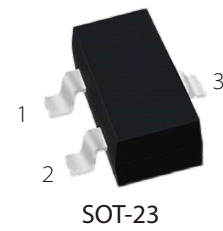


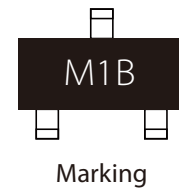
## FEATURES

- | Epitaxial planar die construction
- | Complementary PNP Type available(MMBT2907A)

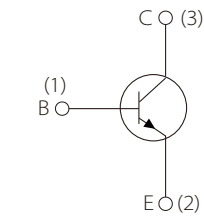


## MECHANICAL DATA

- | SOT-23 small outline plastic package
- | Epoxy UL: 94V-0
- | Mounting position: Any



## APPROVALS



<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS (T<sub>A</sub> = 25°C )

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	75	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	
Emitter-Base Voltage	V <sub>EBO</sub>	6	
Collector Current	I <sub>C</sub>	600	mA
Collector Power Dissipation	P <sub>C</sub>	250	mW
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	500	°C/W
Operation Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~+150	°C

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

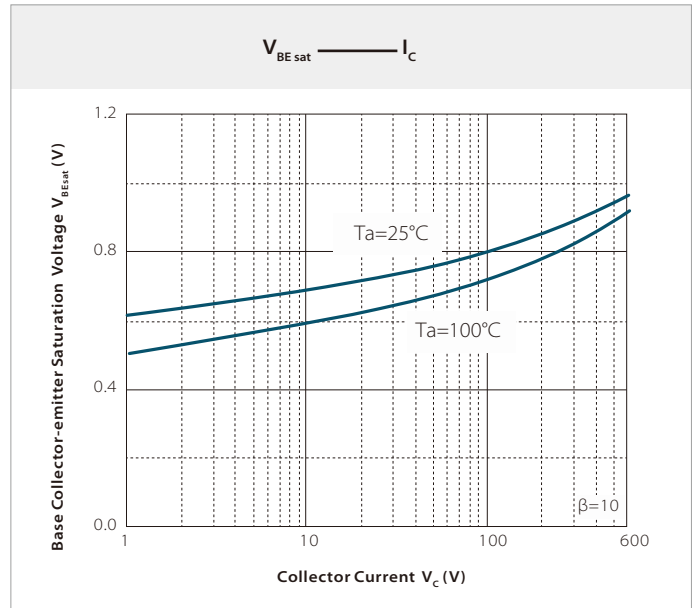
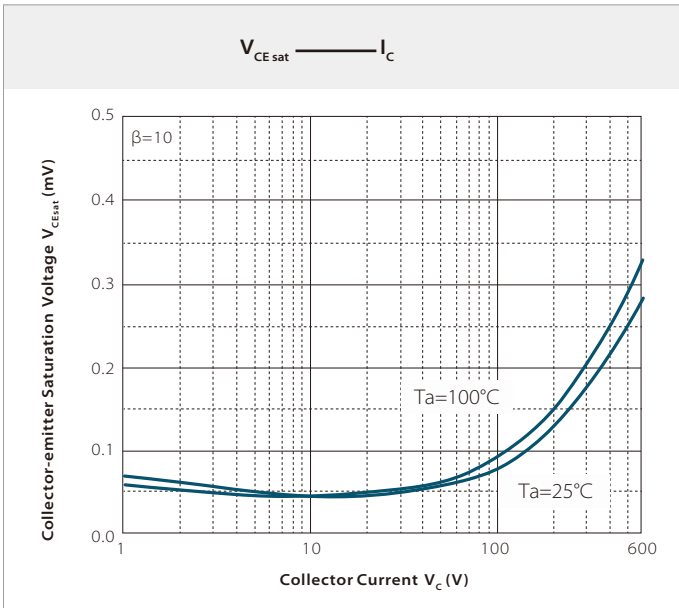
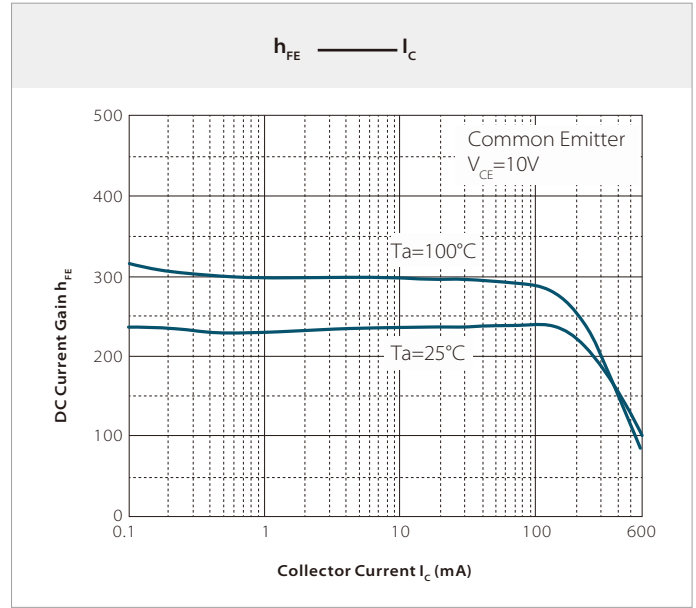
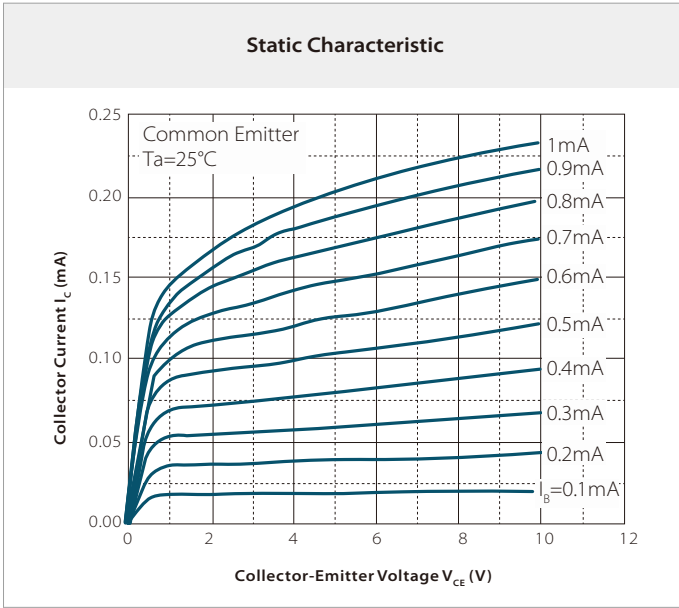
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0	75			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0	30			
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	6			
Collector cut-off current	I <sub>CEX</sub>	V <sub>CE</sub> =30V, V <sub>EB(off)</sub> =3V			10	μA
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0			10	
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =3V, I <sub>C</sub> =0			0.1	
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =150mA		100	300	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =500mA		40		
	h <sub>FE(3)</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =500mA		42		
Collector-emitter saturation voltage	V <sub>CE(sat)1*</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA			1	V
Collector-emitter saturation voltage	V <sub>CE(sat)2*</sub>	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA			0.3	
Base-emitter saturation voltage	V <sub>BE(sat)3*</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA			1.2	
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =20mA, f=100MHz		300		MHz
Delay time	t <sub>d</sub>	V <sub>CC</sub> =30V, V <sub>BE(off)</sub> =-0.5V, I <sub>C</sub> =150mA, I <sub>B1</sub> =15mA			10	nS
Rise time	t <sub>r</sub>				25	
Storage time	t <sub>s</sub>	V <sub>CC</sub> =30V, I <sub>C</sub> =150mA, I <sub>B1</sub> =I <sub>B2</sub> =15mA			225	
Fall time	t <sub>f</sub>				60	

