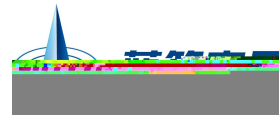


/ Revised record

	! " #	\$! % & '	! () % * +	, -	. /
F	2017-4				
A	2020-5-20	1	0 1 2 3 4 5 6 7 8	9 : ;	< = >
B	2021-12-1 5	2	$V_{BE(sat)} (1) ? I_C=150mA @ A B C$ 0.75 D E F : C 0.75	G H	< = >

MMBT4401

Rev.B Dec.-2021



DATA SHEET

/ M

E/

SOT-23

NPN

Silicon NPN transistor in a SOT-23 Plastic Package.

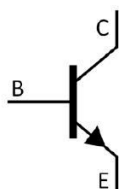
\$ ESD

4kV, 400V

Moisture Sensitivity Level: 1, ESD Rating: Human Body Model; 4 kV, Machine Model; 400 V.HF Product.

I_c 500mA

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



PIN 1 Base

PIN 2 Emitter

PIN 3 Collector

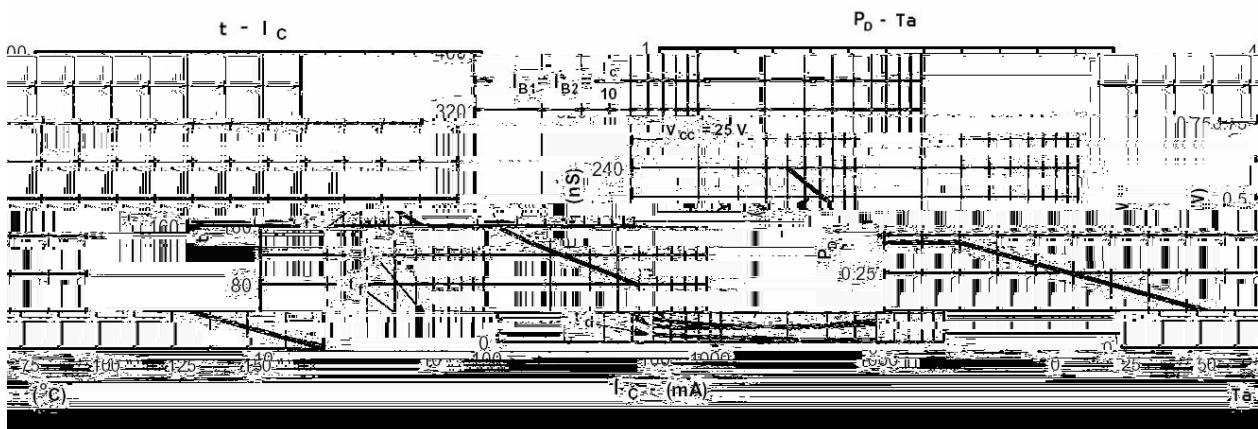
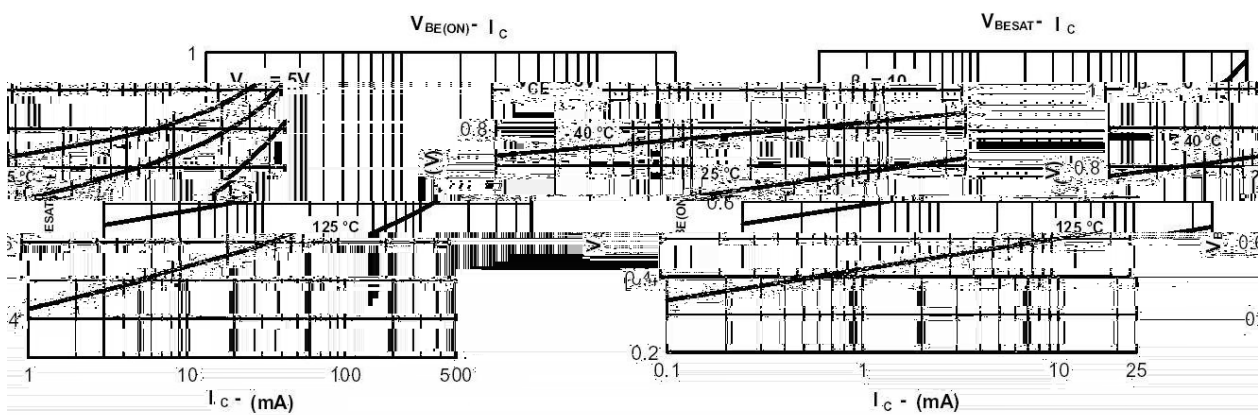
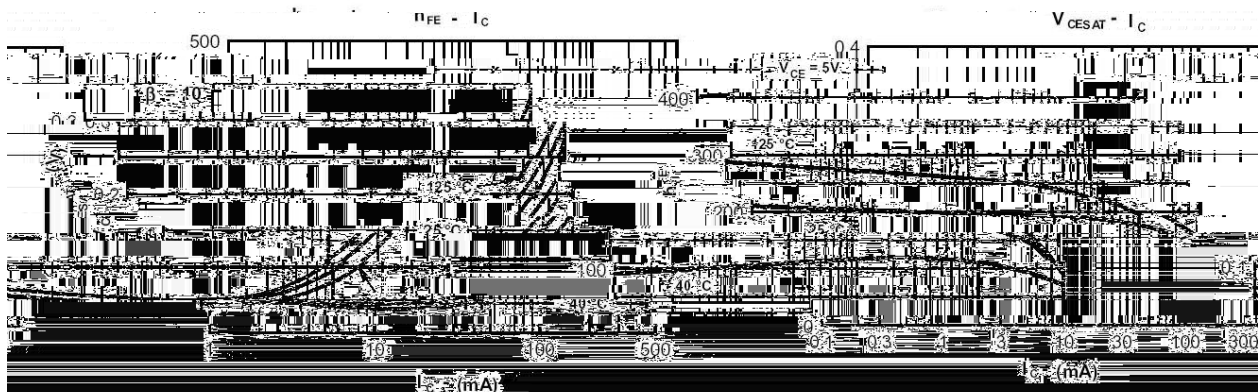
/ h_{FE} Classifications & Marking

