

MMBT2222AW

Rev.F Aug.-2018

一、 / Descriptions

SOT-323 NPN Silicon NPN transistor in a SOT-323 Plastic Package.

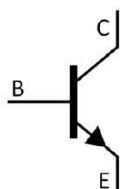
二、 / Features

Low power surface mount applications.

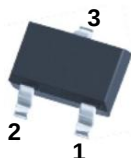
三、 / Applications

General purpose amplifier.

四、 / Equivalent Circuit



五、 / Pinning



PIN1 Emitter PIN 2 Base PIN 3 Collector

六、 / Marking

h_{FE} Range	100~300
Marking	H1P

绝对最大额定值(Absolute Maximum Ratings)(Ta=25℃)

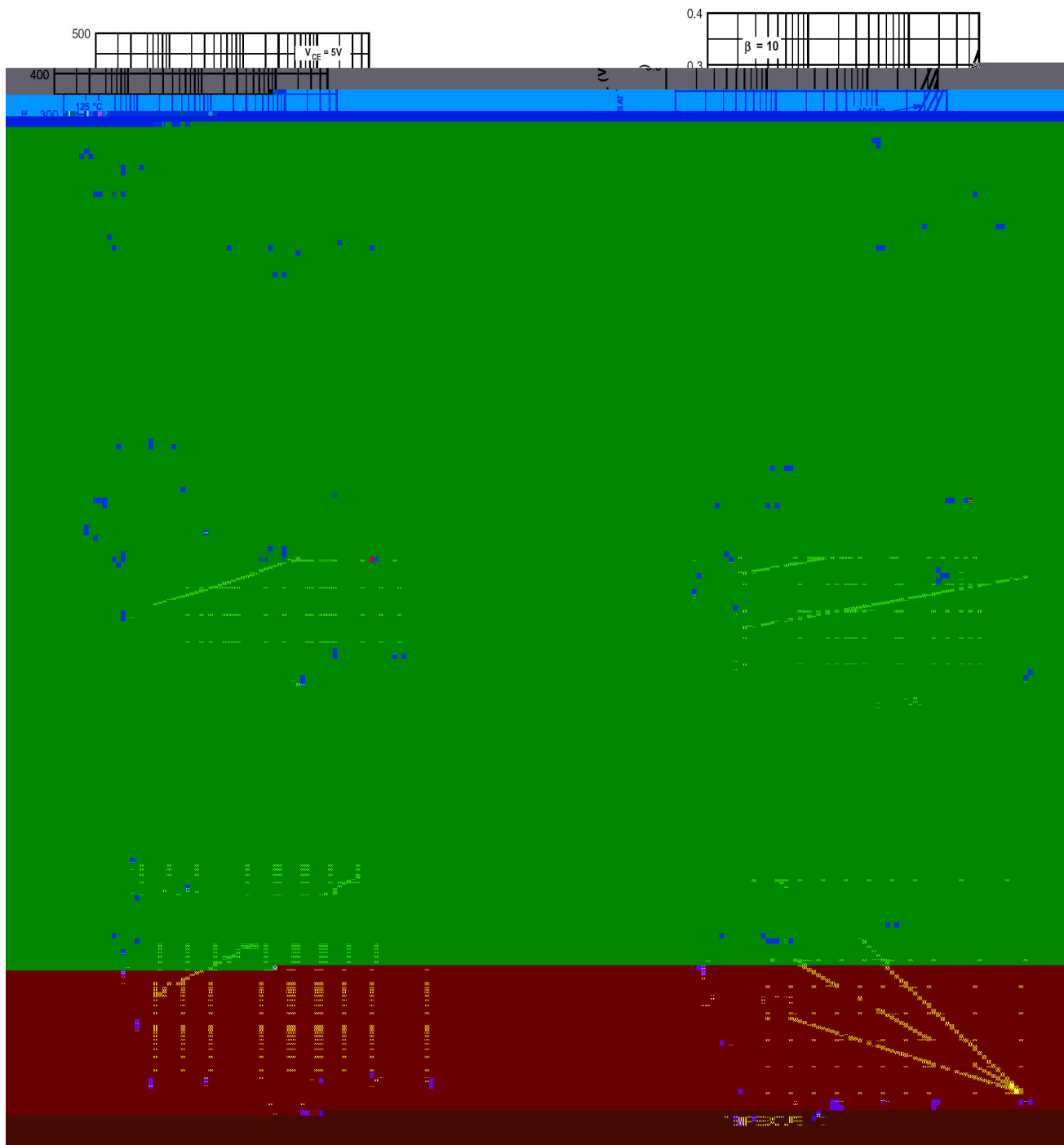
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	75	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	600	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

