

MMBT2907A

Rev.G Aug.-2018

/ Descriptions

Silicon PNP transistor in a SOT-23 Plastic Package.

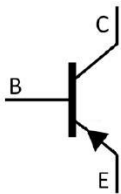
/ Features

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)

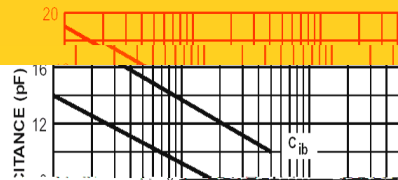
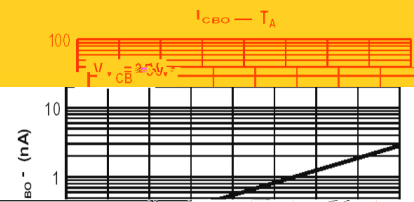
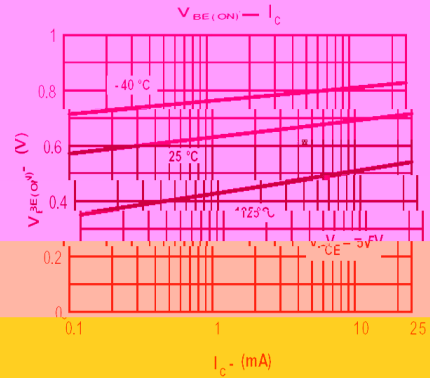
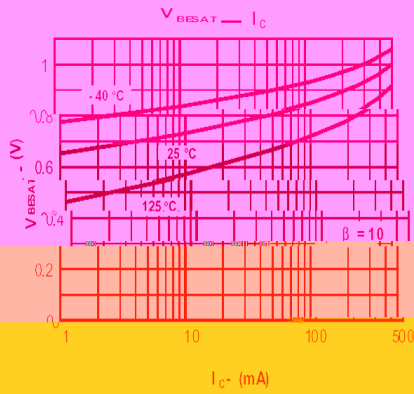
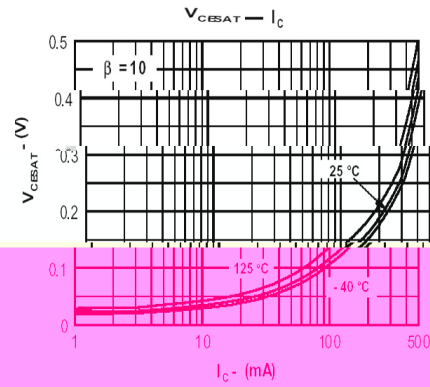
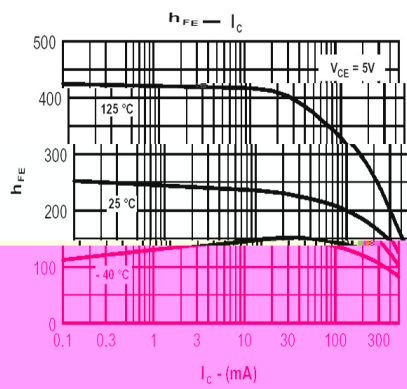
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-60	V
Collector to Emitter Voltage	V_{CEO}	-60	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-600	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

/ 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	$V_{CE(sat) (1)}$	$I_C=-150mA$ $I_B=-15 mA$			-0.4	V
	$V_{CE(sat) (2)}$	$I_C=-500mA$ $I_B=-50mA$			-1.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat) (1)}$	$I_C=-150mA$ $I_B=-15 mA$			-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 300 s, Duty Cycle 2.0%

