

MMBT2907A

Rev.G Aug.-2018

/ Descriptions

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

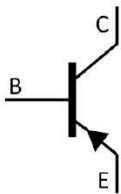
/ Features

600mA
Collector currents to 600mA.

/ 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	H2F

/ Absolute Maximum Ratings(Ta=25)

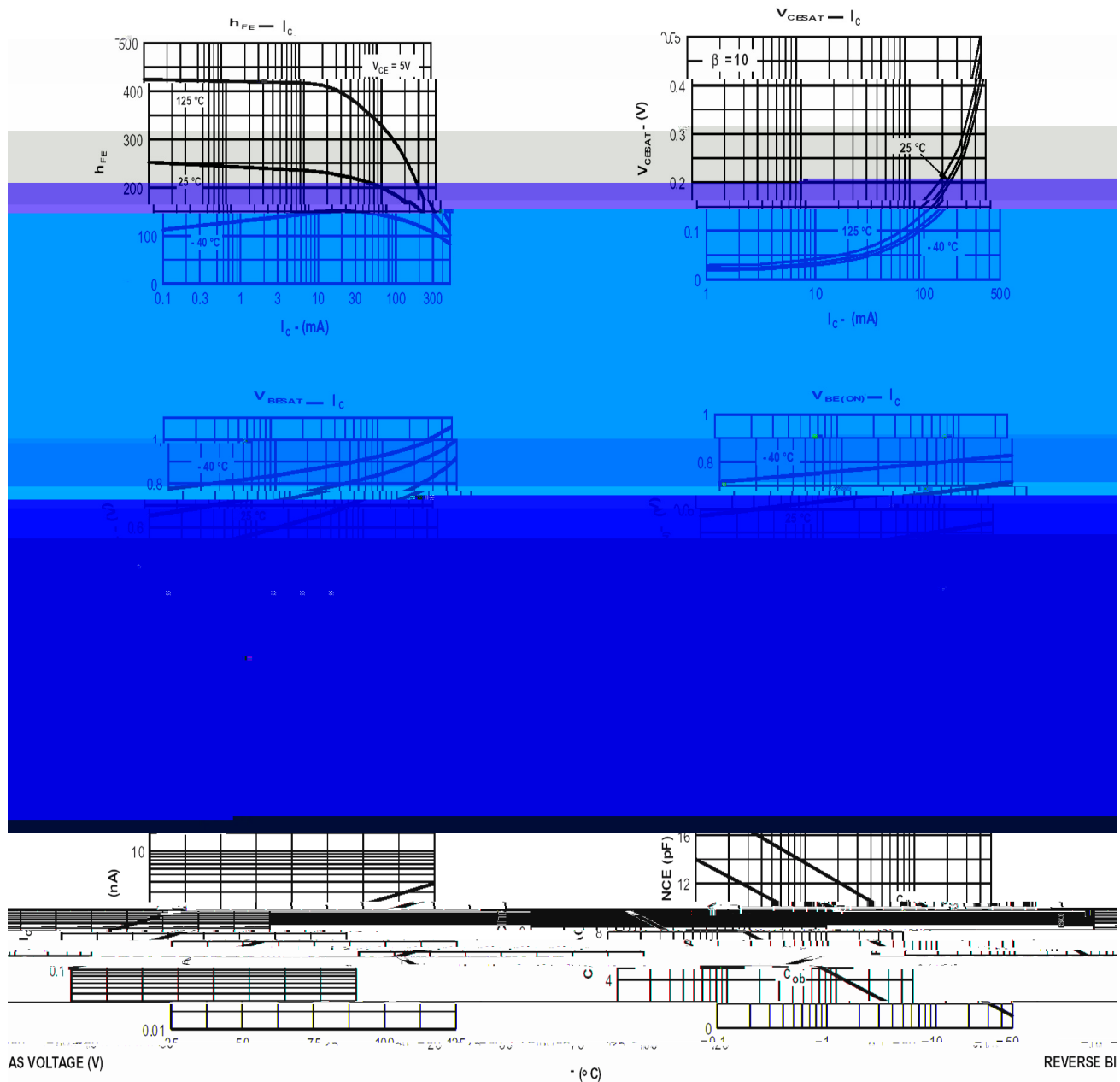
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-60	V
Collector to Emitter Voltage	V_{CEO}	-60	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-600	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C = -10\mu A$ $I_E = 0$	-60			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C = -10mA$ $I_B = 0$	-60			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -10\mu A$ $I_C = 0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -50V$ $I_E = 0$			-0.01	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -10V$ $I_C = -150mA^*$	100		300	
	$h_{FE(2)}$	$V_{CE} = -10V$ $I_C = -500mA^*$	50			
	$h_{FE(3)}$	$V_{CE} = -10V$ $I_C = -10mA$	100			
	$h_{FE(4)}$	$V_{CE} = -10V$ $I_C = -1.0mA$	100			
	$h_{FE(5)}$	$V_{CE} = -10V$ $I_C = -0.1mA$	75			
Collector-Emitter Saturation Voltage	$V_{CE(sat) (1)}$	$I_C = -150mA$ $I_B = -15mA$			-0.4	V
	$V_{CE(sat) (2)}$	$I_C = -500mA$ $I_B = -50mA$			-1.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat) (1)}$	$I_C = -150mA$ $I_B = -15mA$			-1.3	V
	$V_{BE(sat) (2)}$	$I_C = -500mA$ $I_B = -50mA$			-2.6	V
Transition Frequency	f_T	$V_{CE} = -20V$ $I_C = -50mA$ $f = 100MHz$	200			MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V$ $I_E = 0$ $f = 1.0MHz$			8.0	pF
Turn-On Time	t_{on}	$V_{CC} = -30V$ $I_C = -150mA$ $I_{B1} = -15mA$			50	ns
Turn-Off Time	t_{off}	$V_{CC} = -30V$ $I_C = -150mA$ $I_{B1} = I_{B2} = -15mA$			100	ns

