

# MMBT4403W

Rev.E Sep.-2016

## / Descriptions

Silicon PNP transistor in a SOT-323 Plastic Package.

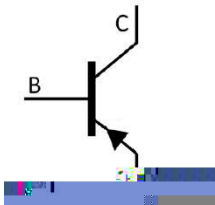
## / Features

Medium power amplifier and switch requiring collector currents up to 500 mA.

## / Applications

Medium power amplifier and switch requiring.

## / Equivalent Circuit



## / Pinning



PIN1 Emitter      PIN 2 Base      PIN 3 Collector

## / Marking

Marking	2TH
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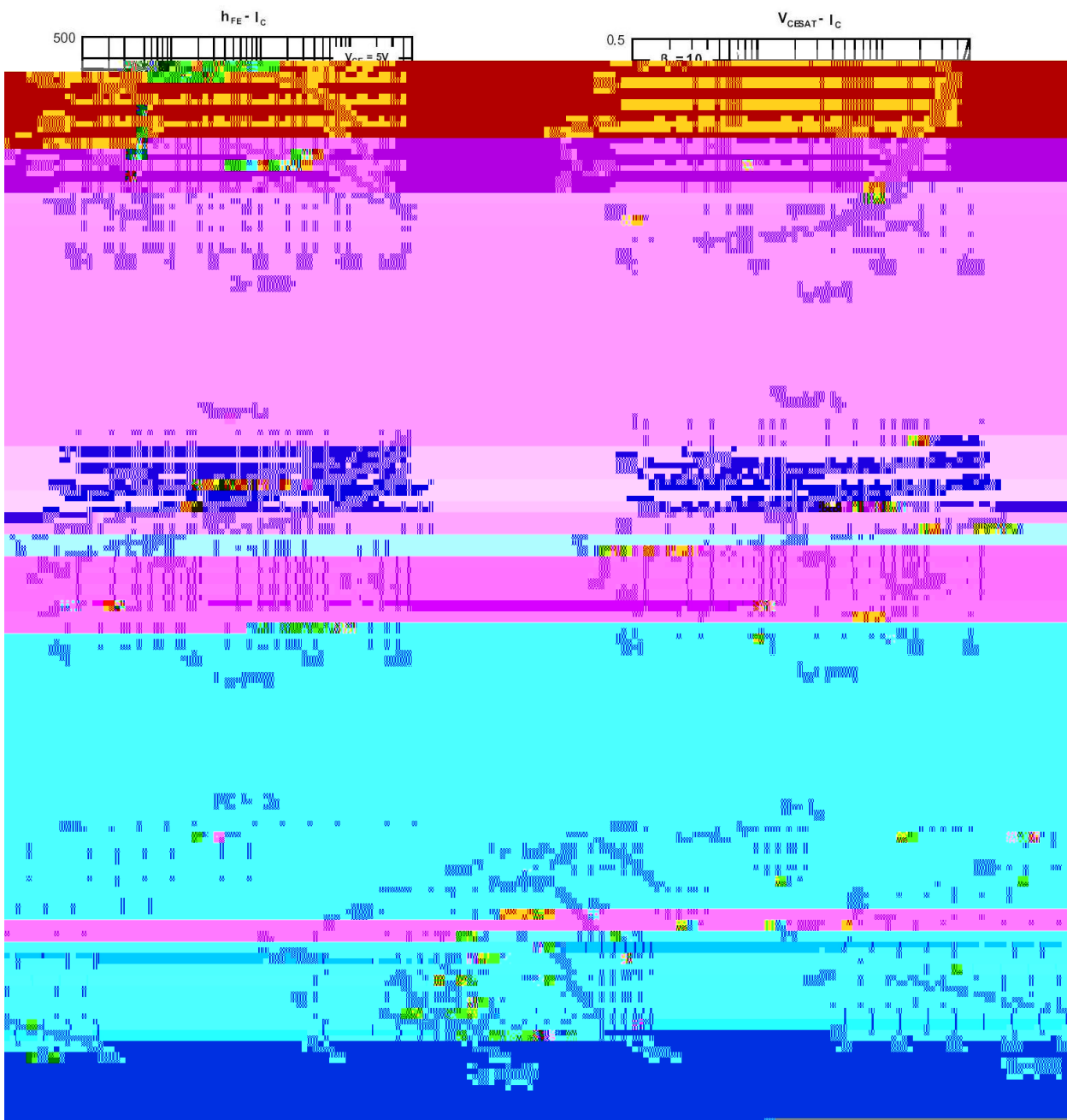
## / Absolute Maximum Ratings(Ta=25 )

