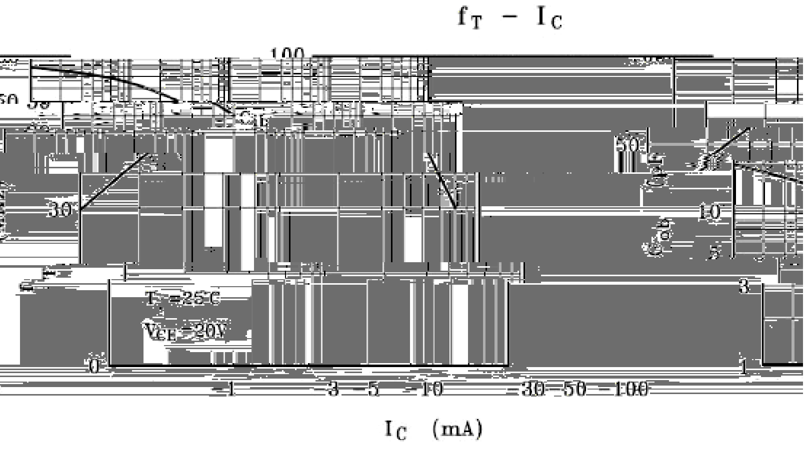
, , , MMBTA42G

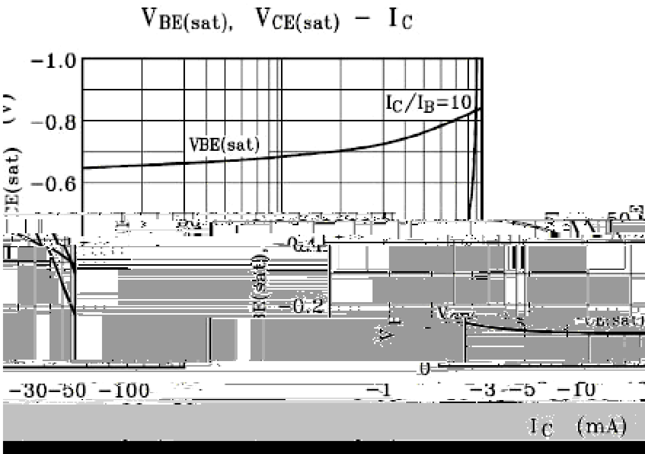
High voltage, low saturation voltage, low collector output capacitance, complementary pair with

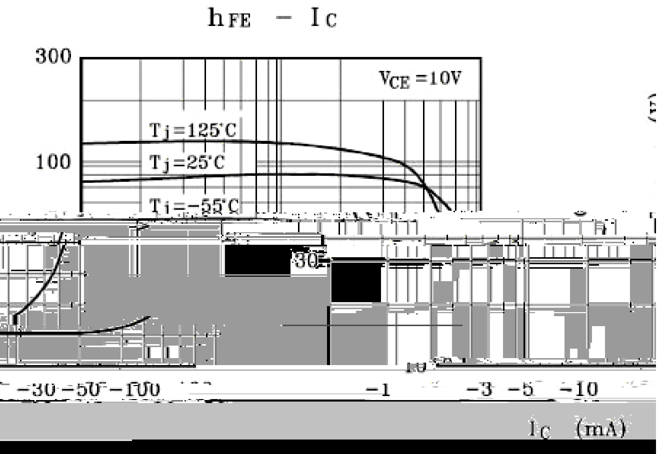
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-300	V
Collector to Emitter Voltage	V_{CEO}	-300	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-500	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=-100mA I_E=0	-300			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=-1.0mA I_B=0	-300			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=-100μA I_C=0	-5.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-200V I_E=0			-0.25	μA
Emitter Cut-off Current	I_{EBO}	V_{BE}=-3.0V I_C=0			-0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=-10V I_C=-10mA	40			
	$h_{FE(2)}$	V_{CE}=-10V I_C=-30mA	25			
	$h_{FE(3)}$	V_{CE}=-10V I_C=-1.0mA	25			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-20mA I_B=-2.0mA			-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-20mA I_B=-2.0mA			-0.9	V
Transition Frequency	f_T	V_{CE}=-20V I_C=-10mA f=100MHz	50			MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-20V I_E=0 f=1.0MHz			6.0	pF