*Pulse Test: Pulse Width $\leq 300 \mu s$, Duty Cycle $\leq 2.0\%$

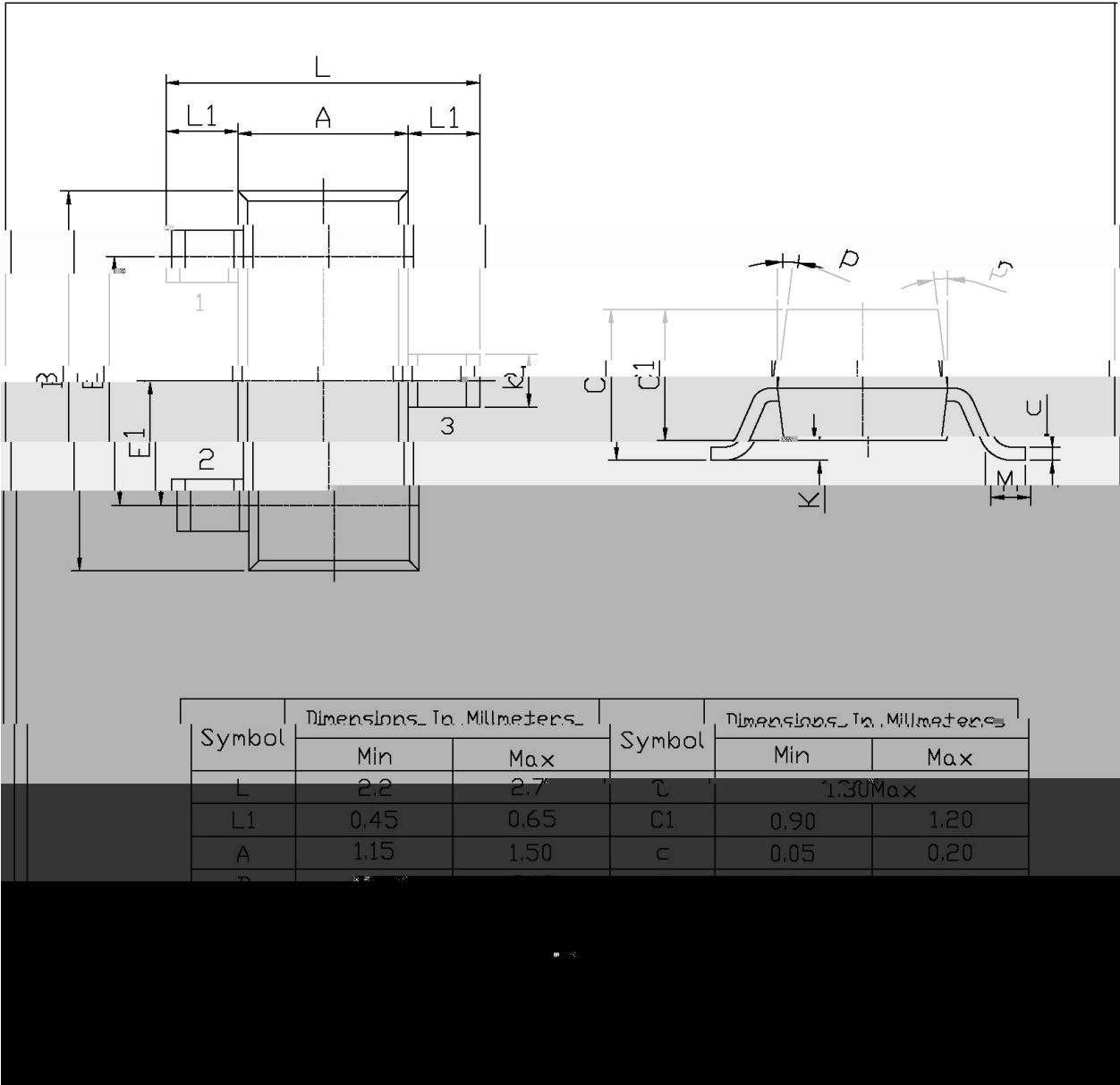
/ Electrical Characteristic Curve



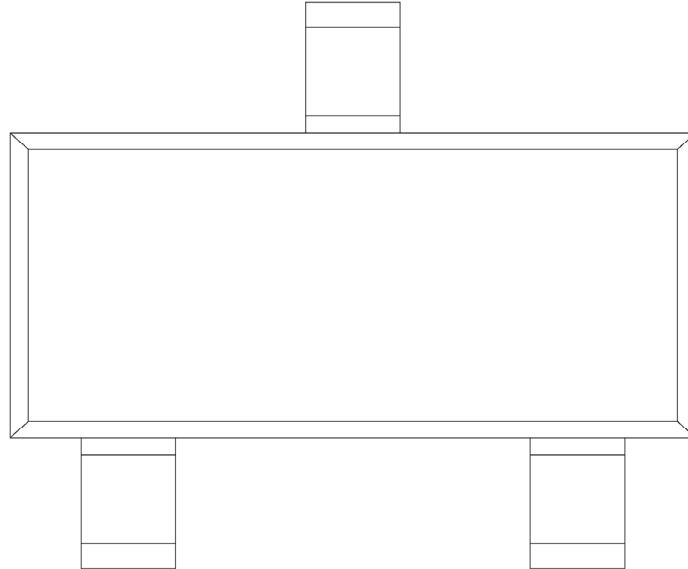