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	-40	V
Collector to Emitter Voltage	$V_{CEO}$	-40	V
Emitter to Base Voltage	$V_{EBO}$	-5.0	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 Emitter Breakdown Voltage	$V_{CEO}$	$I_C=-1.0mA$ $I_B=0$	-40			V
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=-0.1mA$ $I_E=0$	-40			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=-0.1mA$ $I_C=0$	-5.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-40V$ $I_E=0$			-50	nA
Emitter to Base Current	$I_{EBO}$	$V_{EB}=-5V$ $I_C=0$			-50	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-2.0V$ $I_C=-150mA$	100		300	
	$h_{FE(2)}$	$V_{CE}=-1.0V$ $I_C=-0.1mA$	30			
	$h_{FE(3)}$	$V_{CE}=-1.0V$ $I_C=-1.0mA$	60			
	$h_{FE(4)}$	$V_{CE}=-1.0V$ $I_C=-10mA$	100			
	$h_{FE(5)}$	$V_{CE}=-2.0V$ $I_C=-500mA$	20			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=-150mA$ $I_B=-15mA$			-0.4	V
	$V_{CE(sat)(2)}$	$I_C=-500mA$ $I_B=-50mA$			-0.75	V
Base to Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=-150mA$ $I_B=-15mA$	-0.75		-0.95	V
	$V_{BE(sat)(2)}$	$I_C=-500mA$ $I_B=-50mA$			-1.3	V
Transition Frequency	$f_T$	$V_{CE}=-10V$ $I_C=-20mA$ $f=100MHz$	200			MHz
Delay Time	$t_d$	$V_{CC}=-30V$ $I_C=-150mA$			15	ns
Rise Time	$t_r$	$I_{B1}=-15mA$			20	ns
Storage Time	$t_s$	$V_{CC}=-30V$ $I_C=-150mA$			225	ns
Fall Time	$t_f$	$I_{B1}=I_{B2}=-15mA$			30	ns