Cob – VR
100
50
30
Cob
−0.1 −0.3 −1 −3 −10 −30 −100 −300 −1k
VR (V)

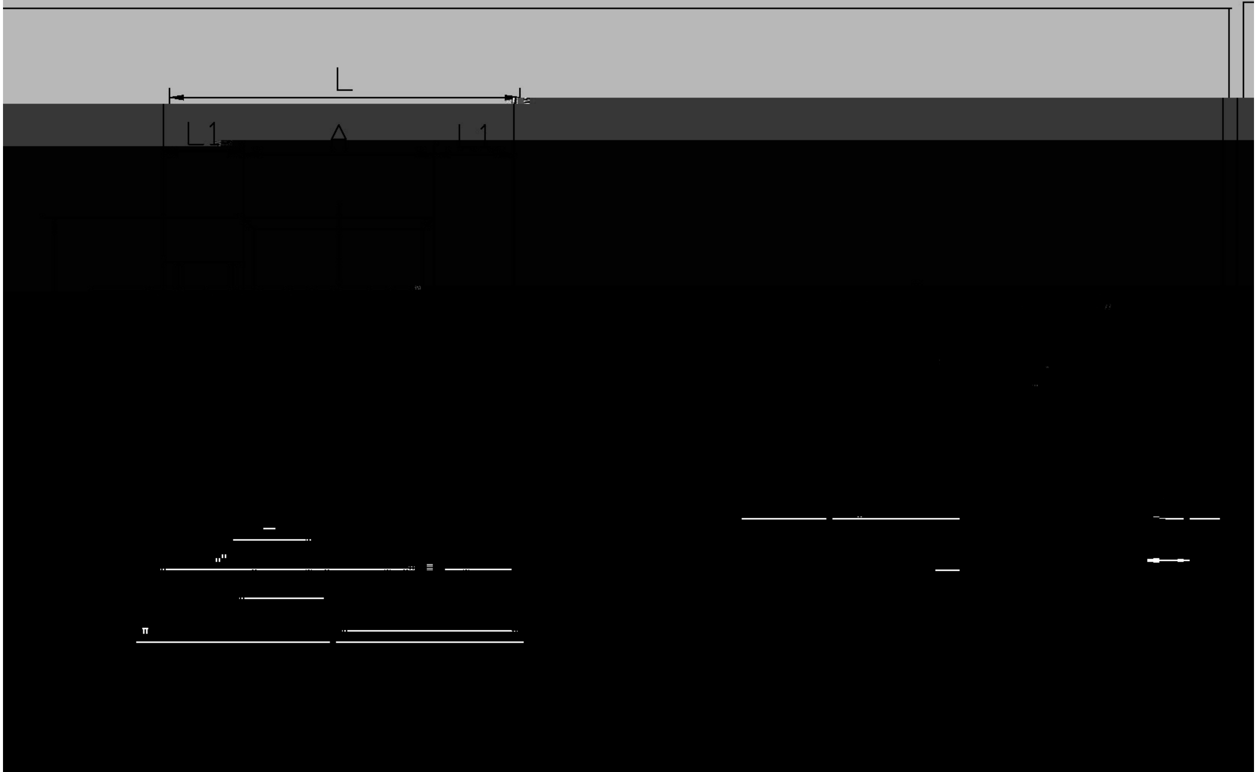

fT – IC
100
50
30
(MHz)
Ta=25°C
VCE=20V
50
10
5
3
1
−1 −3 −5 −10 −30 −50 −100
IC (mA)


VBE(sat), VCE(sat) – IC
−1.0
−0.8
−0.6
−0.4
−0.2
0
IC/IB=10
VBE(sat)
VCE(sat)
−1 −3 −5 −10 −30 −50 −100
IC (mA)