h _{FE} Range	100~300
Marking	H2X

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current	I_C	600	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

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}	$I_C=0.1mA$ $I_E=0$	60			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=0.1mA$ $I_C=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60V$ $I_E=0$			50	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=6.0V$ $I_C=0$			50	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0V$ $I_C=150mA$	100		300	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=500mA$	40			
	$h_{FE(3)}$	$V_{CE}=1.0V$ $I_C=10mA$	80			
	$h_{FE(4)}$	$V_{CE}=1.0V$ $I_C=1.0mA$	40			
	$h_{FE(5)}$	$V_{CE}=1.0V$ $I_C=0.1mA$	20			
Collector-Emitter Saturation Voltage	$V_{CE(sat) (1)}$	$I_C=150mA$ $I_B=15mA$			0.4	V
	$V_{CE(sat) (2)}$	$I_C=500mA$ $I_B=50mA$			0.75	V
Base-Emitter Saturation Voltage	$V_{BE(sat) (1)}$	$I_C=150mA$ $I_B=15mA$	0.75		0.95	V
	$V_{BE(sat) (2)}$	$I_C=500mA$ $I_B=50mA$			1.2	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=20mA$ $f=100MHz$	250			MHz

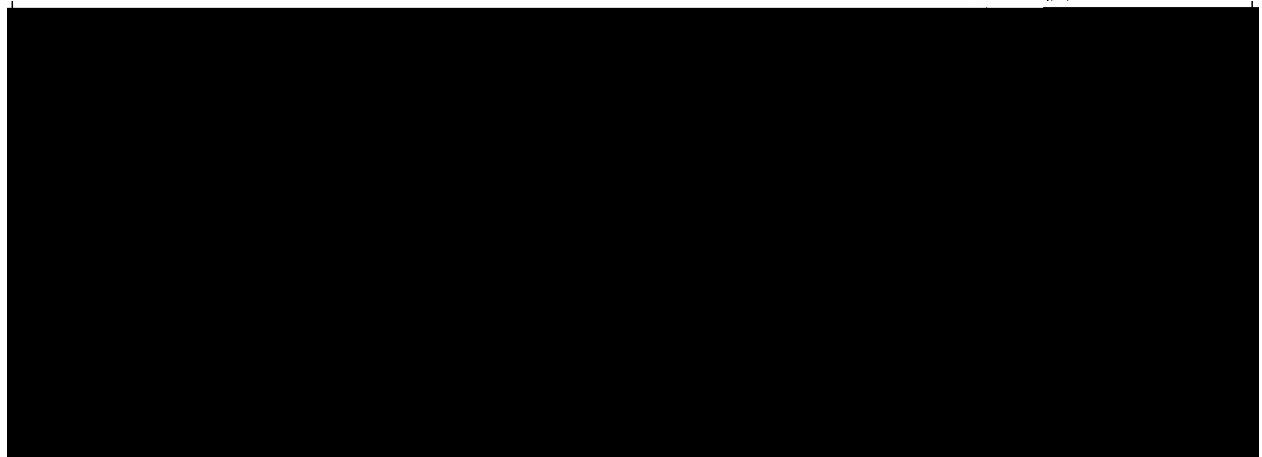
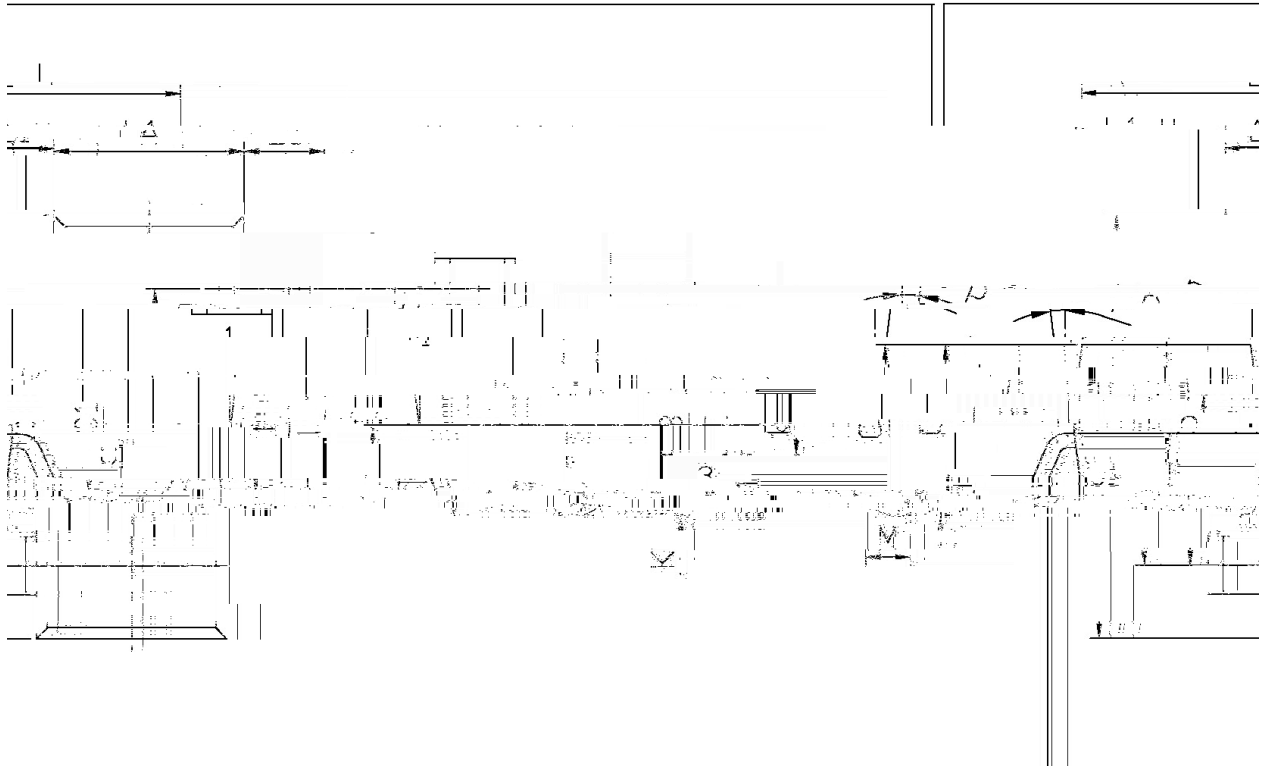
/ Electrical Characteristic Curve



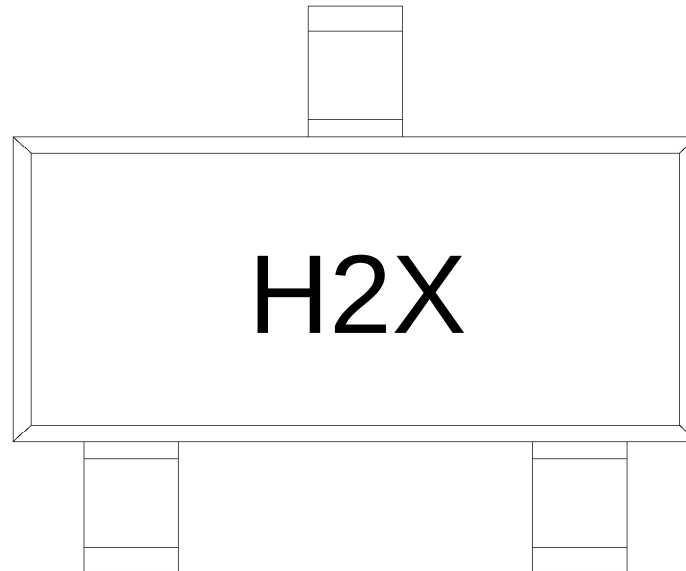
/ Package Dimensions

MMBT4401

单位: mm



/ Marking Instructions



H

2X

Note:

H Company Code

2X Product Type Code

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

- | | | | |
|---|-------------|-----------|--|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180°C, Time:60~90sec. |
| 2 | 245±5 | 5±0.5sec; | 2.Peak Temp.:245±5°C, Duration:5±0.5sec. |
| 3 | 2 10°C/sec. | | 3. Cooling Speed: 2~10°C/sec. |

/ Resistance to Soldering Heat Test Conditions

260±5°C 10±1 sec. Temp.:260±5°C 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	180,000	7" ×8	180×120×180	390×385×205