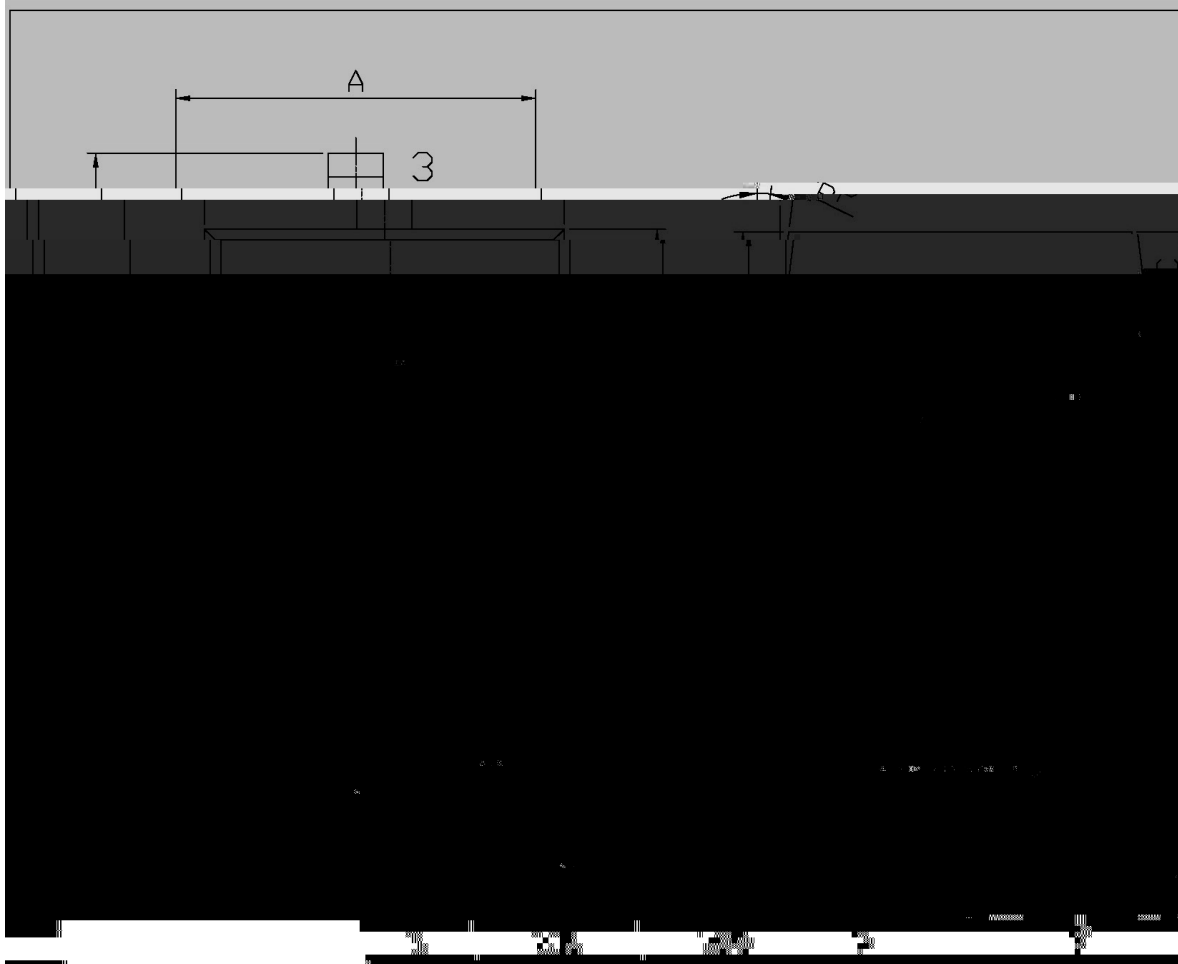
/ Electrical Characteristic Curve



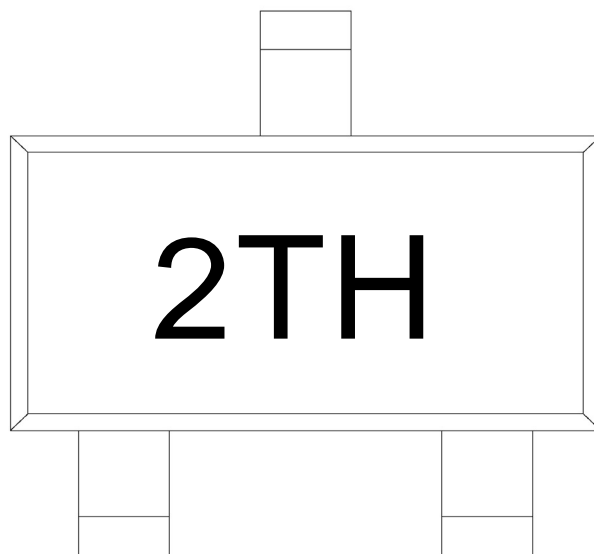
/ Package Dimensions

SOT-323

单位: mm



**/ Marking Instructions**



2T

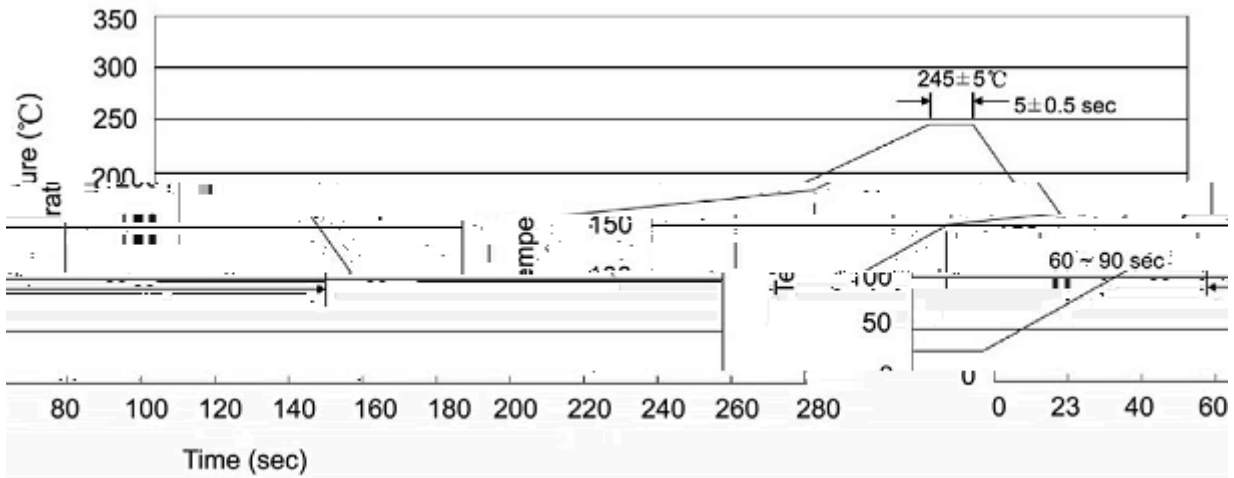
H

Note:

2T: Product Type.

H: Company Code.

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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.

/ 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 <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-323	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices /