

MMBT2222AW

Rev.F Aug.-2018

/ Descriptions

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

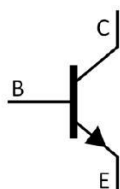
/ Features

Low power surface mount applications.

/ Applications

General purpose amplifier.

/ Equivalent Circuit



/ Pinning



PIN1 Emitter PIN 2 Base PIN 3 Collector

/ Marking

h_{FE} Range	100~300
Marking	H1P

/ Absolute Maximum Ratings(Ta=25)

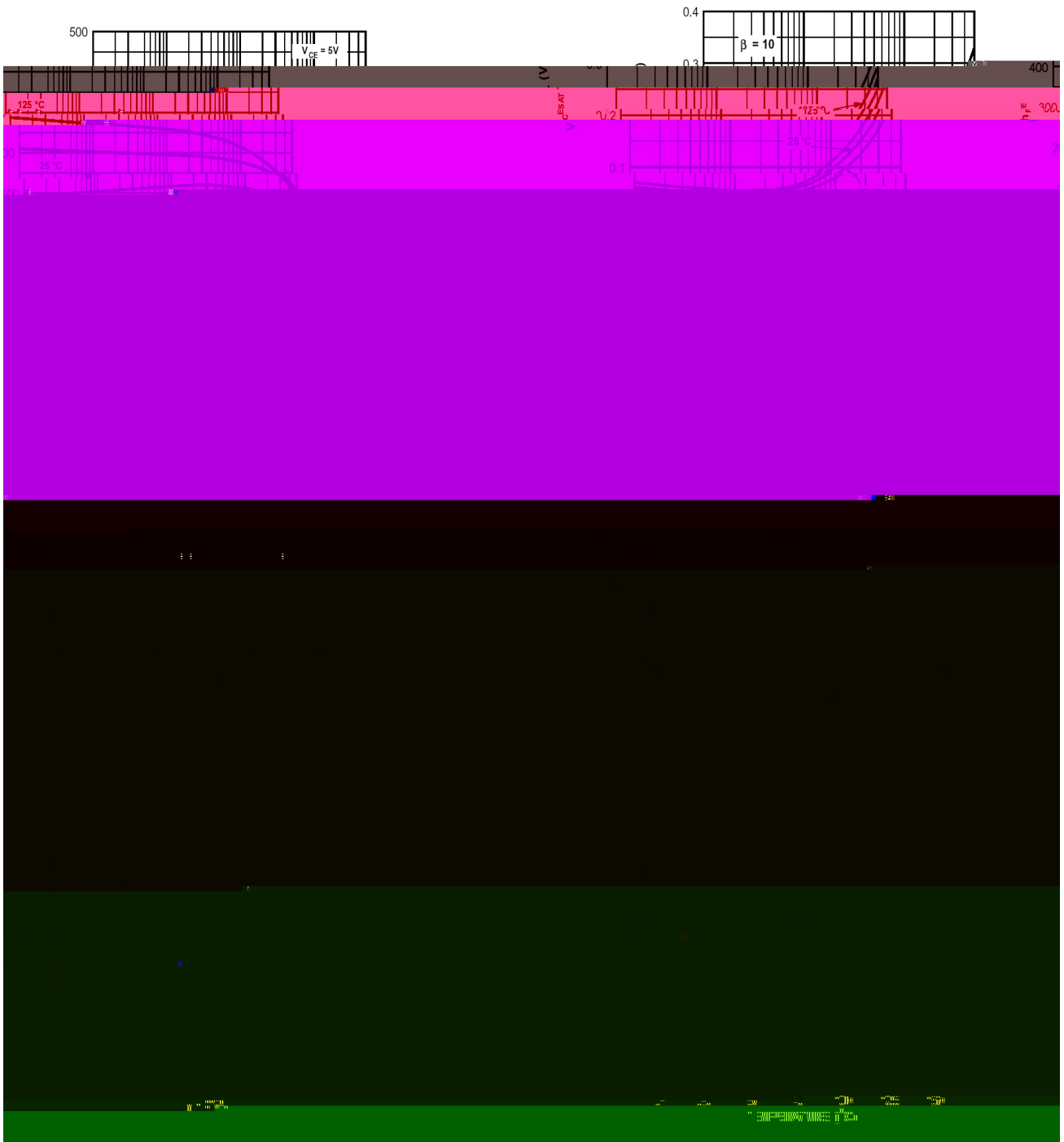
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	75	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	600	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