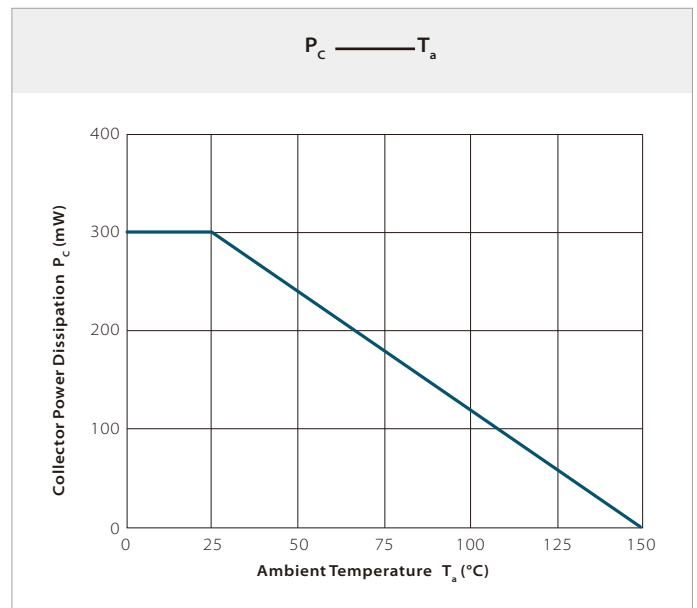
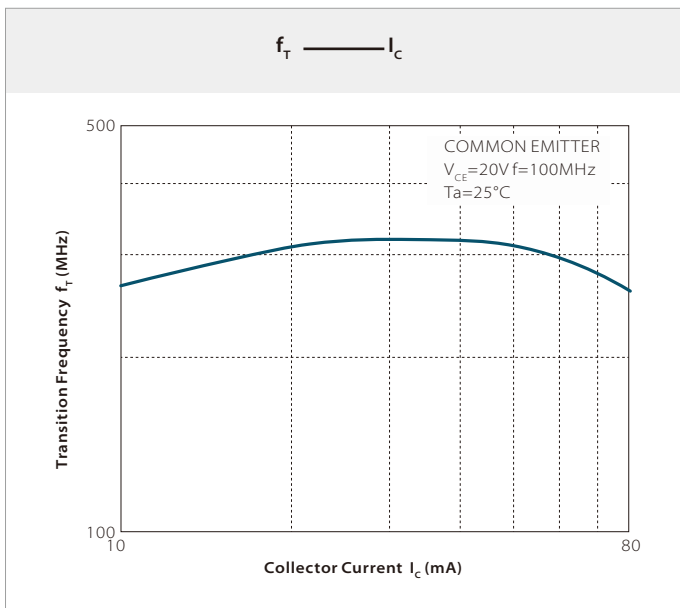
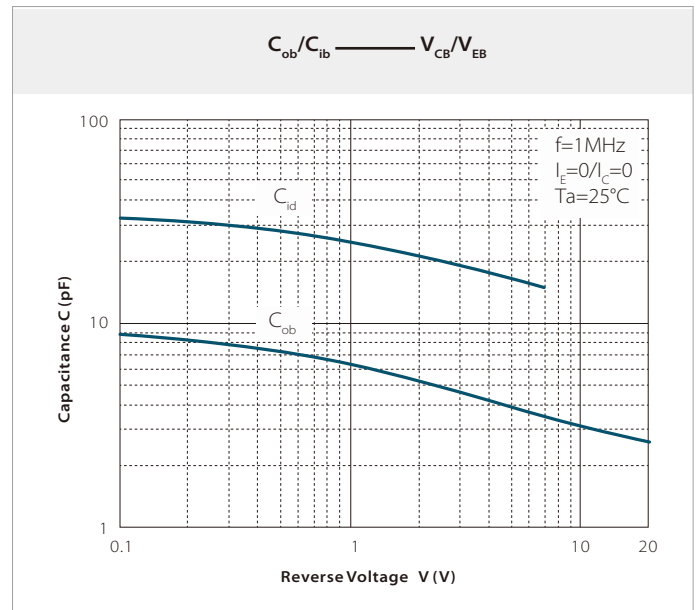
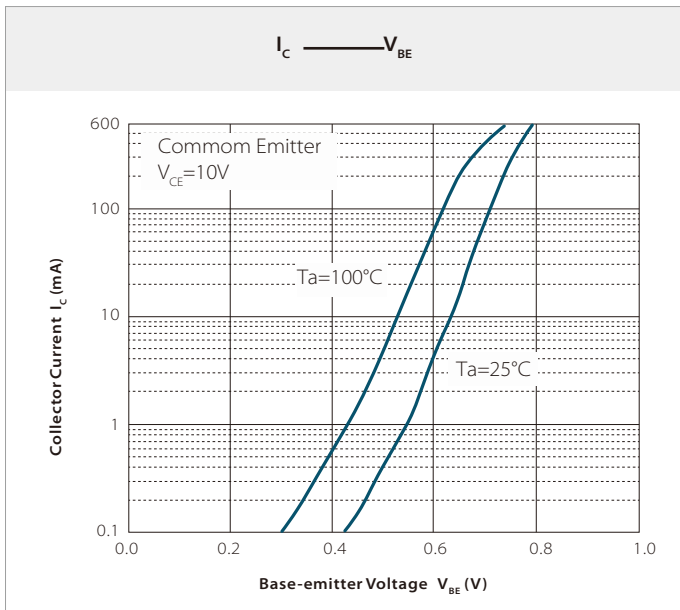
## CLASSIFICATION OF H<sub>FE(1)</sub>