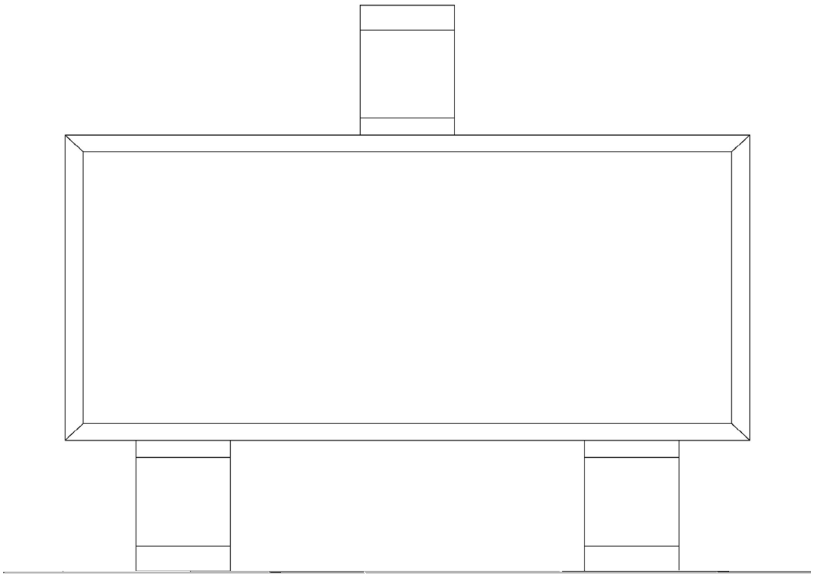

hFE – IC
300
100
30
10
VCE=10V
Tj=125°C
Tj=25°C
Tj=−55°C
−1 −3 −5 −10 −30 −50 −100
IC (mA)

SOT-23

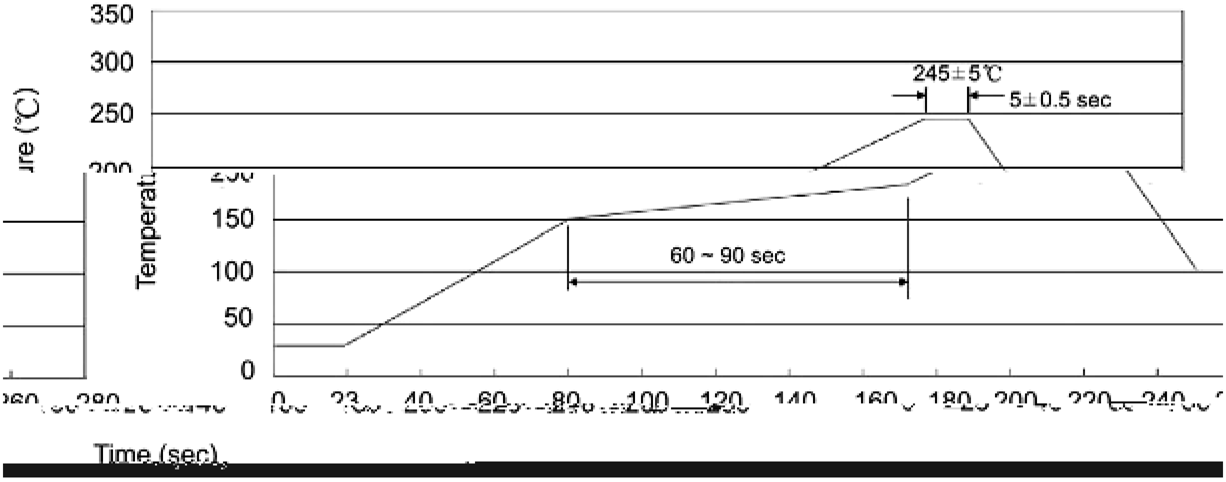
单位：mm



Symbol	Dimensions in millimeters		Symbol	Dimensions in millimeters	
	Min	Max		Min	Max
L1	0.45	0.65	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
b	0.35	0.55			



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

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