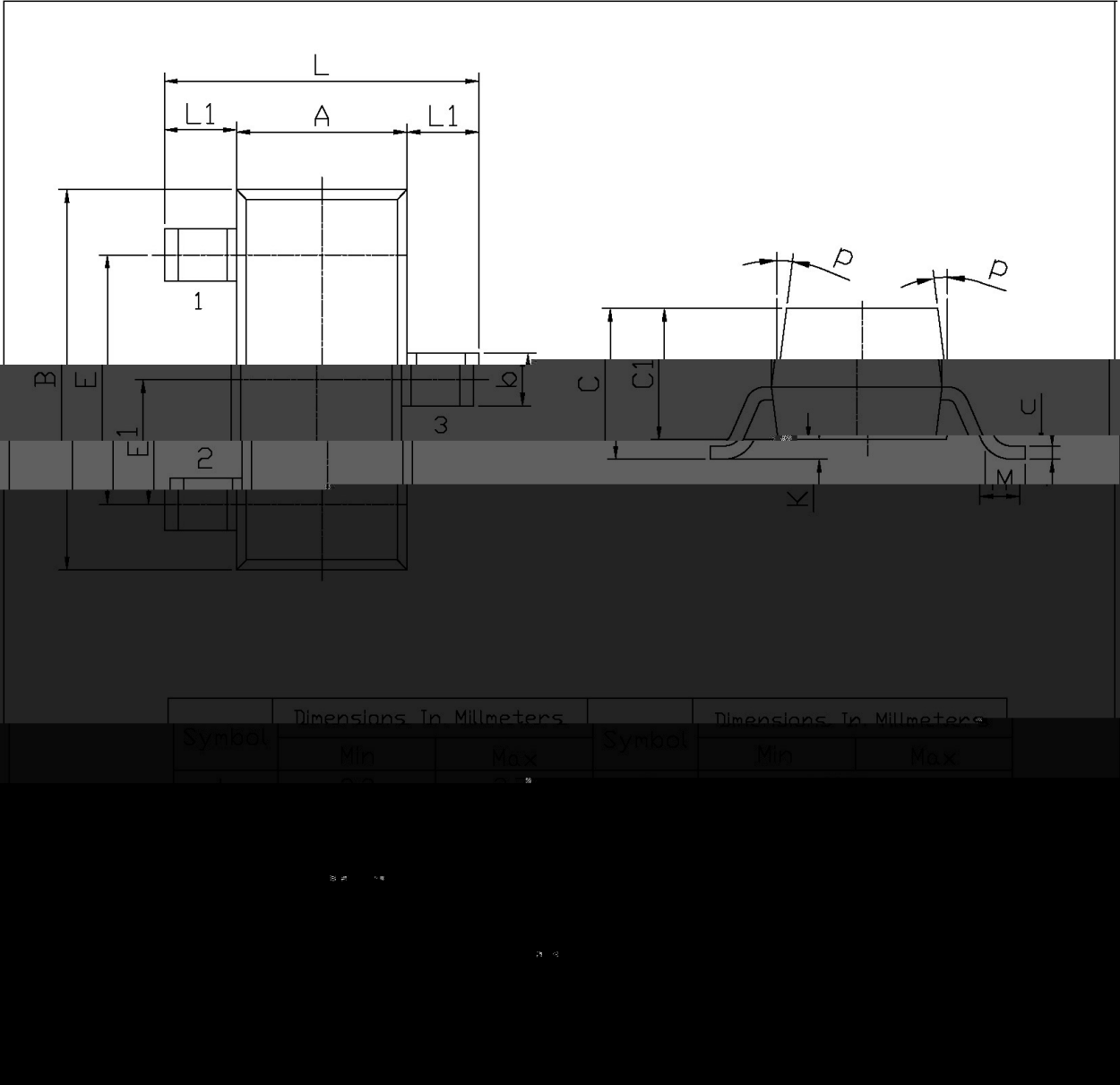
/ Electrical Characteristic Curve



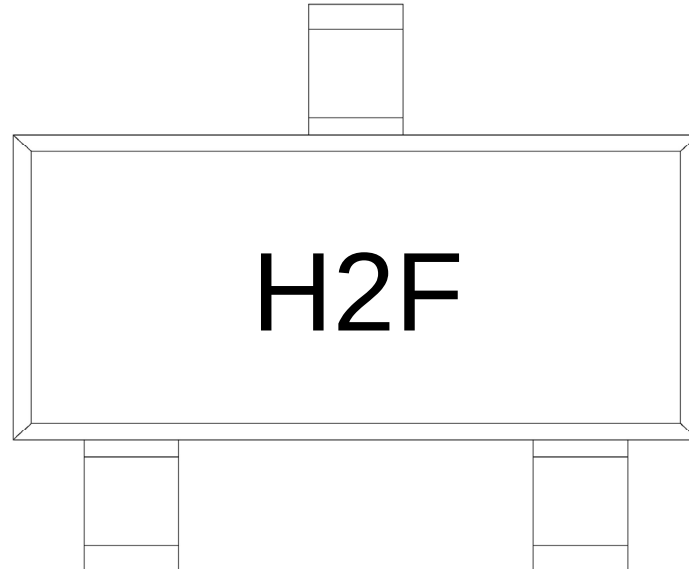
/ Package Dimensions

SOT-23

单位：mm



/ Marking Instructions



2F

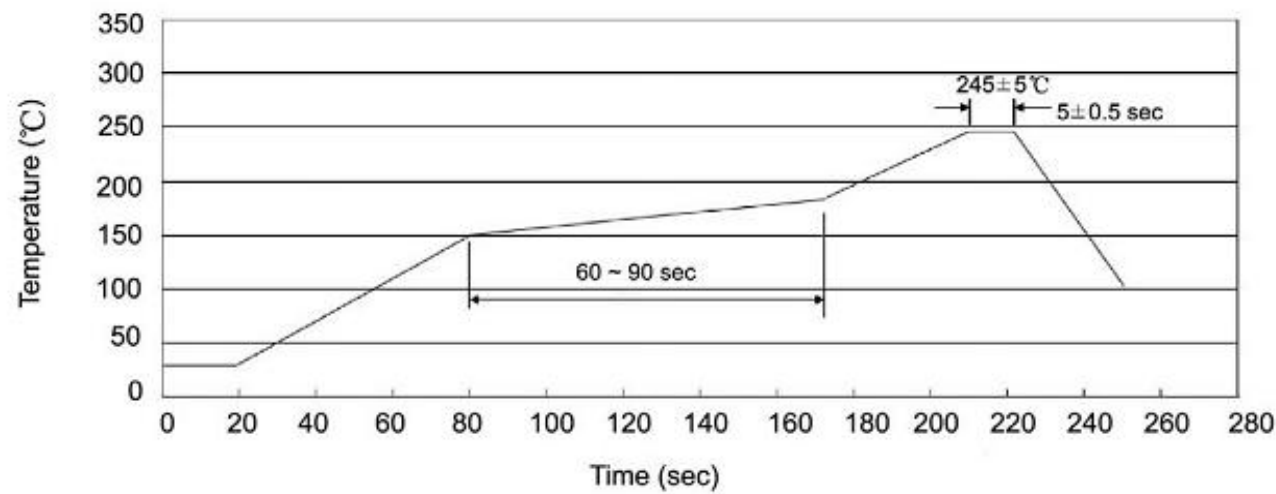
Note:

Company Code

2F

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