HFE	100-300	
Rank	L	H
Range	100-200	200-300

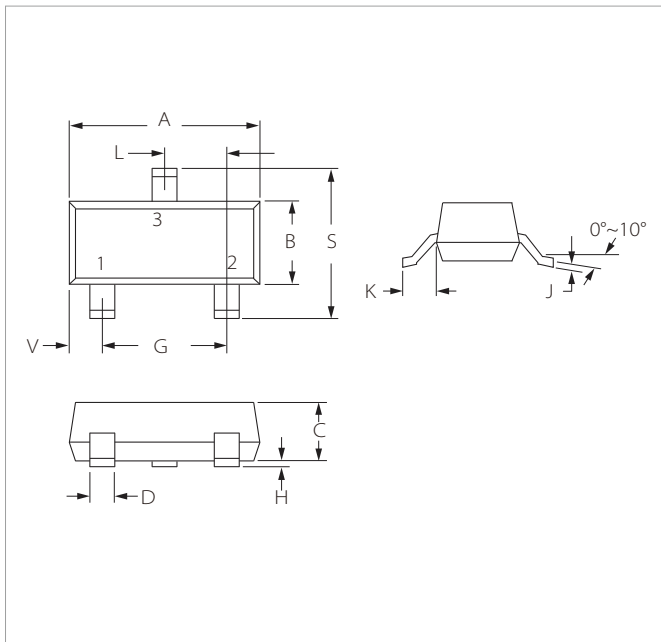
**TYPICAL CHARACTERISTICS**

500uA



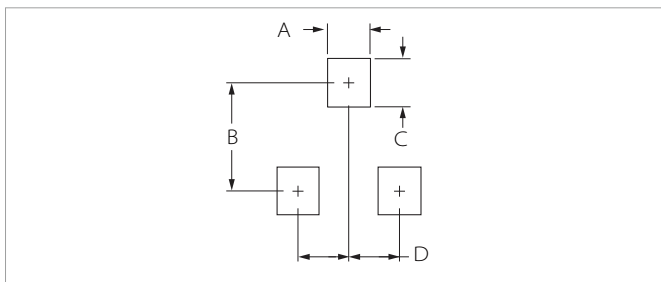


## SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MMBT2222	SOT-23	3000PCS	7"

To find your local partner within Semiwell's website : [www.semiwell.com.cn](http://www.semiwell.com.cn)

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