/ 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 300 μs , Duty Cycle 2.0%

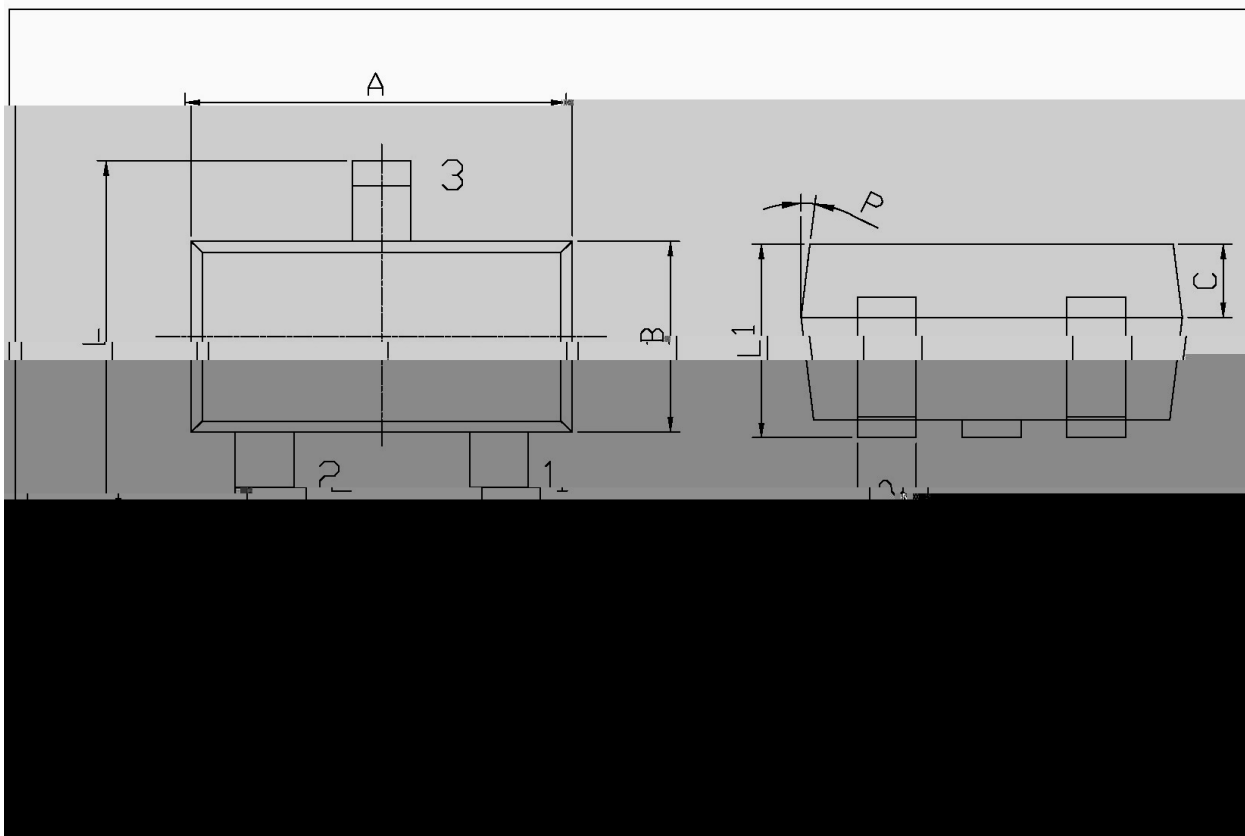
/ Electrical Characteristic Curve



/ Package Dimensions

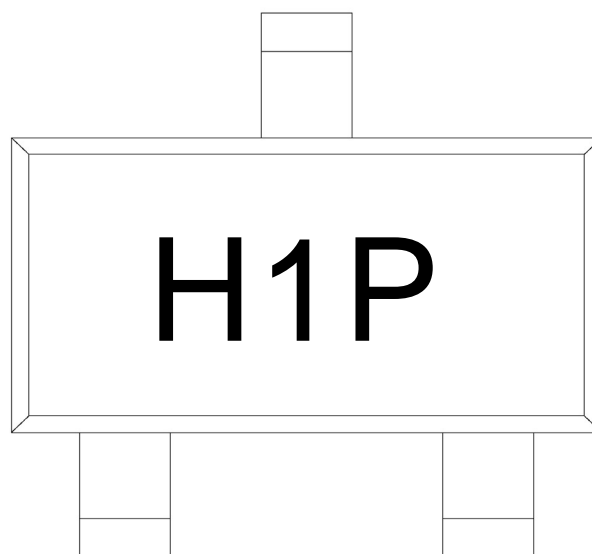
SOT-323

单位: mm



	MIN	TYP	MAX		MIN	MAX
L	2.00	2.2		L1	0.85	1.15
E	1.20	1.40		a	0.20	0.40
B	1.15	1.35		P	7°	

/ Marking Instructions



H

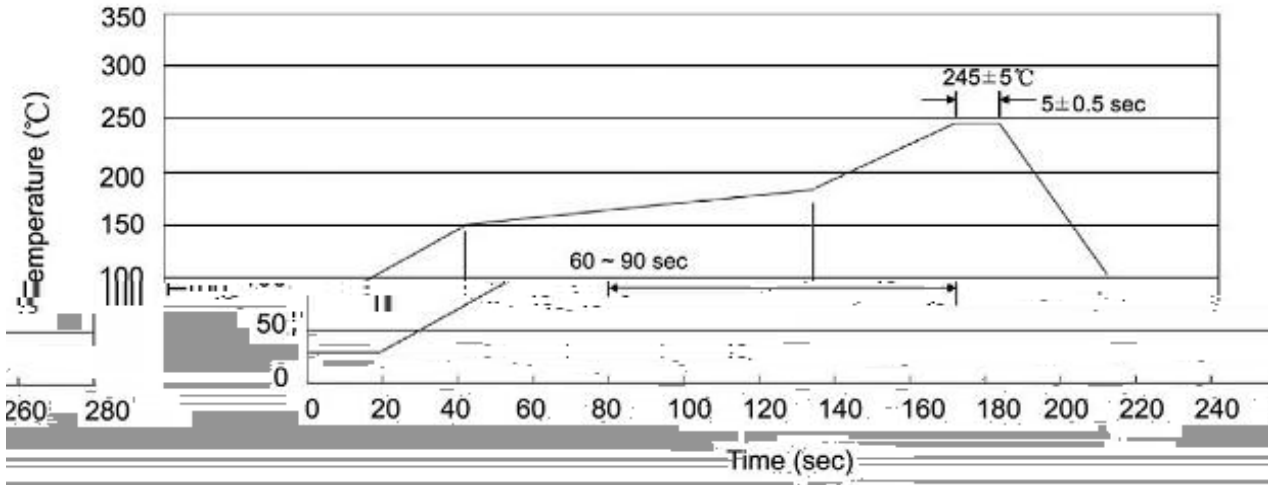
1P

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