电 气 特 性 (Electrical Characteristics)(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\mu A$ $I_E=0$	75			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=10mA$ $I_B=0$	40			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\mu A$ $I_C=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60V$ $I_E=0$			0.01	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=150mA$ *	100		300	
Collector to Emitter Saturation Voltage	$V_{CE(sat)} (1)$	$I_C=150mA$ $I_B=15mA$			0.3	V
	$V_{CE(sat)} (2)$	$I_C=500mA$ $I_B=50mA$			1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)} (1)$	$I_C=150mA$ $I_B=15mA$	0.6		1.2	V
	$V_{BE(sat)} (2)$	$I_C=500mA$ $I_B=50mA$			2.0	V
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$			8.0	pF
Transition Frequency	f_T	$I_C=20mA$ $V_{CE}=20V$ $f=100MHz$	300			MHz
Turn-On Time	t_{on}	$V_{CC}=30V$ $V_{BE}=-0.5V$ $I_C=150mA$ $I_{B1}=15mA$			35	ns
Turn-Off Time	t_{off}	$V_{CC}=30V$ $I_C=150mA$ $I_{B1}=I_{B2}=15mA$			285	ns

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

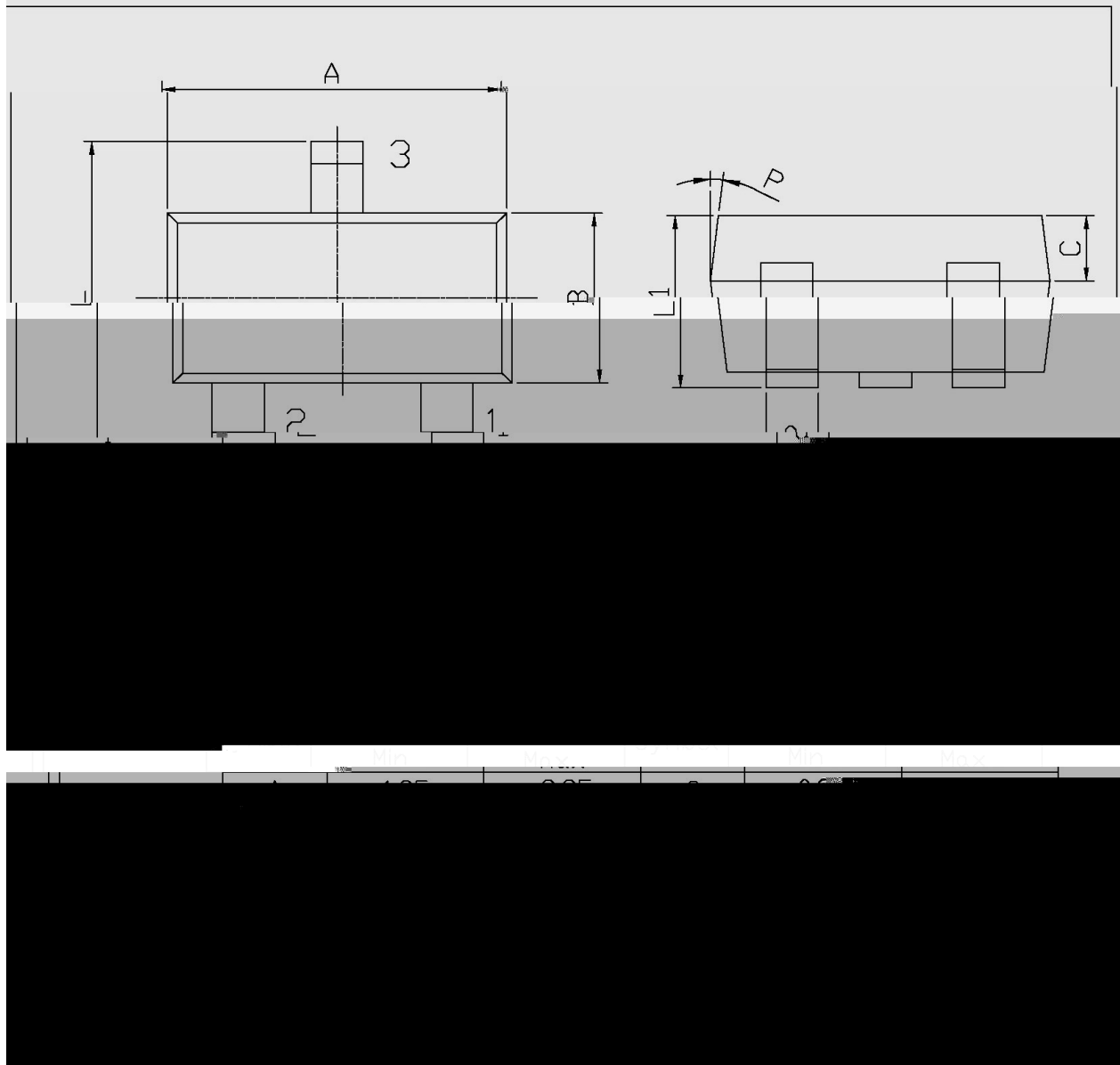
Electrical Characteristic Curve



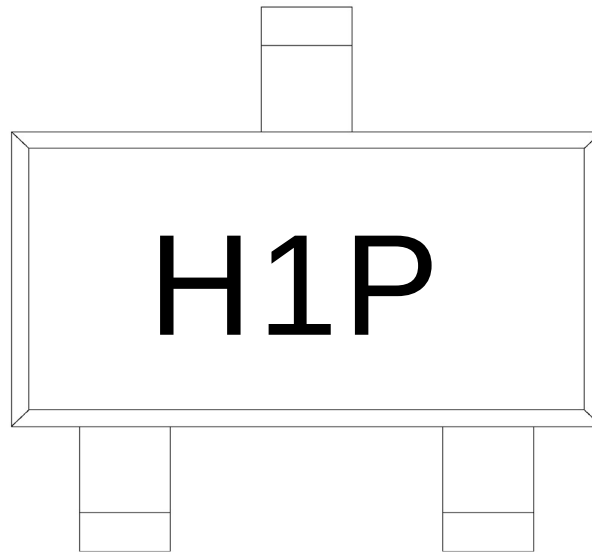
⊂ É Ò Ì f / Package Dimensions

SOT-323

单位; mm



4. 符号 / Marking Instructions



H

1P

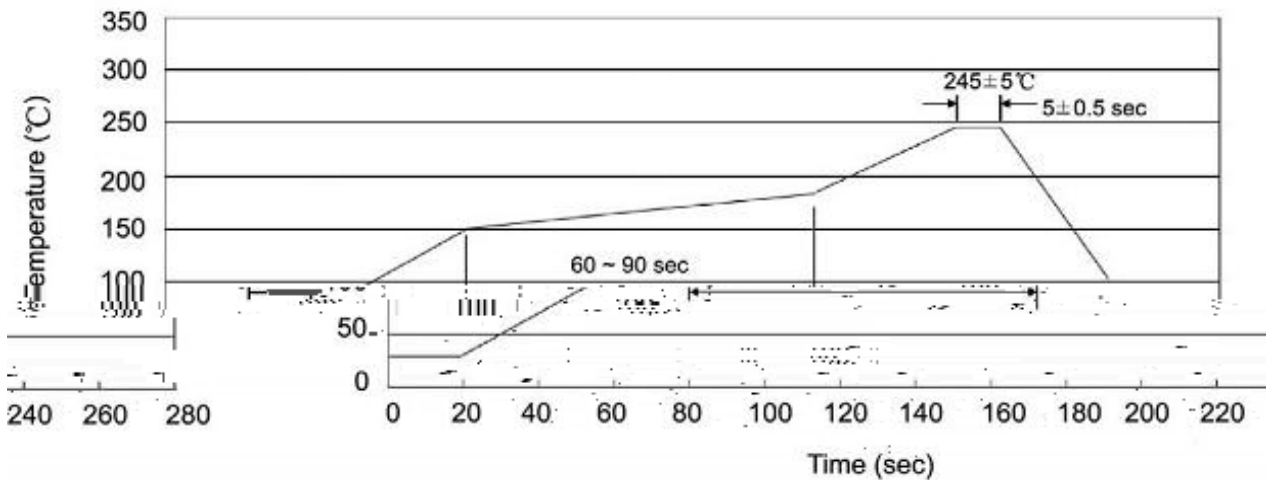
Note:

H: Company Code.

1P: Product Type.



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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	Units					Dimension (unit mm ³)		
						"		

Notices