/ Package Dimensions

SOT-23

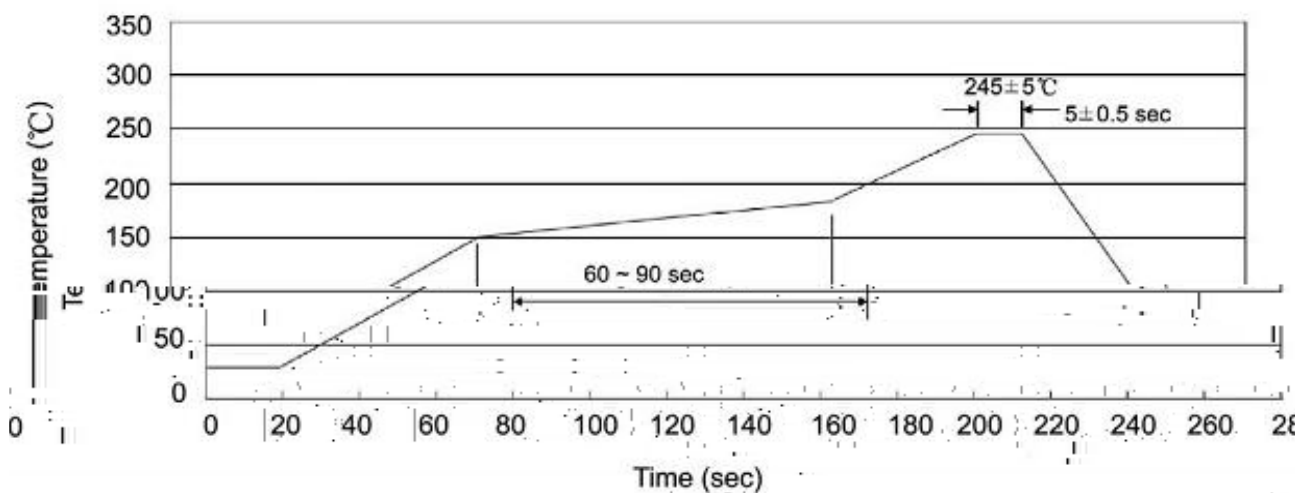
单位：mm



/ Marking Instructions



() / 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" x8	180×120×180	390×385×205

/ Notices